

# DAKOTA COUNTY TECHNICAL COLLEGE



DAKOTA COUNTY  
TECHNICAL COLLEGE

[make it happen]

# table of contents

## welcome

	1
President’s Welcome	2
Make It Happen	3
Phone Directory	4
Maps/Directions	5
Academic Calendar	6

## programs

	7-8
Business and Information Systems	9
Business and Management	23
Design	41
Health and Human Services	55
Technical Careers	65
Transportation	73
General Education	83

## general information

	89
About the College	90
Admissions	91
Registration	94
Financial Aid	95
Tuition and Fees	100
Student Services	102
Academic Support	104
Transfer	105
Student Life	107
Policies	108
Outreach	115
Administration/Faculty	116

## course descriptions

## application for admission

## campus visit

[make it happen]



President's Welcome	2
Make It Happen	3
Phone Directory	4
Maps/Directions	5
Academic Calendar	6

# welcome

# PRESIDENT'S WELCOME

On behalf of our administrators, faculty, and staff, welcome to Dakota County Technical College (DCTC). We hope that as you make decisions regarding your future, you take the time to explore the college's active learning environment, learn more about our unique programs and classes, and meet the people who can help you 'make it happen' at DCTC.

DCTC is a two-year college that is part of the Minnesota State Colleges and Universities system. Our main campus is located in Rosemount, Minnesota, with additional sites in nearby Apple Valley and Eagan. Over 9,500 students are served by DCTC each year, with 4,582 enrolled in regular credit courses and 5,070 enrolled in customized training hour-based courses.

The college's hallmark is its unique learning environment. DCTC provides students with hands-on skills training and experiential learning opportunities in over 50 specialized programs, all taught by faculty who are experts in the industry.



Through this learning environment, the college has been able to forge relationships with business, industry, and the community that help keep curriculum relevant to the industry, bring in new technology, and provide students with opportunity to gain real-world experience through service learning and paid employment. The result of this active engagement is that graduates are well prepared for the workforce and enjoy a 94% job placement rate.

DCTC also provides opportunities beyond the classroom. Students can get involved in Student Senate, a variety of clubs and organizations, or varsity athletics such as women's softball, men's baseball, women's soccer, or men's soccer. These offerings help to create a more dynamic learning community for our students.

Whether you want to make a career change, start college for the first time, build your resume, or earn credits to transfer to a four-year institution, we hope that you will consider making it happen at DCTC. Please contact us to schedule a visit, or check out our Web site at [www.dctc.edu](http://www.dctc.edu) to learn more.

Best wishes for your success!

A handwritten signature in dark ink that reads "Ronald E. Thomas". The signature is written in a cursive, flowing style.

Ronald E. Thomas, Ph.D.

President, Dakota County Technical College



## OPPORTUNITIES TO MAKE IT HAPPEN

Update your resume. Start a new career. Earn credits for transfer. Become part of a community. Whatever you want to do, Dakota County Technical College (DCTC) has what you need to make your educational and career goals happen.

Located in the south part of the Twin Cities, DCTC offers hundreds of classes and more than 50 specialized programs from Interior Design to Railroad Conductor training that can prepare you for your career.

With our small class sizes and experienced faculty, you will have the opportunity to work one-on-one with our instructors in a comfortable learning environment where you are a person – not just a number – and gain the skills and experience necessary to achieve your goals.

And, since the college works with so many working adults, DCTC offers flexible scheduling that includes programs and classes offered at night, on the weekends, in the morning, or online.

As a public, two-year institution, DCTC offers you an efficient and affordable way to reach your educational and career goals. Learn more about how we can help you find success by visiting us on the Web at [www.dctc.edu](http://www.dctc.edu) or calling 1-877-YES-DCTC.

## [make it happen]

Dakota County Technical College prepares students for the future by giving them the training and skills necessary to succeed in our ever-changing world. Our students have access to the latest technology, experienced faculty, newly renovated facilities, and a wide variety of life and learning opportunities.



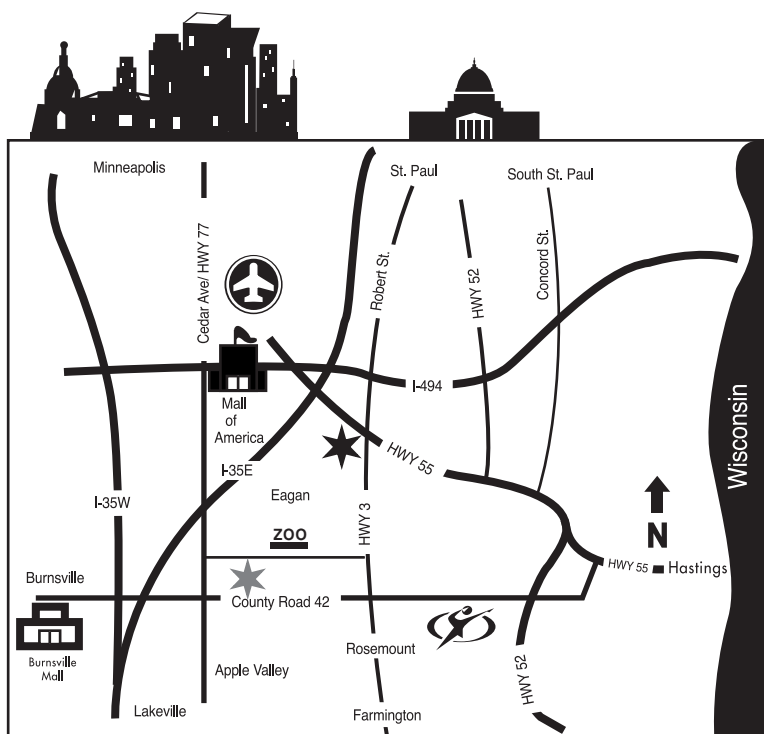
# PHONE DIRECTORY

## Questions? Call us, we're here to help!


College Switchboard .....	651-423-8000
Student Services Office/Program Information.....	651-423-8020
Admissions .....	651-423-8302 <b>OR</b> admissions@dctc.edu
Advising.....	advising@dctc.edu
Registration .....	651-423-8038 <b>OR</b> registration@dctc.edu
Toll-free .....	877-937-3282
Fax.....	651-423-8775
TTY Services .....	651-423-8621
Web site.....	www.dctc.edu


### Other Services:

Learning Center/Disability Services .....	651-423-8420
Apple Valley Higher Education Site.....	651-423-8600
Bookstore .....	651-423-8486
Career Services.....	651-423-8450
Credit for Prior Learning .....	651-423-8295
Customized Training Course Information .....	651-423-8472
Flextime Lab .....	651-423-8251
Foundation .....	651-423-8293
Instructional Technology Center .....	651-423-8657
IT Training Center (Eagan) .....	651-406-4754
Library .....	651-423-8406
Office of Scholarships and Financial Aid .....	651-423-8299
Student Life Center .....	651-423-8462/8330
TRIO/Student Support Services/Upward Bound.....	651-423-8420
Tuition Office .....	651-423-8246 <b>OR</b> 651-423-8248



## MAP LEGEND

 **Dakota County Technical College**  
1300 145th St. E. County Road 42  
Rosemount (651) 423-8301

 **DCTC Apple Valley Site**  
14200 Cedar Avenue  
Apple Valley (651)-423-8600

 **DCTC IT Training Center (Eagan)**  
3140 Neil Armstrong Boulevard  
Eagan (651) 406-4754

## DIRECTIONS

### FROM THE NORTHWEST:

I-35W south to County Rd 42;  
Eleven miles East on County Rd 42;  
DCTC is on the right side of the road.

### FROM THE NORTHEAST:

I-494 to Hwy 52;  
South on Hwy 52/55 to County Rd 42;  
Two miles West on County Rd 42;  
DCTC is on the left side of the road.

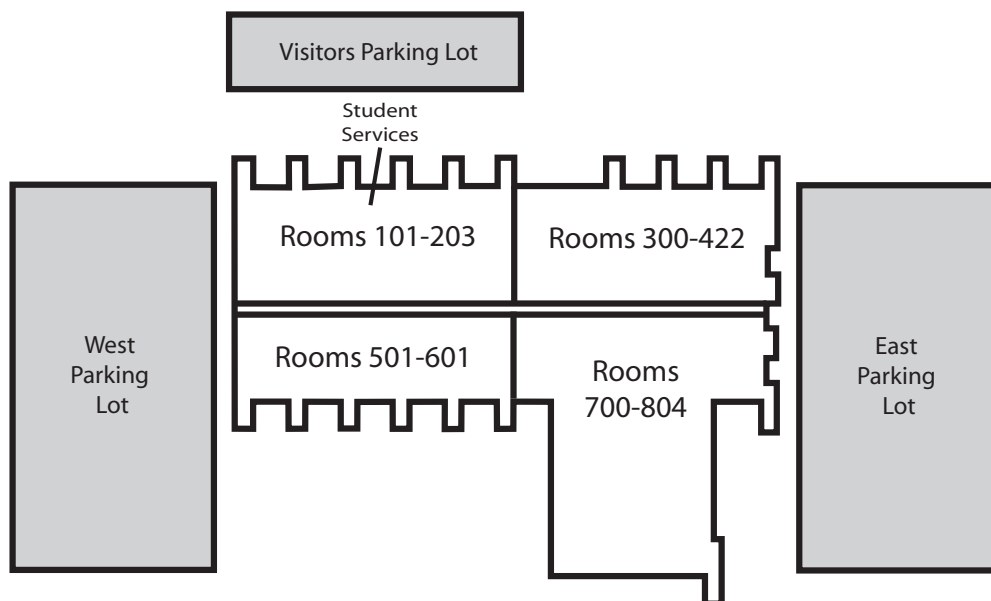
### FROM THE SOUTHEAST:

Hwy 52/55 to County Rd 42;  
Two miles West on County Rd 42;  
DCTC is on the left side of the road.

### FROM THE SOUTHWEST:

I-35E to County Rd 42;  
Eleven miles East on County Rd 42;  
DCTC is on the right side of the road.

## CAMPUS MAP



# ACADEMIC CALENDAR 2008-2009

## SUMMER SESSION

Summer tuition due .....	Monday, May 19
Classes begin .....	Monday, June 9
No classes .....	Wednesday, July 4
Summer Session ends .....	Friday, August 1

## FALL SEMESTER

Fall tuition due .....	Monday, August 4
Book Voucher usage .....	August 18-29
Classes begin .....	Monday, August 25
Last day to drop/add classes .....	Friday, August 29
No classes (Labor Day) .....	Monday, September 1
Fall Success Week .....	September 15-19
Last day for total withdrawal with partial refund .....	Monday, September 22
Pre-Registration Advising Week .....	October 6-10
No classes (Fall Break) .....	October 16-17
Spring semester registration begins .....	Monday, October 13
No classes (Thanksgiving Break) .....	November 27-28
Last day for course withdrawal .....	Friday, December 5
Semester ends .....	Monday, December 22

## SPRING SEMESTER

Spring tuition due .....	Friday, December 12
Book voucher usage .....	January 5-16
Classes begin .....	Monday, January 12
Last day to drop/add classes .....	Friday, January 16
No classes (Martin Luther King Jr. Day) .....	Monday, January 19
Spring Success Week .....	January 26-29
No classes (Faculty Inservice) .....	Friday, January 31
Last day for total withdrawal with partial refund .....	Tuesday, February 10
No classes (President's Day) .....	Monday, February 16
No classes (Faculty Inservice) .....	Friday, February 27
No classes (Spring Break) .....	March 9-13
Pre-Registration Advising Week .....	March 16-20
Fall semester registration begins .....	Wednesday, March 23
No classes (Faculty Inservice) .....	Friday, March 25
No classes (Good Friday) .....	Friday, April 10
Last day for course withdrawal .....	Friday, April 24
Graduation Ceremony (tentative) .....	Friday, May 15
Semester ends .....	Monday, May 18

Drop/Add, withdrawal, and refund dates subject to change per MnSCU Board action.





Business and Information Systems	9
----------------------------------	---

Business and Management	23
-------------------------	----

Design	41
--------	----

Health and Human Services	55
---------------------------	----

Technical Careers	65
-------------------	----

Transportation	73
----------------	----

General Education	83
-------------------	----

# programs

# ACADEMIC DEPARTMENTS

<b>Business and Information Systems. ....</b>	<b>9</b>	<b>Health and Human Services .....</b>	<b>55</b>
Accounting .....	10	Child Development .....	56
Information Systems .....	12-15	Dental Assistant .....	58
Information Systems Management .....	12	Exercise and Sport Science .....	59
Networking Administration .....	13	Medical Assistant .....	61
Software Development .....	14	Nursing Asst./Home Health Aide .....	62
Office Careers .....	16-22	Practical Nursing .....	63
Executive and Admin. Assistant .....	16		
Legal Administrative Assistant .....	18	<b>Technical Careers. ....</b>	<b>65</b>
Medical Administrative Assistant .....	20	Biomedical Equipment Technology .....	66
Medical Coding Specialist .....	22	Concrete and Masonry .....	67
		Electrical Construction & Maintenance .....	68
<b>Business and Management</b>		Electrical Lineworker .....	69
<b>(Apple Valley Campus) .....</b>	<b>23</b>	Nanoscience Technology .....	70
Business .....	24	Welding Technology .....	72
Business Entrepreneur .....	26		
Hospitality Careers .....	27-30	<b>Transportation .....</b>	<b>73</b>
Casino Management .....	27	Auto Body Collision Technology .....	74
Meeting, Event, and Tourism Mgmt. ....	28	Automotive Technician .....	76
Tourism and Travel .....	30	GM Automotive Service	
Industrial Distribution .....	31	Educational Program (ASEP) .....	78
Mgmt. for Technical/Airline Professionals .....	32	Heavy Construction Equip. Technology .....	79
Marketing and Sales .....	33	Heavy Duty Truck Technology .....	80
Multicultural Supervision .....	36	Railroad Conductor Technology .....	82
Real Estate Property Management .....	37		
Supervisory Management .....	39	<b>General Education. ....</b>	<b>83</b>
		General Education .....	84
<b>Design .....</b>	<b>41</b>	MN Transfer Curriculum .....	86
Architectural Technology .....	42	DCTC Defined Requirement .....	88
Interior Design .....	43	Developmental Education .....	88
Landscape Horticulture .....	45		
Visual Communications .....	46-53	<b>General Information .....</b>	<b>89</b>
Applied Visual Arts .....	47		
Graphic Design Technology and		<b>Course Descriptions .....</b>	<b>119</b>
Multimedia and Web Page Design .....	48		
Photography .....	51		
Photographic Imaging Technology .....	52		
Wood Finishing Technology .....	54		



Accounting 10

---

Information Systems 12-15

Information Systems Management 12

Networking Administration 13

Software Development 14

---

Office Careers 16-22

Executive and Admin. Assistant 16

Legal Administrative Assistant 18

Medical Administrative Assistant 20

Medical Coding Specialist 22

---

# business & information systems

## ACCOUNTING

Accountant A.A.S. Degree .....	72 credits
Accountant Diploma .....	64 credits
Accounting Clerk Diploma .....	32 credits

### Major Description

Accounting students learn to analyze, interpret and record accounting data. Students will learn how to prepare financial statements, tax returns, and government forms. They will become knowledgeable in state and federal tax laws and payroll laws. Students will gain experience with a variety of computer software: word processing, spreadsheet, and accounting applications.

### Nature of Work

The accountant's work is one of the most important functions in any business. Duties may include budgeting, maintaining accounting systems, compiling financial statements, preparing state and federal tax reports, analyzing cost variances, and interpreting results of analysis. The duties will vary depending on the size and nature of the business.

### Career Opportunities

Graduates find challenging accounting careers in companies of all sizes as well as in accounting firms and government agencies.



### Program Delivery

Students can begin this program Fall or Spring semester. Some evening and online classes may be offered, but it is primarily a day program. Full- or part-time starts are available. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Southwest Minnesota State University, Cardinal Stritch and Saint Mary's University. See Career Services for more information.

### Student Outcomes

1. Graduates of the Accounting program will be prepared for employment in the accounting field.
2. Students will have knowledge of computer software and hardware and its application to accounting and financial analysis.
3. Students will have knowledge of financial and cost accounting, auditing and tax.
4. See General Education outcome statement on page 84.

### Accountant – A.A.S. Degree

Courses	Cr
ACCT1000 Principles of Accounting I	4
ACCT1003 Principles of Accounting II	4
ACCT1100 Business Law and Ethics	3
ACCT1106 Accounting Mathematics	3
ACCT1226 Payroll Accounting	3
ACCT1306 Spreadsheets	3
ACCT1406 Income Tax	4
ACCT2000 Intermediate Accounting I	4
ACCT2003 Intermediate Accounting II	4
ACCT2100 Cost Accounting I	4
ACCT2103 Cost Accounting II	4
ACCT2200 Accounting Computer Applications I	3
ACCT2203 Accounting Computer Applications II	3
ACCT2306 Auditing	3
<b>Total</b>	<b>49</b>

### Technical Electives

Students may select elective courses from the Accounting (ACCT), Information Systems (ISTC), or Office Careers (OFFC) curricula upon approval of advisor. ACCT2400 Personal Financial Management is recommended.

<b>Total</b>	<b>3</b>
--------------	----------

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>72</b>

**Accountant – Diploma**

Courses	Cr
ACCT1000 Principles of Accounting I	4
ACCT1003 Principles of Accounting II	4
ACCT1100 Business Law and Ethics	3
ACCT1106 Accounting Mathematics	3
ACCT1226 Payroll Accounting	3
ACCT1306 Spreadsheets	3
ACCT1406 Income Tax	4
ACCT2000 Intermediate Accounting I	4
ACCT2003 Intermediate Accounting II	4
ACCT2100 Cost Accounting I	4
ACCT2103 Cost Accounting II	4
ACCT2200 Accounting Computer Applications I	3
ACCT2203 Accounting Computer Applications II	3
ACCT2306 Auditing	3
<b>Total</b>	<b>49</b>

**Technical Electives**

Students may select elective courses from the Accounting (ACCT), Information Systems (ISTC), or Office Careers (OFFC) curricula upon approval of advisor. ACCT2400 Personal Financial Management is recommended.

<b>Total</b>	<b>6</b>
--------------	----------

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
--------------	----------

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

**Accounting Clerk – Diploma**

Courses	Cr
ACCT1000 Principles of Accounting I	4
ACCT1003 Principles of Accounting II	4
ACCT1100 Business Law and Ethics	3
ACCT1106 Accounting Mathematics	3
ACCT1226 Payroll Accounting	3
ACCT1306 Spreadsheets	3
ACCT1406 Income Tax	4
<b>Total</b>	<b>24</b>

**Technical Electives**

Students may select elective courses from the Accounting (ACCT), Information Systems (ISTC), or Office Careers (OFFC) curricula upon approval of advisor. ACCT2400 Personal Financial Management is recommended.

<b>Total</b>	<b>2</b>
--------------	----------

**General Education**

The following courses are required:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3

<b>Total</b>	<b>6</b>
--------------	----------

<b>TOTAL Program Requirements</b>	<b>32</b>
-----------------------------------	-----------



# INFORMATION SYSTEMS

## Overview of Information Systems Programs

The Information Systems programs prepare students to enter the ever-changing Information Technology field. IT professionals design, develop, implement, support and trouble-shoot computer systems encompassing both hardware and software systems and databases. Networking professionals focus on the implementation and support of computer systems including help desk support, network configurations, operating system and application program installations, security and network administration. Software professionals focus on application development and support.

## INFORMATION SYSTEMS MANAGEMENT

Information Systems Management A.A.S. Degree ...71 credits  
Information Systems Management Diploma ....60 credits

### Major Description

The Information Systems Management major is an interdisciplinary program combining courses from Networking Administration, Software Development, and Information Systems Management. This unique blend of networking, programming, and management skills prepares the student to function in small business firms as the sole computer resource person. Graduates in this major who also possess entrepreneurial skills will be prepared to start their own computer consulting firms.

### Nature of Work

Graduates can expect to fulfill all of the computer skills needed by a small business including networking design and implementation, database management, project management, and software development.

### Career Opportunities

Graduates may secure employment as the information systems manager in small business firms or as self-employed consultants.

### Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered days and evenings. Some courses are offered online while others are online enhanced. Full- or part-time starts are available. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University, University of Minnesota-Crookston, Cardinal Stritch and St Mary's University. See Career Services for more information.

### Student Outcomes

1. Students will be prepared for employment in the computer industry.

2. Students will have hands-on experiences through projects and simulations.
3. See General Education outcome statement on page 84.

## Information Systems Management – A.A.S. Degree

Courses	Cr
ISTC1000	Introduction to Information Systems Mgmt. 3
ISTC1010	Microcomputer Maintenance 3
ISTC1100	Business Communications 3
ISTC1030	Operating Systems I 3
ISTC1033	Operating Systems II 3
ISTC1040	Network Systems I 3
ISTC1050	Database Systems 3
ISTC1060	Security I 3
ISTC1230	System Analysis and Design 3
ISTC1300	Introduction to Programming 3
ISTC1400	Wireless Systems 3
ISTC2035	Operating System III 3
ISTC2040	Database Management 3
ISTC2065	Security II: Firewalls 3
ISTC2100	Project Management 3
ISTC2120	Financial Accounting for Information Systems 3
ISTC2140	Digital Convergence 3
Total	51

### General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>71</b>

## Information Systems Management – Diploma

Courses	Cr
ISTC1000	Introduction to Information Systems Mgmt. 3
ISTC1010	Microcomputer Maintenance 3
ISTC1100	Business Communications 3
ISTC1030	Operating Systems I 3
ISTC1033	Operating Systems II 3
ISTC1040	Network Systems I 3
ISTC1050	Database Systems 3
ISTC1060	Security I 3
ISTC1230	System Analysis and Design 3
ISTC1300	Introduction to Programming 3
ISTC1400	Wireless Systems 3
ISTC2035	Operating System III 3
ISTC2040	Database Management 3
ISTC2065	Security II: Firewalls 3
ISTC2100	Project Management 3
ISTC2120	Financial Accounting for Information Systems 3
ISTC2140	Digital Convergence 3
Total	51

### General Education

See the General Education requirements on page 85.

Total	9
<b>TOTAL Program Requirements</b>	<b>60</b>



# NETWORKING ADMINISTRATION

Networking Administration A.A.S. Degree	.....71 credits
Networking Administration Diploma	.....60 credits
PC Technician Certificate	.....30 credits

## Major Description

The Networking Administration major prepares students with the knowledge and experience needed to install and maintain computers, servers, networks, and other networking equipment to function in a variety of network environments. Students build and manage networks, install software, configure a variety of networking devices including switches and routers, and troubleshoot problems related to both hardware and software. Courses are designed to provide students with both a strong theory-based foundation along with a true "hands-on" experience. Emphasis within this major is placed on network security, router configuration and management.

## Nature of Work

Skilled graduates will provide networking solutions for employers. Activities include network design and implementation, administration, and maintenance.

## Career Opportunities

Graduates may secure employment in entry-level positions such as network installation, network management, network maintenance, computer technician, and help desk.

## Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered days and evenings. Some courses are offered online while others are online-enhanced. Full- or part-time starts are available. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University, University of Minnesota-Crookston, Cardinal Stritch and St Mary's University. See Career Services for more information.

## Student Outcomes

1. Students will be prepared for employment in the computer industry.
2. Students will have hands-on experiences through projects and simulations.
3. See General Education outcome statement on page 84.

## Networking Administration – A.A.S. Degree

Courses	Cr
ISTC1010 Microcomputer Maintenance	3
ISTC1100 Business Communications	3
ISTC1030 Operating Systems I	3
ISTC1033 Operating Systems II	3
ISTC1040 Network Systems I	3
ISTC1050 Database Systems	3
ISTC1060 Security I	3
ISTC1400 Wireless Systems	3
ISTC2005 Network Systems II	3
ISTC2010 Network Systems III	3
ISTC2015 Network Systems IV	3
ISTC2035 Operating System III	3
ISTC2040 Database Management	3
ISTC2065 Security II: Firewalls	3
ISTC2070 Security III: Forensics	3
ISTC2100 Project Management	3
ISTC2140 Digital Convergence	3
Total	51

## General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>71</b>



**Networking Administration – Diploma**

Courses	Cr
ISTC1010 Microcomputer Maintenance	3
ISTC1100 Business Communications	3
ISTC1030 Operating Systems I	3
ISTC1033 Operating Systems II	3
ISTC1040 Network Systems I	3
ISTC1050 Database Systems	3
ISTC1060 Security I	3
ISTC1400 Wireless Systems	3
ISTC2005 Network Systems II	3
ISTC2010 Network Systems III	3
ISTC2015 Network Systems IV	3
ISTC2035 Operating System III	3
ISTC2040 Database Management	3
ISTC2065 Security II: Firewalls	3
ISTC2070 Security III: Forensics	3
ISTC2100 Project Management	3
ISTC2140 Digital Convergence	3
<b>Total</b>	<b>51</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>60</b>

**PC Technician – Certificate**

Courses	Cr
ISTC1010 Microcomputer Maintenance	3
ISTC1100 Business Communications	3
ISTC1030 Operating Systems I	3
ISTC1033 Operating Systems II	3
ISTC1040 Network Systems I	3
ISTC1050 Database Systems	3
ISTC1060 Security I	3
ISTC1400 Wireless Systems	3
<b>Total</b>	<b>24</b>

**General Education**

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communications	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>30</b>

## SOFTWARE DEVELOPMENT

Software Development A.A.S. Degree	.....71 credits
Software Development Diploma	.....60 credits
Web Developer Diploma	.....32 credits

**Major Description**

The Software Developer major prepares students to become computer programmers. Students learn various programming languages used for software development. Students learn to design, write, debug and test application software. Both individual and team efforts are developed.

**Nature of Work**

Skilled graduates in Software Development will be prepared to provide software solutions for employers. Programmers convert data from project specifications and statements of problems to develop computer programs. In addition, programmers code, test, maintain and support software systems. Programmers are often asked to provide solutions as a part of a team and rely on strong analytical skills.

**Career Opportunities**

Graduates may obtain employment in entry-level positions such as computer programmer, applications programmer, programmer/operator, software test and help desk support.

**Program Delivery**

Students can begin this program Fall or Spring semester. Courses are offered days and evenings as well as some online and enhanced classes. Full- or part-time starts are available. See page 110 for information on advanced standing.

**After DCTC**

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University, the University of Minnesota–Crookston, Cardinal Stritch and Saint Mary's University. See Career Services for more information.

**Student Outcomes**

1. Graduates of the Software Development program will be prepared for employment in the computer industry.
2. Students will be able to design and code software written in Visual Basic, C++, Java, as well as web client and web server languages.
3. Students will have hands-on experiences through realistic projects and simulations.
4. See General Education outcome statement on page 84.

## SOFTWARE DEVELOPMENT

*The median wage for a software developer in Minnesota is \$39.04 per hour.  
The number of positions in Minnesota is projected to increase by 47.4% between 2004-2014.  
(Minnesota Department of Employment and Economic Development)*

**Software Development – A.A.S. Degree**

Courses	Cr
ISTC1010 Microcomputer Maintenance	3
ISTC1100 Business Communications	3
ISTC1030 Operating Systems I	3
ISTC1033 Operating Systems II	3
ISTC1040 Network Systems I	3
ISTC1050 Database Systems	3
ISTC1060 Security I	3
ISTC1205 Web Client Programming	3
ISTC1210 Web Server Programming	3
ISTC1230 System Analysis and Design	3
ISTC1300 Introduction to Programming	3
ISTC2050 Data Structures	3
ISTC2100 Project Management	3
ISTC2310 Java I	3
ISTC2315 Java II	3
ISTC2320 .NET I	3
ISTC2325 .NET II	3
<b>Total</b>	<b>51</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>71</b>

**Software Development – Diploma**

Courses	Cr
ISTC1010 Microcomputer Maintenance	3
ISTC1100 Business Communications	3
ISTC1030 Operating Systems I	3
ISTC1033 Operating Systems II	3
ISTC1040 Network Systems I	3
ISTC1050 Database Systems	3
ISTC1060 Security I	3
ISTC1205 Web Client Programming	3

ISTC1210 Web Server Programming	3
ISTC1230 System Analysis and Design	3
ISTC1300 Introduction to Programming	3
ISTC2050 Data Structures	3
ISTC2100 Project Management	3
ISTC2310 Java I	3
ISTC2315 Java II	3
ISTC2320 .NET I	3
ISTC2325 .NET II	3
<b>Total</b>	<b>51</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>60</b>

**Web Developer – Diploma**

Courses	Cr
ISTC1100 Business Communications	3
ISTC1030 Operating Systems I	3
ISTC1050 Database Systems	3
ISTC1060 Security I	3
ISTC1205 Web Client Programming	3
ISTC1210 Web Server Programming	3
ISTC1300 Introduction to Programming	3
ISTC2320 .NET I	3
VCOM1032 Interactive Design Fundamentals	2
<b>Total</b>	<b>26</b>

**General Education**

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communications	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>32</b>



## OFFICE CAREERS

### Overview of Office Careers Programs

The field of Office Careers provides a challenging business environment in which technology is constantly changing. Office Careers involves the use of a variety of software applications to generate correspondence and maintain spreadsheets and databases. Office professionals also conduct electronic research, schedule meetings, take minutes, manage calendars, make travel arrangements, and work on special assignments.

## EXECUTIVE AND ADMINISTRATIVE ASSISTANT

Executive Assistant A.A.S. Degree .....	.64 credits
Administrative Assistant Diploma .....	.38 credits
Receptionist Certificate .....	.25 credits

### Major Description

**Executive Assistant:** In the changing business environment, Executive Assistants are experienced and organized office professionals. They will provide the expertise needed for creating and editing documents, spreadsheets, databases and electronic presentations. In addition, the Executive Assistant should be experienced in using the Internet, working with local area networks and designing web pages. This is the perfect major for people who are presently in the work force but need a new challenge or a way to advance their careers.

**Administrative Assistant:** The Administrative Assistant major prepares students for employment in administrative support. Students will use computer systems for document processing and file management tasks. In addition, the administrative assistant may perform duties such as handling mail, filing and retrieving records, and handling telephone calls. The Receptionist Certificate major offers the student an opportunity to work with some of these skills in a more condensed version of the program.

### Nature of Work

The Executive Assistant and Administrative Assistant uses a variety of application software to generate, edit and store correspondence, reports and statistical tables and forms, and maintain spreadsheets and databases. They also conduct electronic research, schedule meetings, take minutes, manage calendars, make travel arrangements and work independently on special assignments.

### Career Opportunities

Graduates find employment in administrative support in a wide variety of businesses, including corporate headquarters, insurance companies, banks, manufacturing firms and government agencies.

### Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered primarily during the day; however, there are some evening and Flextime Lab classes available. Full- or part-time starts are available. See page 110 for information on advanced standing.

### MOS Certification

DCTC offers courses to prepare students for the Microsoft Office Specialist (MOS) certification exam. MOS is the globally recognized standard for validating expertise with the Microsoft Office suite of business productivity software. For more information call 651-423-8428.

### Flextime Lab

Students unable to commit to a schedule every day can complete some Executive Assistant courses in the Flextime Lab. Courses are taught on an independent, self-paced basis under the guidance of a qualified instructor. For more information, call 651-423-8251.

### After DCTC

DCTC has transfer agreements for this program with Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Program Prerequisite

A two-minute typing test will be given before students can take OFFC1005 Keyboarding/Formatting. Students must achieve a speed of 35 words per minute with five or fewer errors to be admitted to the course. If students do not type at this level, they must successfully complete OFFC1000 Basic Keyboarding prior to registering for OFFC1005 Keyboarding/Formatting.

### Student Outcomes

1. Graduates will be prepared for immediate employment in their respective fields.
2. Graduates will have successfully completed coursework in a simulated office environment.
3. Graduates will be able to utilize software applications to produce mailable documents.
4. See General Education outcome statement on page 84.

## MEDIAN WAGE

*The median wage for an executive or administrative position in Minnesota is \$19.47 per hour.*

*(MN Dept. of Employment and Economic Development)*

**Executive Assistant – A.A.S. Degree**

Courses	Cr
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1017 Technology for the Business Professional	3
OFFC1019 Receptionist Skills	2
OFFC1020 Office Procedures	4
OFFC1030 Word Processing	3
OFFC1040 Integrated Office Skills	3
OFFC1230 MS Publisher	2
OFFC1260 Certification Basics – Word	3
OFFC1275 Certification Basics – PowerPoint	3
OFFC1285 Oral Business Comm./Job Seeking Skills	2
OFFC1290 Written Business Communications	2
<b>Total</b>	<b>32</b>

**Technical Electives**

Students may select elective courses from the Office Careers (OFFC), Information Systems (ISTC), Business Entrepreneur (ENTR), Supervisory Management (SMGT), or Tourism and Travel (TRVL) curricula upon approval of advisor.

Total	12
-------	----

**General Education**

See the General Education requirements on page 85.

Total	20
-------	----

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

**Administrative Assistant – Diploma**

Courses	Cr
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1017 Technology for the Business Professional	3
OFFC1019 Receptionist Skills	2
OFFC1020 Office Procedures	4
OFFC1030 Word Processing	3
OFFC1040 Integrated Office Skills	3
OFFC1230 MS Publisher	2
OFFC1260 Certification Basics – Word	3
OFFC1275 Certification Basics – PowerPoint	3
OFFC1285 Oral Business Comm./Job Seeking Skills	2
OFFC1290 Written Business Communications	2
<b>Total</b>	<b>32</b>

**General Education**

The following courses are required:

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>38</b>

**Receptionist – Certificate**

Courses	Cr
OFFC1000 Basic Keyboarding	1
OFFC1010 Business English Skills	2
OFFC1019 Receptionist Skills	2
OFFC1020 Office Procedure	4
OFFC1030 Word Processing	3
OFFC1285 Oral Business Comm. and Job Seeking Skills	2
OFFC1290 Written Business Communications	2
<b>Total</b>	<b>16</b>

**General Education**

The following course is required:

COML1400 Introduction to Computers	3
<b>Total</b>	<b>3</b>

**Technical Electives**

Students may select elective courses from the Office Careers (OFFC), Information Systems (ISTC), Business Entrepreneur (ENTR), Supervisory Management (SMGT), or Tourism and Travel (TRVL) curricula upon approval of advisor.

Total	6
-------	---

<b>TOTAL Program Requirements</b>	<b>25</b>
-----------------------------------	-----------



*In Minnesota, about 26,680 executive secretaries work in this very large occupation. (iseek)*

# LEGAL ADMINISTRATIVE ASSISTANT

Legal Administrative Assistant A.A.S. Degree .....	.64 credits
Legal Administrative Assistant Diploma .....	.39 credits
Legal Receptionist Certificate .....	.25 credits

## Major Description

This major is designed to prepare students to work in a variety of legal-related fields. Specialized legal courses include Civil Procedures, Family Law, and Criminal Law, as well as exposure to basic legal concepts through courses in Transactional Law and Legal Proofreading and Editing. Students will also take a variety of general administrative courses covering keyboarding, communications, and software applications.

## Nature of Work

The Legal Administrative Assistant program is designed to prepare students to become integral members of a law office or legal department. These students will study information focusing on a variety of legal applications including civil procedures, family law and criminal law, and ethics, as well as general office applications. They will also become skilled in use of various software programs such as word processing, e-mail, and time and billing. Students will learn legal terminology and be able to produce a variety of legal documents.

## Career Opportunities

Graduates find employment opportunities as legal administrative assistants in law firms, court systems, insurance agencies, legal and trust departments of banks, large corporations, and government agencies.

## Program Delivery

Students can begin this program Fall or Spring semester. Legal courses (OTEC) are offered online, and general courses (OFFC) are offered primarily during the day. Full- or part-time starts are available.

## MOS Certification

DCTC offers courses to prepare students for the Microsoft Office Specialist (MOS) certification exam. MOS is the globally recognized standard for validating expertise with the Microsoft Office suite of business productivity software. For more information call 651-423-8428.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Program Prerequisite

A two-minute typing test will be given before students can take OFFC1005 Keyboarding/Formatting. Students must achieve a speed of 35 words per minute with five or fewer errors to be admitted to the course. If students do not type at this level, they must successfully complete OFFC1000 Basic Keyboarding prior to registering for OFFC1005 Keyboarding/Formatting.

## Student Outcomes

1. Graduates will be prepared for immediate employment in their respective fields.
2. Graduates will have successfully completed coursework in a simulated office environment.
3. Graduates will be able to utilize software applications to produce mailable documents.
4. See General Education outcome statement on page 84.

## Legal Administrative Assistant – A.A.S. Degree

\*Courses offered online from South Central College - Mankato

Courses	Cr
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1017 Technology for the Business Professional	3
OFFC1019 Receptionist Skills	2
OFFC1020 Office Procedures	4
OFFC1030 Word Processing	3
OFFC1040 Integrated Office Skills	3
OFFC1260 Certification Basics – Word	3
OFFC1275 Certification Basics – PowerPoint	3
OFFC1285 Oral Business Comm./Job Seeking Skills	2
OFFC1290 Written Business Communications	2
OTEC1725* Transactional Law	3
OTEC1730* Civil Procedures	3
OTEC2735* Family Law/Criminal Law	3
OTEC2740* Legal Proofreading & Editing	3
<b>Total</b>	<b>42</b>

## Technical Electives

Students may select elective courses from the Office Careers (OFFC), Information Systems (ISTC), Business Entrepreneur (ENTR), Supervisory Management (SMGT), or Tourism and Travel (TRVL) curricula upon approval of advisor. Local Area Networking is highly recommended.

<b>Total</b>	<b>2</b>
--------------	----------

## General Education

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
PHIL1100 Ethics	3
SPEE1020 Interpersonal Communication	3
Goal 3 or 4	3–4
Electives	4–5

<b>Total</b>	<b>20</b>
--------------	-----------

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------



**Legal Administrative Assistant – Diploma**

\*Courses offered online from South Central College - Mankato

Courses	Cr
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1019 Receptionist Skills	2
OFFC1020 Office Procedures	4
OFFC1030 Word Processing	3
OFFC1040 Integrated Office Skills	3
OFFC1260 Certification Basics – Word	3
OFFC1275 Certification Basics – PowerPoint	3
OFFC1285 Oral Business Comm./Job Seeking Skills	2
OFFC1290 Written Business Communications	2
OTEC1725 Transactional Law*	3
OTEC1730 Civil Procedures*	3
<b>Total</b>	<b>33</b>

**General Education**

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>39</b>

**Legal Receptionist – Certificate**

\*Courses offered online from South Central College - Mankato

Courses	Cr
OFFC1000 Basic Keyboarding	1
OFFC1010 Business English Skills	2
OFFC1019 Receptionist Skills	2
OFFC1020 Office Procedures	4
OFFC1030 Word Processing	3
OFFC1285 Oral Business Comm./Job Seeking Skills	2
OFFC1290 Written Business Communications	2
OTEC1725 Transactional Law*	3
<b>Total</b>	<b>19</b>

**Technical Electives**

Students may select elective courses from the Office Careers (OFFC), Information Systems (ISTC), Business Entrepreneur (ENTR), Supervisory Management (SMGT), or Tourism and Travel (TRVL) curricula upon approval of advisor. Local Area Networking is highly recommended.

<b>Total</b>	<b>3</b>
--------------	----------

**General Education**

COML1400 Introduction to Computers	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>25</b>



## MEDICAL ADMINISTRATIVE ASSISTANT

Medical Administrative Assistant A.A.S. Degree . . .	64 credits
Medical Administrative Assistant Diploma . . . . .	39 credits
Medical Transcriptionist Diploma . . . . .	39 credits
Medical Receptionist Certificate . . . . .	25 credits

### Major Description

**Medical Administrative Assistant:** This major is designed to prepare students to work in a variety of medical-related fields. Specialized medical courses include medical office procedures, medical terminology, anatomy and physiology. Insurance claim processing, insurance coding and medical transcription are covered in medical office procedures class. Students will also complete various courses in communications and become proficient in using current software applications for word processing, spreadsheets and presentation graphics.

**Medical Transcriptionist:** A Medical Transcriptionist is a medical language specialist who interprets and transcribes dictation by physicians and other healthcare professionals about patient assessment, workup, therapeutic procedures, clinical course and other medical processes. Their work documents patient care and facilitates delivery of healthcare services. This type of work requires excellent grammar and punctuation ability in order to edit dictated material for grammar and clarity. Specialized medical courses include medical office procedures, medical terminology, anatomy and physiology and medical transcription.

### Nature of Work

**Medical Administrative Assistant:** Will serve as administrative assistant in hospitals, clinics, physicians' offices, insurance companies and other medical-related organizations. They perform a number of duties, including composing correspondence, coding diagnoses and procedures, completing insurance forms, controlling doctors' schedules, preparing professional presentations, scheduling patient appointments, maintaining patient files, transcribing reports and many other duties.

**Medical Transcriptionist:** May transcribe hospital and clinic dictation involving patient chart notes, history and physicals, x-ray reports, consultations, operative reports, pathology reports, autopsies, discharge summaries and a variety of other medical reports. The medical transcriptionist serves as an editor of medical documents with the implementation of speech-recognition software in many healthcare facilities. Careers are found in hospitals, clinics, extended-care facilities, medical research groups, health departments and firms that provide medical transcription services. Transcriptionists may also work from home.

**Medical Receptionist:** The job may include scheduling patient appointments, explaining clinic policy to patients, receiving and delivering messages, processing incoming and outgoing mail, receiving calls from hospital labs and x-ray, taking prescription refill messages, scheduling patient

hospital admissions, filing medical reports and insurance forms and maintaining the receptionist area.

### Career Opportunities

Skilled graduates are needed in every phase of medicine, both in research and private practice. Students find challenging careers in hospitals, clinics and insurance companies. Further education, experience and initiative are qualifications for salary increases and promotions.

### Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered primarily during day but some evening classes may be available. Full- or part-time starts are available. See page 110 for information on advanced standing.

### MOS Certification

DCTC offers courses to prepare students for the Microsoft Office Specialist (MOS) certification exam. MOS is the globally recognized standard for validating expertise with the Microsoft Office suite of business productivity software. For more information call 651-423-8428.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Program Prerequisite

A three-minute typing test will be given before students can take OFFC1005 Keyboarding/Formatting. Students must achieve a speed of 35 words per minute with five or fewer errors to be admitted to the course. If students do not type at this level, they must successfully complete Basic Keyboarding prior to registering for OFFC1005 Keyboarding/Formatting.

### Student Outcomes

1. Graduates will be prepared for immediate employment in their respective fields.
2. Graduates will have successfully completed coursework in a simulated office environment.
3. Graduates will be able to utilize software applications to produce documents.
4. See General Education outcome statement on page 84.

## DID YOU KNOW?

*7,965 medical secretaries are working  
in the state of Minnesota. (iseek)*

### Medical Administrative Assistant – A.A.S. Degree

Courses	Cr
HEAL1101 Anatomy and Physiology	4
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1017 Technology for the Business Professional	3
OFFC1019 Receptionist Skills	2
OFFC1030 Word Processing	3
OFFC1040 Integrated Office Skills	3
OFFC1045 Medical Terminology	2
OFFC1052 Medical Transcription I	2
OFFC1053 Medical Transcription II	2
OFFC1054 Speech Recognition Transcription	2
OFFC1057 Medical Office Procedures	4
OFFC1260 Certification Basics – Word	3
OFFC1275 Certification Basics – PowerPoint	3
OFFC1285 Oral Business Comm. and Job Seeking Skills	2
OFFC1290 Written Business Communications	2
<b>Total</b>	<b>42</b>

#### Technical Electives

Students may select as an elective any course listed in the Office Careers (OFFC), Information Systems (ISTC), or other program area upon approval of advisor.

<b>Total</b>	<b>2</b>
--------------	----------

#### General Education

These classes are recommended to fulfill the General Education requirements for an A.A.S. degree:

ENGL1100 Writing and Research Skills	3
COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
PSYC1100 General Psychology	3
Math/Science	3-4
General Education Electives	4-5
<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>64</b>

### Medical Administrative Assistant – Diploma

Courses	Cr
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1017 Technology for Business Professionals	3
OFFC1019 Receptionist Skills	2
OFFC1030 Word Processing	3
OFFC1040 Integrated Office Skills	3
OFFC1045 Medical Terminology	2
OFFC1057 Medical Office Procedures	4
OFFC1260 Certification Basics – Word	3
OFFC1285 Oral Business Comm. and Job Seeking Skills	2
OFFC1290 Written Business Communications	2
HEAL1101 Anatomy and Physiology	4
<b>Total</b>	<b>33</b>

#### General Education

The following courses are required:

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>39</b>

### Medical Transcriptionist – Diploma

Courses	Cr
OFFC1005 Keyboarding/Formatting	3
OFFC1010 Business English Skills	2
OFFC1017 Technology for the Business Professional	3
OFFC1019 Receptionist Skills	2
OFFC1030 Word Processing	3
OFFC1045 Medical Terminology	2
OFFC1052 Medical Transcription I	2
OFFC1053 Medical Transcription II	2
OFFC1054 Speech Recognition Transcription	2
OFFC1057 Medical Office Procedures	4
OFFC1285 Oral Business Comm. and Job Seeking Skills	2
OFFC1290 Written Business Communications	2
HEAL1101 Anatomy and Physiology	4
<b>Total</b>	<b>33</b>

#### General Education

The following courses are required:

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>39</b>

### Medical Receptionist – Certificate

Courses	Cr
OFFC1000 Basic Keyboarding	1
OFFC1010 Business English Skills	2
OFFC1019 Receptionist Skills	2
OFFC1030 Word Processing	3
OFFC1045 Medical Terminology	2
OFFC1057 Medical Office Procedures	4
OFFC1285 Oral Business Comm. and Job Seeking Skills	2
OFFC1290 Written Business Communications	2
HEAL1101 Anatomy and Physiology	4
<b>Total</b>	<b>22</b>

#### General Education

The following course is required:

COML1400 Introduction to Computers	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>25</b>

# MEDICAL CODING SPECIALIST

Medical Coding Specialist Diploma .....41 credits  
(Program is in partnership with Anoka Technical College (ATC))

## Major Description

This program is designed to provide entry-level personnel that perform abstracting and coding of medical records. Graduates of the program will analyze medical record documentation in order to assign diagnostic and procedural codes, provide important information for the health care reimbursement process, and assist in medical research and statistics. In addition, the medical coding specialist is knowledgeable in medical terminology, disease processes, anatomy and physiology, and pharmacology.

## Nature of Work

The Medical Coding Specialist major is designed to prepare students to work in a medical setting. Their expertise will be to understand health care procedures and diagnostic procedures, analyze patients' medical records and assign appropriate codes for reimbursement purposes.

## Career Opportunities

Graduates will find employment in any health care/medical setting: clinics, hospitals or insurance companies.

## Accreditation

The Medical Coding Specialist program is approved by the Council on Accreditation of the American Health Information Management Association.

## Program Delivery

Students can begin this program full- or part-time in the Fall semester and part-time only in the Spring semester. Courses are offered during the day at DCTC and some coding classes are offered online through Anoka Technical College. See page 110 for information on advanced standing. Students can apply for admissions at DCTC and DCTC will forward all admissions information to Anoka TC for acceptance. Students will have a DCTC identification number and an identification number from Anoka for course registration purposes. Students applying for financial aid will have to use Anoka Technical College financial aid code. All grants, scholarships and loans are processed by the financial aid staff at Anoka Technical College.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates will be prepared for immediate employment in the medical coding field.
2. See General Education outcome statement on page 84.

## Medical Coding Specialist – Diploma

Courses offered through Anoka Technical College (ATC)\*

Courses	Cr
ADSC1040* Applied Medical Terminology	2
ADSC1221* Intro to Health Information Mgmt	3
ADSC1231* ICD-9-CM Coding	3
ADSC1240* Coding & Reimbursement for Physicians'	3
ADSC1244* Legal and Ethical Aspects in Health Care	2
ADSC1249* Advanced Coding and Reimbursement	2
ADSC1252* Professional Practice for Coding Specialist	3
HLTH1000* Disease Conditions	2
HEAL1101 Anatomy and Physiology	4
HEAL1702 Pharmacology Basics	1
OFFC1005 Keyboarding/Formatting	3
OFFC1045 Medical Terminology	2
OFFC1155 MS Excel II	2
Total	32

## General Education

The following courses are required.

COML1400	Introduction to Computers	3
ENGL1100	Writing and Research Skills	3
SPEE1020	Interpersonal Communication	3
Total		9

**TOTAL Program Requirements 41**





Business	24
Business Entrepreneur	26
Hospitality Careers	27-30
Casino Management	27
Meeting, Event, and Tourism Mgmt.	28
Tourism and Travel	30
Industrial Distribution	31
Management for Technical and Airline Professionals	32
Marketing and Sales	33
Multicultural Supervision	36
Real Estate Property Management	37
Supervisory Management	39

These programs are offered  
at DCTC's Apple Valley Campus.

# business & management

## BUSINESS

Business A.S. Degree .....64 credits

### Major Description

This degree is intended to provide the essential knowledge and skills that can be immediately applied to today's ever-changing and highly competitive business environment. The benefit of this degree is the ability to transfer to select four-year institutions to earn a bachelor's degree. Students will complete a common core of business courses, then can choose a career/education path by selecting their business emphasis area from management, human resources management, accounting, marketing, office careers, real estate property management, meeting and event management, or business entrepreneur. Students must complete general education/liberal arts credits from the Minnesota Transfer Curriculum.

### Career Opportunities

Graduates will be prepared to enter the business field of their career choice.

### Program Delivery

Students can begin this program Fall, Spring or Summer semester. Courses are offered to accommodate a variety of schedules, including days, evenings, weekends and online. Full- and part-time starts are available. For more information, meet with an advisor or counselor before entering this degree program. See page 110 for more information.

### After DCTC

DCTC has pending transfer agreements with many public and private colleges and universities.



### Advanced Standing

Previous college courses, certification, licensure and training may be considered for credit in the major. The responsibility for seeking credit rests with the student and can be initiated by completing the course SMGT2950 Prior Experiential Learning Portfolio Development (1 elective credit).

### Student Outcomes

1. Students will learn and apply general knowledge and skills necessary to be familiar with current business practices.
2. Students will have knowledge of accounting principles.
3. Students will have general knowledge of marketing principles.
4. Students will learn and apply skills within their chosen emphasis area.
5. See General Education outcome statement on page 84.

### Business – A.S. Degree

Courses	Cr
ACCT1000 Principles of Accounting I	4
ACCT1003 Principles of Accounting II	4
MKTC1000 Principles of Marketing	3
SMGT1033 Business Law and Ethics	3
SMGT2046 Fundamentals of Management and Diversity	4
Total	18

### Technical Emphasis

Students must select one of the following eight concentration areas below (\*) to complete their technical emphasis

#### \* Business Accounting

ACCT1236 Business Payroll	2
ACCT1306 Spreadsheets	3
ACCT1406 Income Tax	4
ACCT2100 Cost Accounting I	4
ACCT2200 Accounting Computer Applications I	3
Total	16

## BUSINESS

*The median salary for a business operations specialist in Minnesota is \$48,105 per year.*

*The number of positions in Minnesota is projected to increase by 27.6% between 2004-2014.*

*(Minnesota Department of  
Employment and Economic Development)*



**\* Business Entrepreneur**

ENTR1150	The Successful Entrepreneur	2
ENTR1430	Marketing Strategies for a Small Business	2
ENTR1650	Selling Success for the Entrepreneur	3
ENTR1860	Business Plan Development	3
ENTR1900	Capitalizing a Small Business	2
OFFC1240	Quick Books or SMGT1601 Financial Mgmt.	2
SMGT1060	Habits for Personal Effectiveness	1
SMGT1250	Managing Customer Service	1
Total		16

**\* General Real Estate Certificate**

PMGT1101	Real Estate I	2
PMGT1102	Real Estate II	2
PMGT1204	Real Estate Law	2
PMGT1205	Loan Application/Processing	1
PMGT1207	Financing Instruments	1
PMGT1210	Appraisal Process	1
PMGT1212	Residential Appraisal Workshop	1
PMGT1224	Income Capitalization Analysis	1
PMGT1228	Community Association Management	1
PMGT1232	Cash Flow Analysis	1
PMGT1302	Planning and Operating a Small Business	1
PMGT1304	Marketing Strategies for Small Business	1
PMGT2020	Negotiating for Agreement	1
Total		16

**\* Human Resources Management**

SMGT1231	Planning and Project Management	2
SMGT1242	Effective Business Communication	3
SMGT1405	Managing Performance	3
SMGT1441	Intro to Human Resources Management	3
SMGT1470	Safety and Compliance Management	2
SMGT1875	Training and Developing Employees	3
Total		16

**\* Management**

SMGT1205	Total Quality Management	4
SMGT1260	Managing Teams	3
SMGT2001	Management Skills I, Foundations of Mgmt.	3
SMGT2002	Management Skills II, Plan & Organize	3
SMGT2003	Management Skills III, Lead & Control	3
Total		16

**\* Marketing**

MKTC1100	Fundamentals of Sales	3
MKTC1150	Consumer and Professional Buying Behavior	3
MKTC2000	Advertising Practices and Procedures	3
MKTC2060	Proposal Writing	1
MKTC2215	Marketing Promotion	2
MKTC2410	Marketing Visual Communications	1
MKTC2600	Marketing Research	3
Total		16

**\* Meeting and Event Management**

SMGT1160	Fund. of Mtg, Conference, and Event Mgmt.	2
SMGT1161	Adv. Meeting, Conference, and Event Mgmt.	3
SMGT1162	Special Event Coordination and Mgmt.	3
SMGT1163	Event Promotion	3
SMGT1164	Meeting and Event Risk Management	2
SMGT1167	Meeting and Event Sponsorship	3
Total		16

**\* Multicultural Supervision Certificate***Pending MnSCU Board Approval*

SMGT2105	Managing Diversity	3
SMGT2110	Leading a Multicultural Workforce	3
SMGT2115	Multicultural Mentorship I	2
SMGT2116	Multicultural Mentorship II	1
SMGT2120	Multicultural Conflict Resolution	2
SMGT2125	International Business	3
SMGT2130	Creativity and Problem Solving	2
Total		16

**\* Office Careers**

OFFC1010	Business English Skills	2
OFFC1017	Technology for the Business Professional	3
OFFC1020	Office Procedures	4
OFFC1040	Integrated Office Skills	3
OFFC1285	Oral Business Comm./Job Seeking Skills	2
OFFC1290	Written Business Communication	2
Total		16

**\* Property Management**

PMGT1101	Real Estate I	2
PMGT1102	Real Estate II	2
PMGT1204	Real Estate Law	2
PMGT1200	Introduction to Property Management	1
PMGT1213	Managing Residential Property	1
PMGT1214	Life and Safety Issues	1
PMGT1216	Managing Commercial/Industrial Properties	1
PMGT1218	Maintenance and Risk Management	1
PMGT1220	Leases and Landlord-Tenant Relations	1
PMGT1226	Construction and Blueprint Reading	1
PMGT1228	Community Association Management	1
PMGT1230	Income Property Marketing	1
PMGT1302	Planning and Operating a Small Business	1
Total		16

**General Education**

COML1400	Introduction to Computers	3
ENGL1100	Writing and Research Skills	3
SPEE1020	Interpersonal Communications	3
Math	Goal 4 (MATS1300 recommended)	3-4
Science	Goal 3	3-4
Electives	Goal 2, 5, 6, 8, 9, or 10 Choose courses from at least two goal areas (ECON1100 recommended)	13-15
Total		30
<b>TOTAL Program Requirements</b>		<b>64</b>

## BUSINESS ENTREPRENEUR

Business Entrepreneur Certificate .....18 credits

### Major Description

This program combines small business management studies with an in-depth analysis of ways new business ventures are created, designed, developed and operated. The central core of this program is to study the processes and procedures needed to transform an initial entrepreneurial idea into a viable business operation. The program is further designed to act as a stand-alone certificate for individuals with existing skills and as a complementary certificate for a variety of existing technical programs. Individuals can apply the 18 credits earned toward the Supervisory Management A.A.S. Degree.

### Nature of Work

The Business Entrepreneur program is recommended for individuals who are planning to work in a small business or who are thinking of starting and operating their own business.

### Career Opportunities

Students will learn skills that will enable them to be more valuable as employees in the career of their choice or will be able to apply these skills towards building a successful business of their own. The course content is designed to develop the business skills needed for the individual who wants to be self-employed.

### Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered primarily in the late afternoon or evening. Full- or part-time starts are available. Courses in this program are offered at DCTC's Apple Valley site. See page 110 for information on advanced standing.

### Student Outcomes

1. Students will be able to profile their individual skills and preferences related to five dimensions of being a successful entrepreneur.
2. Students will learn the principles and methods used in keeping track of prospects, clients, and customers. They will also develop a detailed business plan.
3. Students will become familiar with contract law, business law and business ethics, bookkeeping and record keeping. Students will enhance their understanding and people skills, develop a philosophy for success, learn to negotiate for agreement and develop written, visual, and oral communication and presentation skills.

### Business Entrepreneur – Certificate

Courses		Cr
ENTR1150	The Successful Entrepreneur	2
ENTR1440	Successful Marketing Strategies for Small Business	4
ENTR1650	Selling Success for the Entrepreneur	3
ENTR1860	Business Plan Development	3
ENTR1900	Capitalizing a Small Business	2
SMGT1601	<b>OR</b> Financial Mgmt. (in place of ENTR1900)	
OFFC1240	<b>OR</b> Quick Books I (in place of ENTR1900)	
SMGT1033	Business Law and Ethics	3
SMGT1250	Managing Customer Service	1
Total		18
<b>TOTAL Program Requirements</b>		<b>18</b>



## DID YOU KNOW?

*The estimated total number  
of small businesses in Minnesota  
in 2003 was 455,600.*

*Of the 133,419 employer firms,  
98% were small firms.*

*U.S. Dept. of Labor, U.S. Dept. of Commerce*

# HOSPITALITY CAREERS

## Overview of Hospitality Careers Programs

The hospitality industry is the largest and fastest growing industry in the world. Diverse career opportunities await individuals who find fulfillment of guest experiences stimulating and rewarding. From casino, hotel and resort operations to the management of meetings, special events and trade shows, this exciting and dynamic industry offers starting wages that average \$30,000+ and fast-track growth of up to 22% over the next decade.

## CASINO MANAGEMENT

Casino Management A.A.S. Degree .....64 credits

Casino Operations Certificate .....16 credits

### Major Description

Students who desire employment in casino operations and management will find their career answers in this program. Individuals already employed in casino positions will expand their career opportunities with the comprehensive curriculum. Casino industry growth indicates a rising revenue dependency on traditional lodging revenue such as rooms, food/beverage, etc., in addition to casino gaming revenue. The increasing blend of casino and lodging results in an increased number of casino hotels and resorts that require employees skilled in traditional hotel services in addition to casino operations. The Casino Operations and Management program provides students with the necessary skills with a focus on interpersonal and customer service skills to provide guest satisfaction at every level of the casino property environment.

### Who Should Participate in this Program?

The diversity and growth of this industry makes casino operations and management the ideal field of study for students of all ages and life experiences. If you find the fulfillment of guest expectations in the casino and hotel environments to be stimulating and rewarding, this is the career path for you.

### Nature of Work

The growing business of casinos offers positions in a variety of property segments, including casinos, hotels and resorts, race tracks, and more. Just as varied are the types of positions available in the industry. Positions include:

- Casino operations staff members who service games, perform security and purchasing, as well as marketing staff who are responsible for public relations and market research.
- Group sales staff members who bring events and conventions to the casino property by applying sales and marketing skills. Sales members often specialize in one or more customer segments, promoting the venue's benefits to meet segment needs.
- Convention service staff members who manage and implement meeting logistics and assist meeting planners to bring their vision to life within the casino property.

### Career Opportunities

The U.S. Bureau of Labor Statistics cites that growth of the casino industry will continue to rise higher than the national average through the year 2014. Casino properties are as diverse as the available employment opportunities. Gaming-related positions range from median pay of \$8.60 per hour for cashiers up to \$46,820 for gaming managers. Starting salary for individuals new to the lodging and group side of the casino industry, ranges from \$30,000 to \$34,000. Salary estimates and projections vary based upon the organization, geographic location and employment position.

### Program Delivery

In the classroom or online, courses are delivered in a hands-on workshop environment using case studies and group projects to provide students with a practical and dynamic learning experience. Technical courses are offered in a weekend college format, online, or a blend of both formats. Full- or part-time starts are available in Fall or Spring semester. Technical classroom courses in this program are offered at DCTC's Apple Valley site.

### Student Outcomes

1. Graduates new to the casino industry will be prepared for employment in a variety of areas of the industry.
2. Individuals already employed in casino positions will expand their career opportunities and be prepared to successfully achieve their goals in this complex and rapidly growing field.
3. Program graduates will learn to offer premier services in a variety of casino business models.

## Casino Management – A.A.S. Degree

*Pending MnSCU Board Approval*

Courses	Cr
SMGT1160 Fund. of Meeting and Event Management	2
SMGT1161 Adv. Meeting, Conference, and Event Mgmt.	3
SMGT1162 Special Events Coordination and Mgmt.	3
SMGT1163 Event Promotion	3
SMGT1167 Meeting and Event Sponsorship	3
SMGT1665 Lodging Operations	3
SMGT1670 Lodging Systems and Technology	2
SMGT1680 Hospitality Space and Logistics Mgmt.	3
SMGT1685 Hospitality and Tourism Guest Services	2
SMGT1695 Hospitality Risk Management	2
SMGT1970 Casino Operations	3
SMGT1975 Casino Products:	
Protections and Probabilities	3
SMGT2001 Mgmt. Skills I, Foundations in Mgmt.	3
SMGT2002 Mgmt. Skills II, Planning and Organizing	3
SMGT2003 Mgmt. Skills III, Leading and Controlling	3
Total	41

### Technical Electives

Students may select elective courses from the Supervisory Management curriculum with the approval of the advisor.

Total	3
-------	---

**General Education**

The following courses are required:

PHIL1200	Critical Thinking	3
COML1400	Introduction to Computers	3
ENGL1100	Writing and Research Skills	3
SPEE1020	Interpersonal Communication	3
	Math/Science	3-4
Total		15-16

**General Education Electives**

Students may select as a general education elective any course with advisor approval. SPEE1030, Intercultural Communications is strongly encouraged as an elective.

Total	4-5
-------	-----

**Total Program Requirements 64**

**Casino Operations – Certificate**

*Pending MnSCU Board approval*

SMGT1665	Lodging Operations	3
SMGT1670	Lodging Systems and Technology	2
SMGT1680	Hospitality Space and Logistics Mgmt.	3
SMGT1685	Hospitality and Tourism Guest Services	2
SMGT1970	Casino Operations	3
SMGT1975	Casino Products: Protections and Probabilities	3
Total		16
<b>Total Program Requirements</b>		<b>16</b>



## MEETING, EVENT, AND TOURISM MANAGEMENT

Meeting, Event, and Tourism Mgmt. A.A.S. Degree ...60 credits  
 Meeting and Event Management Certificate .....16 credits  
 Hotel and Convention Services Certificate .....17 credits

**Major Description**

The Meeting, Event and Tourism Management program prepares students to enter this exciting industry. Individuals already employed as meeting planners or in tourism, hotel, and convention service positions will expand their career opportunities with the program's comprehensive curriculum. This field of study is the missing ingredient for individuals who want to offer premier services and guest satisfaction to many different types of customers in a variety of industry businesses, including convention and visitor bureaus; travel agencies; meeting, conference, and event management businesses; marketing and public relations firms; for- and non-profit corporations; golf and country clubs; zoos; resorts; and other attractions that offer food, lodging, or convention and meeting space to guests.

**Who Should Participate in this Program?**

The diversity and growth of the tourism and hospitality industry makes this the ideal field of study for students of all ages and life experiences. If you find tourism, hospitality and the fulfillment of guest expectations stimulating and rewarding, you will find your career among the many opportunities offered in this industry.

**Nature of Work**

Employment is all about the guest, their experiences, and expectations. For individuals working the tourism and hospitality, or the meeting and event management segment of the industry, a diverse array of career options are available.

In tourism and hospitality, positions in hotels and other convention venues include:

- Convention service staff members who manage and implement meeting logistics and assist meeting planners to bring their vision to life.
- Front office staff that coordinate room inventory, perform nightly audits and administer guest registration and check-out services. Communication, delivery of service, and in-house guest sales are integral components of these positions.
- Group sales staff members who bring events and conventions to the venue by applying sales and marketing skills. Sales members often specialize in one or more customer market segments such as wedding, educational, corporate, etc., promoting the location's benefits to meet market segment needs.

Meeting and event managers identify, coordinate, and manage all details of meetings, conferences, trade shows, incentive trips, corporate retreats, festivals, fairs, celebrations, and weddings. They are drivers of success and profitability for

the meetings and other events that serve as a pivotal focus for hosting organizations and groups across the globe. Meeting and event managers are integral to management, operations and service positions in the many industries that serve these gatherings, such as:

- Hotels, convention centers and other meeting, event, and convention venues
- Destinations
- Production companies
- Tourism bureau

### Career Opportunities

The hospitality and tourism industry is the largest and fastest growing industry in the world. There are approximately 3.5 million hotel rooms in thousands of hotels within North America alone. Add the number of convention service venues that do not lodge guests, plus non-traditional venues, and the number is staggering. Consider the many establishments around the globe, and it is easy to see why this is the largest industry in the world.

Ranked 39th on the list of "The 50 Best Jobs in America" by CNN/Money Magazine in April 2006, the meeting and event management segment of this industry projects 22% job growth over the next 10 years. In March 2007, CNN/Money Magazine ranked event planner eighth on the Web site's list of "Top 20 Jobs" for people who want more money, more upside, and more control over where they're going. The average income of \$56,000, combined with substantial growth projection, verifies that this career is statistically well ahead of many more established occupations. Employment opportunities are available in meeting, conference and event management businesses, convention and visitor bureaus, chambers of commerce, offices of tourism, corporations, profit and non-profit organizations, hotels and resorts, travel agencies, marketing, and administrative assistant positions.

Individuals new to the industry, regardless of industry segment may anticipate a starting salary of \$30,000 to \$34,000. Long-term salary projections vary based upon the organization, geographic location and employment position.

### Program Delivery

In the classroom or online, technical courses are delivered in a hands-on workshop environment. Courses are offered in a weekend-college format, online or a blend of both formats. Students may enroll full-time or part-time in either Fall or Spring semester. Classroom courses in this program are offered at DCTC's Apple Valley site.

### Student Outcomes

1. Graduates completing the program will be prepared to enter the industry.
2. Individuals already employed in the industry will expand their career opportunities and be prepared to successfully achieve their goals in this complex and growing field.
3. See General Education outcome statement on page 84.

## Meeting, Event, and Tourism Management – A.A.S. Degree

*Pending MnSCU Board Approval*

Courses	Cr
SMGT1160 Fund. of Mtg, Conference, and Event Mgmt.	2
SMGT1161 Adv. Meeting, Conference, and Event Mgmt.	3
SMGT1162 Special Event Coordination and Mgmt.	3
SMGT1163 Event Promotion	3
SMGT1167 Meeting and Event Sponsorship	3
SMGT1665 Lodging Operations	3
SMGT1670 Lodging Systems and Technology	2
SMGT1675 Hotel Front Office Management	3
SMGT1680 Hospitality Space and Logistics Mgmt.	3
SMGT1685 Hospitality and Tourism Guest Services	2
SMGT1695 Hospitality Risk Management	2
SMGT2001 Mgmt. Skills I, Foundations in Mgmt.	3
SMGT2002 Mgmt. Skills II, Planning & Organizing	3
SMGT2003 Mgmt. Skills III, Leading and Controlling	3
<b>Total</b>	<b>40</b>

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>60</b>

## Meeting and Event Management – Certificate

Courses	Cr
SMGT1160 Fund. of Mtg, Conference, and Event Mgmt.	2
SMGT1161 Adv. Meeting, Conference, and Event Mgmt.	3
SMGT1162 Special Event Coordination and Mgmt.	3
SMGT1163 Event Promotion	3
SMGT1167 Meeting and Event Sponsorship	3
SMGT1695 Hospitality Risk Management	2
<b>Total</b>	<b>16</b>
<b>TOTAL Program Requirements</b>	<b>16</b>

## Hotel and Convention Services – Certificate

*Pending MnSCU Board Approval*

Courses	Credits
SMGT1660 Introduction to Hospitality and Tourism	2
SMGT1665 Lodging Operations	3
SMGT1670 Lodging Systems and Technology	2
SMGT1675 Hotel Front Office Management	3
SMGT1680 Hospitality Space and Logistics Management	3
SMGT1685 Hospitality and Tourism Guest Services	2
SMGT1695 Hospitality Risk Management	2
<b>Total</b>	<b>17</b>
<b>TOTAL Program</b>	<b>17</b>

## TOURISM AND TRAVEL

Tourism and Travel Certificate .....16 credits

### Major Description

Follow your career dreams in the exciting world of tourism and travel! Experience the personal satisfaction of assisting others with their vacation and business travel needs. Take advantage of the excellent travel discounts available to travel and tourism industry professionals. In this program you will learn about some of the travel resources that are NOT available to the general public. You will also learn how to assess clients' needs and match them with products, services, attractions, and destinations that will assure a pleasurable travel experience at the best possible value. Students will be provided with practical, hands-on experience, realistic case studies, the opportunity to book live reservations for clients, and access to a Global Distribution System (GDS), such as Worldspan, from home via the Internet.

### Who Should Participate in This Program?

Most often, those who find satisfaction in the travel and tourism field are those who enjoy working with people and problem solving. Other important qualities are an outgoing nature, organizational skills, being detail oriented, and finding it rewarding to assist others with their travel and tourism needs.

### Nature of Work

Vast amounts of travel information are advertised on the Internet. Travel planning can be time consuming, frustrating, and costly for the consumer.

Through access to products and resources not available to the general public, as well as training, experience, and expertise, travel counselors are able to provide clients with the best value for both business and leisure travel. Travel counselors may recommend appropriate destinations, attractions, accommodations, modes of transportation and may also procure travel arrangements for their clients.

### Career Opportunities

Tourism and hospitality is the largest industry in the world! This program prepares students with the knowledge and skills to become successful in the tourism and travel industry. Graduates can find full-time, part-time, and seasonal work in offices as well as working out of one's home. Positions are available with visitor and convention bureaus, corporate and leisure travel agencies, host travel agencies for independent contractors, tour operators, wholesalers, airlines, airline consolidators, car rental

companies, and hotels/motels/ resorts. Salary estimates and projections vary based upon the organization, geographic location and employment position. Starting salaries for individuals new to the travel and tourism industry range from \$20,000 to \$30,000 per year. With more experience, annual salaries of \$50,000 to \$60,000 may be possible.

### Program Delivery

In the classroom or online, courses are delivered in a hands-on workshop environment. Technical courses are offered in a weekend-college format (Friday evenings and all day Saturday) or online. Students may enroll full-time or part-time in either Fall or Spring semester. Classroom courses in this program are offered at DCTC's Apple Valley site.

### Professional Organizations

Students are encouraged to join professional organizations such as the American Society of Travel Agents (ASTA) Future Travel Professionals Club. Students are also encouraged to attend the regular seminar/meetings of the Upper Midwest Chapter of ASTA.

This program is an official test site for the national TAP (Travel Agency Proficiency) Test. This test has been developed by The Travel Institute (formerly ICTA) and ASTA in order to provide a national standard for the travel industry.

### Student Outcomes

1. Graduates completing the program will be prepared for employment in the tourism and travel industry.
2. Students will successfully manage the Worldspan GDS.
3. Students will have hands-on experience in the field through building reservation records, and working with case studies.

### Tourism and Travel – Certificate

Pending MnSCU Board Approval

Courses		Cr
SMGT1660	Introduction to Hospitality and Tourism	2
SMGT1685	Hospitality and Tourism Guest Services	2
SMGT1690	Successful Sales and Closing Strategies	3
TRVL1305	Travel Information Systems	3
TRVL1310	Global Tourism	3
TRVL1315	Tourism and Travel Resources	3
Total		16
<b>TOTAL Program Requirements</b>		<b>16</b>

## DID YOU KNOW?

*People in this career tend to like to work in a friendly, non-competitive environment, and they like to do things for other people. (iseek)*



# INDUSTRIAL DISTRIBUTION

Industrial Distribution A.A.S. Degree .....68 credits

## Major Description

Good careers, good people, good business. The Industrial Distribution Associate in Applied Science Degree is designed to provide the knowledge and skills necessary to be successful in the highly rewarding industrial distribution field. Distributors serve the industrial market through a variety of products and services and are vital to today's business economy.

## Nature of Work

Industrial distributors represent 50% of the total domestic product in the U.S. These professionals buy, sell, and deliver thousands of products from the manufacturers to the consumers that use them. Industrial distributors call on customers, take orders, introduce new products, describe features, solve problems, and purchase and inventory goods.

## Career Opportunities

There are many career paths you can take working for either a distributor or a manufacturer that uses distributors to service customers. Industrial distributors employ 1.4 million workers and have a high demand for qualified people. Career opportunities with distributors or manufacturers include Customer Service/ Inside Sales, Technical Sales, Field Sales, Purchasing, Sales Management, Branch Management, and Distribution Management.

## Program Delivery

Students can begin this program Fall, Spring or Summer semester. Courses are offered to accommodate a variety of schedules, including days, evenings, weekends and online. Full- and part-time starts are available. For more information, meet with an advisor or counselor before entering this degree program.



## After DCTC

DCTC has pending transfer agreements with many public and private colleges and universities.

## Advanced Standing

See page 110 for more information.

## Student Outcomes

1. Students will learn and apply general knowledge and skills necessary to be familiar with current business practices.
2. Enhance growth opportunities within the wide spectrum of industrial distribution careers.
3. See General Education outcome statement on page 84.

## Industrial Distribution – A.A.S. Degree

Courses	Cr
MFGM 1110 DC Electricity Theory and Lab	3
MFGM1120 AC Electricity Theory and Lab	3
MFGM2110 Electrical Apparatus Theory	3
MFGM1140 Blueprint Reading for Technicians	3
MFGM1740 Industrial Hydraulic & Pneumatics	2
MFGM1730 Systems Troubleshooting	2
MFGM2970 Internship / Field Experience (Capstone)	3
MKTC 1000 Principles of Marketing	3
MKTC 1200 Professional Sales	3
SMGT 1080 Introduction to Distribution Careers	1
SMGT 1081 Business Principles	3
SMGT 1082 Distribution, Operations, & Logistics	3
SMGT 1205 Total Quality Management	4
SMGT 1231 Planning & Project Management	2
SMGT 1242 Effective Business Communication	3
SMGT 1250 Managing Customer Service	1
<b>Total</b>	<b>42</b>

## Technical Electives

Students may select elective courses from the Electrical Construction and Maintenance Technology (ELEC), Biomedical Equipment Technician (BMET), Concrete and Masonry (CONC), Nanoscience Technology (NANO), and Welding Technology (WELD) curricula upon approval by advisor.

<b>Total</b>	<b>6</b>
--------------	----------

## General Education

The following courses are required:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL 1200 Technical Writing	3
MATS1350 Math for Liberal Arts	4
SPEE1020 Interpersonal Communications	3
Electives - Goals 3 or 4	4
<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>68</b>

# MANAGEMENT FOR TECHNICAL/AIRLINE PROFESSIONALS

Mgmt. for Technical Professionals A.A.S. Degree ... .64 credits  
Mgmt. for Airline Professionals A.A.S. Degree .....64 credits

## Major Description

The program is specifically designed to provide persons experienced in a technical field or with non-management degrees with the skills necessary to be successful in a position of leadership and to enhance their career mobility. This degree program is highly individualized based on each student's technical experience and educational needs.

Students who do not have experience in a technical field should consider the Supervisory Management Program.

## Advanced Standing

See page 110 for more information.

## Program Delivery

The degree format is designed for flexibility. Students can begin this program Fall, Spring, or Summer semester. Day, evening, weekend and online course are offered. Full or part-time starts are available. Courses in this program are offered at DCTC's Apple Valley Higher Education site. Courses are scheduled to allow for monthly starts.



## After DCTC

DCTC has transfer agreements for this program with the following colleges: Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates of the program will be prepared for employment at a supervisory level.
2. Students will demonstrate leadership skills to achieve a productive work environment.
3. Students will demonstrate effective interpersonal communication skills.
4. Students will demonstrate analytical skills in identifying and solving problems.
5. See General Education outcome statement on page 84.

## Management for Technical Professionals – A.A.S. Degree

Courses	Cr
Technical Experiential Learning credits	1-30

## Technical Electives \*

Students may select courses from the Supervisory Management curriculum. Courses selected must be approved by the advisor.

Total	14-33
-------	-------

## General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>64</b>

## Management for Airline Professionals – A.A.S. Degree

Courses	Cr
Aviation Experiential Learning credits	1-30

## Technical Electives \*

Students may select courses from the Supervisory Management curriculum. Courses selected must be approved by the advisor.

Total	14-33
-------	-------

## General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>64</b>

\* Note: Students electing to take SMGT2950, Prior Experiential Learning Portfolio Development, will receive one elective credit, reducing the technical elective requirement.

## MARKETING AND SALES

Business Marketing Specialist A.A.S. Degree	.....72 credits
Marketing Design Specialist A.A.S. Degree	.....72 credits
Marketing A.S. Degree	.....64 credits
Marketing Design Specialist Diploma	.....53 credits
Marketing Communications Specialist Certificate	...28 credits
Sales Specialist Certificate	.....12 credits

### Major Description

Marketing is a vast field, training people for multitudes of professions. It is also estimated that more than a third of all Americans have marketing activities in their positions. In addition, marketing is named one of the top 10 careers in demand in Minnesota.

Marketing is critical to the success of every organization, whether large or small, profit or nonprofit, product- or service-oriented. To provide quality customer service, these organizations must identify and research target markets, determine customer needs, and establish how products and services can most effectively be distributed, priced and promoted.

**Business Marketing Specialist:** This degree will provide the skills discussed in the Marketing Communications Specialist certificate, along with photography, management, budgeting and accounting, business communications, strategic planning and presentation skills.

**Marketing Design Specialist:** A Marketing Design Specialist possesses the knowledge of all general marketing concepts, along with the basics of graphic design and photography. In addition to the knowledge described in the Marketing Communications Specialist program, the Marketing Design Specialist graduate will also have an understanding of basic design, graphic design software, web site construction, editing, preparation of news releases, organization of publicity events and press conferences, and possess basic photography skills. The Marketing Design Specialist program is different from DCTC's Graphic Design program in that it concentrates on giving the student knowledge of all general marketing concepts along with the concepts of graphic design.

**Marketing A.S. Degree:** This marketing degree is designed to transfer to a four-year institution upon graduating from DCTC to receive a bachelor's degree.

**Marketing Communications Specialist:** A Marketing Communications Specialist possesses the knowledge of all general marketing concepts and skillfully uses these in the advancement of an organization. Knowledge includes consumer buying behavior, market segmentation, product life cycle, packaging, branding, pricing, advertising, sales promotion, public relations, personal selling, product distribution methods, and creation of a marketing plan. The specialist must also know the legal, behavioral, ethical, competitive, economic, technological and international factors affecting product, pricing, promotion, and marketing channel decisions.

### Nature of Work

Marketing careers offer vast opportunities in promoting for large and small businesses, promotions and marketing departments, sales departments, retail stores, advertising agencies, marketing firms, market research companies, nonprofit organizations, service industries, web businesses and media-related industries.

### Career Opportunities

Based on the vastness of the marketing profession and the many organizations that employ marketing professionals, students could become inside or outside sales representatives, product development specialists, product line assistant managers, distribution specialists, sales managers, event planners, marketing specialists, marketing assistants, account executives, telemarketing sales specialist, promotions coordinators, direct marketers, e-commerce marketers, customer service representatives, media planners, store assistant managers, advertising reps, marketing account reps, or market researchers.

### Program Delivery

Students can begin this program during Fall, Spring, or Summer sessions. Day and online courses are offered. Full- or part-time starts are available. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: UW-Stout, UW-River Falls, Metropolitan State University, Bemidji State University, Capella University, College of St. Catherine, Southwest Minnesota State University, Cardinal Stritch and Saint Mary's University. See Career Services for more information.

### Student Outcomes

1. Graduates of the program will be prepared for employment in a variety of areas within the marketing field.
2. Students will understand the essentials of marketing such as advertising, direct marketing, public relations, promotions, sales, research, e-marketing, strategic planning, law and communications.
3. See General Education outcome statement on page 84.

## MEDIAN WAGE

*The median wage for a marketing manager in Minnesota is \$54.19/hr. (iseek)*

**Business Marketing Specialist – A.A.S. Degree**

Courses		Cr
ACCT1000	Accounting I	4
MKTC1000	Principles of Marketing	3
MKTC1100	Fundamentals of Sales	3
MKTC1150	Consumer and Professional Buying Behavior	3
MKTC2000	Advertising Practices and Procedures	3
MKTC2010	Advertising Campaign Management	3
MKTC2060	Proposal Writing	1
MKTC2105	Marketing Communications Writing	3
MKTC2215	Marketing Promotions	2
MKTC2310	Public Relations	3
MKTC2410	Marketing Visual Communications	1
MKTC2505	E-Marketing	3
MKTC2550	International Marketing	3
MKTC2600	Marketing Research	3
MKTC2815	Business Law	3
MKTC2900	Portfolio and Interviewing	1
MKTC2970	Internship	3
SMGT1242	Effective Business Communications	3
VCOM1380	Basic Photography	1
Total		49

**Technical Electives**

Students may select elective courses from the Marketing (MKTC), Supervisory Management (SMGT), or other program curricula upon approval of the advisor.

Total	3
-------	---

**General Education**

These classes are recommended to fulfill the General Education requirements for an A.A.S. degree:

COML1400	Introduction to Computers	3
ECON1100	Microeconomics	3
ENGL1100	Writing and Research Skills	3
SPEE1020	Interpersonal Communication	3
	Math/Science Requirement	3
	Elective Courses	5

Total	20
-------	----

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

**Marketing Design Specialist – A.A.S. Degree**

Courses		Cr
MKTC1000	Principles of Marketing	3
MKTC1100	Fundamentals of Sales	3
MKTC1150	Consumer and Professional Buying Behavior	3
MKTC2000	Advertising Practices and Procedures	3
MKTC2010	Advertising Campaign Management	3
MKTC2105	Marketing Communications Writing	3
MKTC2215	Marketing Promotions	2
MKTC2310	Public Relations	3
MKTC2410	Marketing Visual Communications	1
MKTC2505	E-Marketing	3
MKTC2550	International Marketing	3
MKTC2600	Marketing Research	3
MKTC2815	Business Law	3
MKTC2900	Portfolio and Interviewing	1
MKTC2970	Internship	3
VCOM1010	Introduction to Photoshop	2
VCOM1410	Introduction to Illustrator	2
VCOM1430	Introduction to InDesign	2
VCOM1435	Proofreading Fundamentals	1
VCOM1380	Basic Photography	1
VCOM2685	Web Page Construction I	2
Total		50

**Technical Electives**

Students may select elective courses from the Marketing (MKTC), Visual Communications (VCOM), Meeting, Event, and Tourism Management (SMGT) or other program curricula upon approval of the advisor.

Total	2
-------	---

**General Education**

See the General Education requirements on page 85.

Total	20
-------	----

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

## EMPLOYMENT OUTLOOK

*Marketplace competition from foreign countries is increasing. As a result, American companies will spend more money on marketing their products. New jobs will be created for marketing managers to handle this expansion. The fastest growth for marketing managers will be with computer companies and advertising agencies. (iseek)*

**Marketing – A.S. Degree**

Courses	Cr
MKTC1000 Principles of Marketing	3
MKTC1100 Fundamentals of Sales	3
MKTC1150 Consumer and Professional Buying Behavior	3
MKTC2000 Advertising Practices and Procedures	3
MKTC2010 Advertising Campaign Management	3
MKTC2060 Proposal Writing	1
MKTC2105 Marketing Communications Writing	3
MKTC2215 Marketing Promotions	2
MKTC2310 Public Relations	3
MKTC2505 E-Marketing	3
MKTC2600 Marketing Research	3
MKTC2815 Business Law	3
MKTC2900 Portfolio and Interviewing	1
<b>Total</b>	<b>34</b>

**General Education**

See the General Education requirements on page 84.

<b>Total</b>	<b>30</b>
--------------	-----------

**TOTAL Program Requirements 64****Marketing Design Specialist – Diploma**

Courses	Cr
MKTC1000 Principles of Marketing	3
MKTC1100 Fundamentals of Sales	3
MKTC1150 Consumer and Professional Buying Behavior	3
MKTC2000 Advertising Practices and Procedures	3
MKTC2010 Advertising Campaign Management	3
MKTC2215 Marketing Promotions	2
MKTC2310 Public Relations	3
MKTC2410 Marketing Visual Communications	1
MKTC2505 E-Marketing	3
MKTC2600 Marketing Research	3
MKTC2815 Business Law	3
VCOM1010 Introduction to Photoshop	2
VCOM1410 Introduction to Illustrator	2
VCOM1430 Introduction to InDesign	2
VCOM1435 Proofreading Fundamentals	1
VCOM1380 Basic Photography	1
VCOM2685 Web Page Construction I	2
<b>Total</b>	<b>40</b>

**Technical Electives**

Students may select elective courses from the Marketing (MKTC), Visual Communications (VCOM), Meeting, Event, and Tourism Management (SMGT) or other program curricula upon approval of the advisor.

<b>Total</b>	<b>4</b>
--------------	----------

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
--------------	----------

**TOTAL Program Requirements 53****Marketing Communications Specialist – Certificate**

This certificate can be taken fully online (with Internet access)

Courses	Cr
MKTC1000 Principles of Marketing	3
MKTC1100 Fundamentals of Sales	3
MKTC1150 Consumer and Professional Buying Behavior	3
MKTC2000 Advertising Practices and Procedures	3
MKTC2010 Advertising Campaign Management	3
MKTC2215 Marketing Promotions	2
MKTC2310 Public Relations	3
MKTC2410 Marketing Visual Communications	1
MKTC2505 E-Marketing	3
MKTC2600 Marketing Research	3
VCOM1380 Basic Photography	1
<b>Total</b>	<b>28</b>

**TOTAL Program Requirements 28****Sales Specialist – Certificate**

This certificate can be taken fully online (with Internet access)

Courses	Cr
MKTC1000 Principles of Marketing	3
MKTC1100 Fundamentals of Sales	3
MKTC1150 Consumer and Professional Buying Behavior	3
MKTC1200 Professional Sales	3
<b>Total</b>	<b>12</b>

**TOTAL Program Requirements 12**

# MULTICULTURAL SUPERVISION

Multicultural Supervision Diploma .....	34 credits
Multicultural Supervision Certificate .....	14 credits

## Major Description

The Multicultural Supervisory Diploma is designed to provide students with the skills and knowledge necessary to succeed in today's multicultural business environment. Skills learned are universal and can be applied to business entrepreneurship or any type of organization, including manufacturing, event hospitality, retail, health services and other profit and non-profit organizations. Build on the multicultural Supervision Certificate by individualizing the diploma based on your career goals. Select an emphasis area by choosing from one of the following certificates: Business Entrepreneur, Human Resources, Quality Improvement, Meeting and Event Management, or Supervisory Leadership.

## Career Opportunities

The Multicultural Supervision Diploma provides training to help individuals perform successfully in multicultural organizations in the public, private, and non-profit sectors in positions such as team leader, supervisor, manager, entrepreneur or event and meeting manager.

## Program Delivery

Students can begin this program Fall, Summer, or Spring semester. Evening, weekend and online course are offered. Full- or part-time starts are available. Courses in this program are offered at DCTC's Apple Valley site. See page 110 for information on advanced standing. The accelerated program is available in its entirety either online or in the classroom. Courses start each month.

Most courses are offered in a format that is highly interactive and at consistent times to accommodate working adults.

Students graduate in as little as one year by attending part-time, two nights a week, year round. Courses are sequenced to allow graduation for the certificate program in approximately eight months.

Courses may have approved substitutions. Contact the program advisor for details.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University, Cardinal Stritch, Bethel University, and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates of this program will be prepared for employment at a supervisory level.
2. Students will demonstrate multicultural leadership skills to achieve a productive work environment.

3. Students will demonstrate effective interpersonal communication skills appropriate for today's diverse workplace.
4. Students will demonstrate analytical skills in identifying and solving problems.
5. Graduates will demonstrate knowledge and skills from their individualized emphasis areas.
6. Students will demonstrate their overall understanding of the program through completion of the graduation project capstone.

## Multicultural Supervision – Diploma

*Pending MnSCU Board Approval*

SMGT2105	Managing Diversity	3
SMGT2110	Leading a Multicultural Workforce	3
SMGT2115	Multicultural Mentorship I	2
SMGT2116	Multicultural Mentorship II	1
SMGT2120	Multicultural Conflict Resolution	2
SMGT2125	International Business	3
Total		14

## Technical Emphasis

Choose one of the emphasis area certificates:

Supervisory Leadership	17
Human Resources Development	17
Quality Improvement	16
Business Entrepreneur	18
Meeting and Event Management	16
Total	16-18

## Technical Electives

Students may select elective courses from the Supervisory Management (SMGT) program area upon approval by advisor. SMGT2130 Creativity and Problem Solving is recommended.

Total	2-4
<b>TOTAL Program Requirements</b>	<b>34</b>

## Multicultural Supervision – Certificate

*Pending MnSCU Board Approval*

SMGT2105	Managing Diversity	3
SMGT2110	Leading a Multicultural Workforce	3
SMGT2115	Multicultural Mentorship I	2
SMGT2116	Multicultural Mentorship II	1
SMGT2120	Multicultural Conflict Resolution	2
SMGT2125	International Business	3
Total		14
<b>TOTAL Program Requirements</b>		<b>14</b>

# REAL ESTATE PROPERTY MANAGEMENT

Real Estate Property Management A.A.S. Degree . . . . .	.64 credits
Real Estate Property Management Diploma . . . . .	.45 credits
Property Management Certificate . . . . .	.16 credits
General Real Estate Certificate . . . . .	.16 credits

## Major Description

This major is designed to prepare students to estimate the value of, manage and market residential, commercial, industrial and investment real estate. Real Estate Property Management students will be trained to work with residential and investment properties across the nation. The coursework includes the required 90 hours of pre-licensing education for the Minnesota real estate license examination and the registered real estate property appraisers license. Most of these courses meet the requirements for real estate license continuing education.

## Nature of Work

The real estate person and/or property manager may be responsible for a number of activities, including negotiating lease contracts, collecting rent, marketing and generally helping the owners meet their investment objectives. Property managers may be responsible for selecting, negotiating, and contracting with vendors for maintenance, repair and various other services. They may be responsible for creating budgets, recommending and implementing policy changes and interacting with tenants.

## Career Opportunities

Graduates will find challenging and rewarding work in a wide variety of areas, which could include managing residential, retail or office buildings in downtown, suburban or rural settings. Their careers could be in the area of real estate, financing, property management, investing or the exciting new field of community association management.

## Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered primarily during the evening. Full- or part-time starts are available. Courses in this program are offered at DCTC's Apple Valley site. See page 110 for information on advanced standing.

## MEDIAN WAGE

*The median wage for a property, real estate, and community association manager in Minnesota is \$22.94/hr.*

*(Minnesota Department of Employment and Economic Development)*

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Metropolitan State University, Southwest Minnesota State University, Cardinal Stritch and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates completing the program will be prepared for employment in the real estate property management fields.
2. Students will gain knowledge (economics, accounting, marketing, management, communications) to support property management-specific coursework.
3. See General Education outcome statement on page 84.

## Real Estate Property Management – A.A.S. Degree

Courses	Cr
PMGT1101 Real Estate I	2
PMGT1102 Real Estate II	2
PMGT1200 Introduction to Property Management	1
PMGT1204 Real Estate Law	2
PMGT1205 Loan Application and Processing	1
PMGT1207 Instruments of Real Estate Finance	1
PMGT1210 Appraisal Process	1
PMGT1212 Residential Appraisal Workshop	1
PMGT1213 Managing Residential Property	1
PMGT1214 Life and Safety Issues	1
PMGT1216 Managing Commercial/Industrial Properties	1
PMGT1218 Maintenance and Risk Management	1
PMGT1220 Leases and Landlord-Tenant Relations	1
PMGT1224 Income Capitalization Analysis	1
PMGT1226 Construction and Blueprint Reading	1
PMGT1228 Community Association Management	1
PMGT1230 Income Property Marketing	1
PMGT1232 Cash Flow Analysis	1
PMGT1302 Planning and Operating a Small Business	1
PMGT1304 Marketing Strategies for Small Business	1
PMGT1401 Real Estate Math and Calculator Basics	1
PMGT2020 Negotiating for Agreement	1
<b>Total</b>	<b>25</b>

## Technical Electives

Students may select elective courses from the Real Estate Property Management (PMGT), Business Entrepreneur (ENTR), Marketing and Sales (MKT), Information Systems (ISTC), Supervisory Management (SMGT), Landscape Horticulture (LAHT), or Accounting (ACCT) curricula, and up to 9 internship credits with the approval of the advisor.

Total	19
-------	----

## General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>64</b>

## Real Estate Property Management – Diploma

Courses	Cr
PMGT1101 Real Estate I	2
PMGT1102 Real Estate II	2
PMGT1200 Introduction to Property Management	1
PMGT1204 Real Estate Law	2
PMGT1205 Loan Application and Processing	1
PMGT1207 Instruments of Real Estate Finance	1
PMGT1210 Appraisal Process	1
PMGT1212 Residential Appraisal Workshop	1
PMGT1213 Managing Residential Properties	1
PMGT1214 Life and Safety Issues	1
PMGT1216 Managing Commercial/Industrial Properties	1
PMGT1218 Maintenance and Risk Management	1
PMGT1220 Leases and Landlord-Tenant Relations	1
PMGT1224 Income Capitalization Analysis	1
PMGT1226 Construction and Blueprint Reading	1
PMGT1228 Community Association Management	1
PMGT1230 Income Property Marketing	1
PMGT1232 Cash Flow Analysis	1
PMGT1302 Planning and Operating a Small Business	1
PMGT1304 Marketing Strategies for Small Business	1
PMGT1401 Real Estate Math and Calculator Basics	1
PMGT2020 Negotiating for Agreement	1
<b>Total</b>	<b>25</b>

### Technical Electives

With Advisor approval, students may select as an elective any course listed in Real Estate Property Management (PMGT), Business Entrepreneur (ENTR), Marketing and Sales (MKTC), Information Systems (ISTC), Supervisory Management (SMGT), Landscape Horticulture (LAHT), or Accounting (ACCT) curriculum, and up to 9 credits of Internship.

Total	11
-------	----

### General Education

See the General Education requirements on page 85.

Total	9
-------	---

<b>TOTAL Program Requirements</b>	<b>45</b>
-----------------------------------	-----------

## Property Management – Certificate

Pending MnSCU Board Approval

Courses	Cr
PMGT1101 Real Estate I	2
PMGT1102 Real Estate II	2
PMGT1204 Real Estate Law	2
PMGT1200 Introduction to Property Management	1
PMGT1213 Managing Residential Property	1
PMGT1214 Life and Safety Issues	1
PMGT1216 Managing Commercial/Industrial Properties	1
PMGT1218 Maintenance and Risk Management	1
PMGT1220 Leases and Landlord-Tenant Relations	1
PMGT1226 Construction and Blueprint Reading	1
PMGT1228 Community Association Management	1
PMGT1230 Income Property Marketing	1
PMGT1302 Planning and Operating a Small Business	1
<b>Total</b>	<b>16</b>
<b>TOTAL Program Requirements</b>	<b>16</b>

## General Real Estate – Certificate

Pending MnSCU Board Approval

Courses	Cr
PMGT1101 Real Estate I	2
PMGT1102 Real Estate II	2
PMGT1204 Real Estate Law	2
PMGT1205 Loan Application/Processing	1
PMGT1207 Financing Instruments	1
PMGT1210 Appraisal Process	1
PMGT1212 Residential Appraisal Workshop	1
PMGT1224 Income Capitalization Analysis	1
PMGT1228 Community Association Management	1
PMGT1232 Cash Flow Analysis	1
PMGT1302 Planning and Operating a Small Business	1
PMGT1304 Marketing Strategies for Small Business	1
PMGT2020 Negotiating for Agreement	1
<b>Total</b>	<b>16</b>
<b>TOTAL Program Requirements</b>	<b>16</b>





# SUPERVISORY MANAGEMENT

Supervisory Management A.A.S. Degree .....	64 credits
Supervisory Leadership Certificate .....	17 credits
Human Resource Development Certificate .....	17 credits
Quality Improvement Certificate .....	16 credits
Business Entrepreneur Certificate .....	18 credits
Meeting and Event Management Certificate .....	16 credits
Multicultural Supervision Certificate .....	14 credits

## Major Description

The Supervisory Management major is designed to provide working adults with the skills and knowledge necessary to succeed in today's multicultural business environment. Skills learned are universal and can be applied to business entrepreneurship or any type of organization, including manufacturing, event hospitality, retail, health services and other profit and non-profit organizations. Build on our Supervisory Leadership certificate by individualizing the degree based on your career goals. Select an emphasis area by completing two of the following certificates: Business Entrepreneur, Human Resources, Quality Improvement, Meeting and Event Management, and Multicultural Supervision.

## Career Opportunities

The Supervisory Management major provides training to help individuals perform successfully in most of the public and private sector in positions such as team leader, supervisor, manager, entrepreneur or event and meeting manager.

## Program Delivery

Students can begin this program Fall, Summer, or Spring semester. Day, evening, weekend and online courses are offered. Full- or part-time starts are available. Courses in this program are offered at DCTC's Apple Valley site. See page 110 for information on advanced standing. The accelerated program is available in its entirety either online or in the classroom. Courses start each month.

Most courses are offered in an accelerated format that reduces classroom time and increases outside class activities. Accelerated courses are highly interactive and are offered at consistent times to accommodate working adults.

Students graduate with the degree in as little as two years by attending part-time, one class per week, year-round. Courses are sequenced to allow graduation for the certificate programs in approximately five months.

General education courses are not included in the accelerated format and are, therefore, not included in the sequence of courses. General education courses need to be taken concurrent with the program courses in order to graduate in two years.

Courses may have approved substitutions. Contact the program advisor for details.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University, Cardinal Stritch, Bethel University, and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates of this program will be prepared for employment at a supervisory level.
2. Students will demonstrate leadership skills to achieve a productive work environment.
3. Students will demonstrate effective interpersonal communication skills.
4. Students will demonstrate analytical skills in identifying and solving problems.
5. Graduates will demonstrate knowledge and skills from their individualized emphasis areas.
6. Students will demonstrate their overall understanding of the degree through completion of the graduation project (capstone).
7. See General Education outcome statement on page 84.

## Supervisory Management – A.A.S. Degree

Students must complete the Supervisory Leadership Certificate.

Total	17
-------	----

## Technical Emphasis

Choose two of the following certificates:

Human Resource Development Certificate	17
Quality Improvement Certificate	16
Business Entrepreneur Certificate	18
Meeting and Event Management Certificate	16
Multicultural Supervision	14

Total	30-35
-------	-------

## Graduation Project

Graduation Project must have advisor approval and registration in the last semester of attendance. Credits are variable, based on project scope. Substitutions may be offered by another program. See advisor for details.

Total	1-6
-------	-----

## Technical Electives

Students may select as an elective any course from the Supervisory Management (SMGT), Accounting Careers (ACCT), Business Entrepreneur (ENTR), Marketing (MKTC), or Office (OFFC) programs with approval of the advisor.

Total	1-5
-------	-----

## General Education

See the General Education requirements on page 85.

Total	14-17
-------	-------

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

**Supervisory Leadership – Certificate**

Courses	Cr
SMGT1000 Principles of Supervision	3
SMGT1022 Leadership	3
SMGT1028 Management Effectiveness	3
SMGT1601 Financial Management	2
SMGT1776 Organizational Behavior	3
<b>Total</b>	<b>14</b>

**General Education**

COML1400 Introduction to Computers	3
<b>Total</b>	<b>3</b>

**TOTAL Program Requirements 17****Human Resource Development – Certificate**

Courses	Cr
SMGT1033 Business Law & Ethics	3
SMGT1405 Managing Performance	3
SMGT1441 Intro to Human Resource Management	3
SMGT1470 Safety and Compliance Management	2
SMGT1875 Training and Developing Employees	3
<b>Total</b>	<b>14</b>

**General Education**

SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>3</b>

**TOTAL Program Requirements 17****Quality Improvement – Certificate**

Courses	Cr
SMGT1205 Total Quality Management	4
SMGT1260 Managing Teams	3
SMGT1242 Effective Business Communications	3
SMGT1231 Planning and Project Management	2
SMGT1250 Managing Customer Service	1
<b>Total</b>	<b>13</b>

**General Education**

ENGL1100 Writing and Research Skills	3
<b>Total</b>	<b>3</b>

**TOTAL Program Requirements 16****Business Entrepreneur – Certificate**

Courses	Cr
ENTR1150 The Successful Entrepreneur	2
ENTR1440 Successful Marketing Strategies for Small Business	4
ENTR1650 Selling Success for the Entrepreneur	3
ENTR1860 Business Plan Development	3
ENTR1900 Capitalizing a Small Business	2
SMGT1601 <b>OR</b> Financial Mgmt. (in place of ENTR1900)	
OFFC1240 <b>OR</b> Quick Books I (in place of ENTR1900)	
SMGT1033 Business Law and Ethics	3
SMGT1250 Managing Customer Service	1
<b>Total</b>	<b>18</b>

**TOTAL Program Requirements 18****Meeting and Event Management – Certificate**

Courses	Cr
SMGT1160 Fund. of Mtg, Conference, and Event Mgmt.	2
SMGT1161 Adv. Meeting, Conference, and Event Mgmt.	3
SMGT1162 Special Event Coordination and Mgmt.	3
SMGT1163 Event Promotion	3
SMGT1167 Meeting and Event Sponsorship	3
SMGT1695 Hospitality Risk Management	2
<b>Total</b>	<b>16</b>

**TOTAL Program Requirements 16****Multicultural Supervision – Certificate***Pending MnSCU Board Approval*

SMGT2105 Managing Diversity	3
SMGT2110 Leading a Multicultural Workforce	3
SMGT2115 Multicultural Mentorship I	2
SMGT2116 Multicultural Mentorship II	1
SMGT2120 Multicultural Conflict Resolution	2
SMGT2125 International Business	3
<b>Total</b>	<b>14</b>

**TOTAL Program Requirements 14****SUPERVISORY MANAGEMENT**

*In Minnesota, about 51,447 individuals supervise blue collar workers in this large occupation. The median wage for supervisors of non-retail sales workers is \$39.65/hr. in the Twin Cities metro area. (iseek)*



Architectural Technology	42
--------------------------	----

---

Interior Design	43
-----------------	----

---

Landscape Horticulture	45
------------------------	----

---

Visual Communications	46-53
-----------------------	-------

Applied Visual Arts	47
---------------------	----

Graphic Design Technology and Multimedia and Web Page Design	48
---	----

Photography	51
-------------	----

Photographic Imaging Technology	52
---------------------------------	----

---

Wood Finishing Technology	54
---------------------------	----

# design

# ARCHITECTURAL TECHNOLOGY

Architectural Technology A.A.S. Degree .....72 credits  
Architectural Technology Diploma .....64 credits

## Major Description

Students use design techniques and procedures to develop and prepare construction drawings for residential, light commercial, and commercial buildings. Students work in an environment that is patterned after the most advanced architectural offices. Students are introduced to computers and taught computer-aided design and drafting (CAD). Realistic architectural projects in the course of study provide an excellent mix of technical training and creative problem solving.

## Nature of Work

Skilled architectural technicians are involved in the exciting work of producing actual construction documents, presentation drawings and 3-D models. Their work requires the skillful use of drafting equipment and computer programs. As architectural technicians acquire experience, they will be required to coordinate structural, mechanical and electrical design elements for a building project.

## Career Opportunities

Graduates of this program may find employment in an architectural firm, a professional design office, construction, product sales, estimating or managerial departments of construction firms or material manufacturing companies. The Twin Cities continues to be an excellent area for placement; however, many graduates have been successful in securing employment in other locations throughout the state.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Minnesota State University Moorhead, Southwest Minnesota State University, the University of Minnesota–Crookston, and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates completing the Architectural Technology program will be prepared for employment as architectural technicians in the construction industry.
2. Students will demonstrate current computer-aided design technology proficiency.
3. Students will present themselves as practicing professionals in Architectural Technology.
4. See General Education outcome statement on page 84.

## Architectural Technology – A.A.S. Degree

Courses	Cr
ARCT1101 Architectural Studio IA	4
ARCT1102 Architectural Studio IB	4
ARCT1103 Building Technology I	3
ARCT1107 CAD I	3
ARCT1200 Architectural Studio II	8
ARCT1203 Building Technology II	3
ARCT1207 CAD II	3
ARCT2100 Architectural Studio III	8
ARCT2103 Building Technology III	3
ARCT2107 CAD III	3
ARCT2200 Architectural Studio IV	5
ARCT2970 Internship	1-5
<b>Total</b>	<b>48</b>

## Technical Electives

Students may select elective courses from the Architectural Technology curriculum with advisor approval.

<b>Total</b>	<b>4</b>
--------------	----------

## General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
--------------	-----------

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

## INDUSTRY OUTLOOK

*In Minnesota and nationally, the number of jobs in architectural and engineering services is expected to grow about as fast as average through the year 2014. Faster than average growth is expected in specialized design services such as interior, industrial, and graphic design. (iseek)*

## Architectural Technology – Diploma

Courses	Cr
ARCT1101 Architectural Studio IA	4
ARCT1102 Architectural Studio IB	4
ARCT1103 Building Technology I	3
ARCT1107 CAD I	3
ARCT1200 Architectural Studio II	8
ARCT1203 Building Technology II	3
ARCT1207 CAD II	3
ARCT2100 Architectural Studio III	8
ARCT2103 Building Technology III	3
ARCT2107 CAD III	3
ARCT2200 Architectural Studio IV	5
ARCT2970 Internship	4-8
<b>Total</b>	<b>51</b>

### Technical Electives

Students may select elective courses from the Architectural Technology curriculum with advisor approval.

<b>Total</b>	<b>4</b>
--------------	----------

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
--------------	----------

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------



## INTERIOR DESIGN

Interior Design A.A.S. Degree .....	.85 credits
Interior Design Diploma .....	.64 credits

### Major Description

The Interior Design program prepares students to enter the interior design profession. The student will develop skills and knowledge to design functional and aesthetically pleasing environments that enhance the quality of life while protecting the health, safety and welfare of the public. Students use design theories, interior materials, building codes, manual and computer aided drafting, 3-dimensional drawings, and sustainable design approaches to develop and prepare design solutions for residential, kitchen and bath, and commercial projects.

### Nature of Work

An interior designer works with clients using the design process, which begins with programming (analyzing the project requirements), schematic and design development (spatial arrangement, selections of materials and furnishings) and ends with contract documentation (construction drawings and specifications) and project administration. The design disciplines offer a variety of positions that are stimulating and challenging, creating solutions that are developed to meet client goals and budget parameters.

### Career Opportunities

This program prepares graduates to work with interior design professionals in a residential or commercial firm, along with several other design positions available in the industry.

### Program Delivery

Students can begin this program in the Fall semester only. A day and evening program are offered. Full- or part-time starts are available.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Metropolitan State University, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Accreditation

The Interior Design program is currently accredited by CIDA (Council for Interior Design Accreditation) at the professional level. CIDA is an accreditation body within the interior design profession to assess, develop and define standards for academic programs and to assure excellence in interior design education in order to reflect the needs of the profession and the consumer.

The Interior Design program is also endorsed by The National Kitchen and Bath Association (NKBA). NKBA establishes requirements to assure quality education for students who desire to become kitchen/bathroom design professionals. Students that complete an NKBA Endorsed Program and a monitored internship/work experience in the Kitchen/Bath industry will qualify to receive recognition of achievement from the NKBA.

### Professional Organizations

Students in the Interior Design major may participate as student members in five professional organizations. These organizations include: American Society of Interior Designers (ASID), International Furnishings and Design Association (IFDA), International Interior Design Association (IIDA), National Executive Women in Hospitality (NEWH) and the National Kitchen and Bath Association (NKBA). Participation in any or all of these organizations increases the student's professional knowledge and awareness of the interior design field while providing an opportunity to network with professionals in the community. Students attend conferences, participate in showroom tours, attend local markets at International Market Square and speaker presentations. In addition, participating in local committees of professional organizations, being student board representatives, and participating in student competitions provide strong communication and networking skills.

### Student Outcomes

1. Students completing the Interior Design program will be prepared for employment in the Residential, Commercial, and Kitchen & Bath professions.
2. Graduates will obtain work experience through the internship course.
3. The Interior Design program has established general education coursework in compliance with the MnTC (Minnesota Transfer Curriculum) to meet accreditation agencies recommended guidelines.
4. Graduates of the A.A.S. degree will fulfill the educational requirements for eligibility to take the NCIDQ (National Council for Interior Design Qualification) exam. This path may allow graduates to pursue state credentials as a certified or licensed interior designer.

### Interior Design – A.A.S. Degree

(CIDA Professional Accreditation)

Courses	Cr
IDES1100 Design Fundamentals	4
IDES1110 Drafting for Interiors	4
IDES1120 Critical Thinking and Programming	4
IDES1135 Visual and Verbal Presentations	3
IDES1206 Residential Studio I	3
IDES1217 Commercial Studio I	3
IDES1225 Computer Aided Drafting	3
IDES1230 History of Art, Architecture, and Interiors	4
IDES2100 Interior Design Career Directions	1
IDES2106 Color and Light	3
IDES2110 Materials, Estimating, and Specifications	3

IDES2136	Commercial Studio II	4
IDES2146	Residential Studio II (Kitchen and Bath)	4
IDES2200	Professional Business Practices and Sales	3
IDES2210	Senior Studio	5
IDES2970	Internship	4
Total		55

### General Education

The following courses are required (follows Minnesota Transfer Curriculum MnTC):

ENGL1100	Writing and Research Skills	3
SPEE1020	Interpersonal Communication	3

Select one course from each of the following goal areas:

Goal 3	Natural Science	3
Goal 4	Math	3
Goal 5	History and Social and Behavioral Science	3
Goal 8	Global Perspectives	3
Goal 10	People and the Environment	3

Select nine credits of elective courses from Goals 1-10

Goals 1-10	Electives	9
Total		30

**TOTAL Program Requirements 8**

### Interior Design – Diploma

Courses	Cr
IDES1100 Design Fundamentals	4
IDES1110 Drafting for Interiors	4
IDES1120 Critical Thinking and Programming	4
IDES1135 Visual and Verbal Presentations	3
IDES1206 Residential Studio I	3
IDES1217 Commercial Studio I	3
IDES1225 Computer Aided Drafting	3
IDES1230 History of Art, Architecture, and Interiors	4
IDES2100 Interior Design Career Directions	1
IDES2106 Color and Light	3
IDES2110 Materials, Estimating, and Specifications	3
IDES2136 Commercial Studio II	4
IDES2146 Residential Studio II (Kitchen and Bath)	4
IDES2200 Professional Business Practices and Sales	3
IDES2210 Senior Studio	5
IDES2970 Internship	4
Total	55

### General Education

See the General Education requirements on page 85.

Total		9
<b>TOTAL Program Requirements</b>		<b>64</b>

*The median wage for an interior designer in the state of Minnesota is \$22.28/hr. (iseek)*

# LANDSCAPE HORTICULTURE

Landscape Horticulture A.A.S. Degree .....72 credits  
Landscape Horticulture Diploma .....65 credits

## Major Description

A major in Landscape Horticulture provides the knowledge, technical and business skills needed for success in the landscape industry. First-year students learn the basic science and skills of all the related fields of Landscape Horticulture. Second-year students can specialize in one of three interest areas: Design and Sales, Landscape Construction, or Plant Production including nursery and greenhouse specialties. Landscape business management coursework is included in the second year of study. Instruction includes both classroom and lab activities. The 200+ acre campus, including greenhouses and a 1.5 acre nursery, serves as a resource and lab for many courses.

## Diverse Technical Electives

Students may select electives from the Landscape Horticulture curriculum as well as Wilderness First Aid (HLTW 1035 or others) with the approval of the advisor. The elective options are diverse, and may be utilized according to student interest and/or career choices. The complete listing can be found in the course descriptions portion of this catalog. Student options include Interior Landscaping, Landscape Irrigation and Lighting, Surveying, Computer Aided Design, Plant Propagation, Nursery and Greenhouse, Water Gardening, Pest Management, and Native Plants. Students study with our specially trained faculty to employ the basics of sound environmental design, technology, and sustainability.

## Nature of Work

Landscape professionals design, install and care for residential, commercial and public landscapes. In addition to working with plants, they design and install landscape features such as decks, retaining walls and patios. The landscape professional may specialize in plant production for nurseries, greenhouses, and garden centers.

## Career Opportunities

Graduates enter a range of businesses including interior and exterior landscape or maintenance firms, design firms, nurseries, garden centers, or greenhouses. Some graduates are employed by parks, golf courses, or government agencies. Many graduates operate their own businesses.

## Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered primarily during the day. Full- or part-time starts are available. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University, the University of Minnesota–Crookston, Saint Mary's University, University of Minnesota–St. Paul and University of Wisconsin River Falls. See Career Services for more information.

## Accreditation

This major is nationally accredited by the Professional Landcare Network (PLANET), the industry's national trade organization. PLANET defines standards for academic programs and assesses individual programs to assure excellence in meeting the needs of the students, industry and consumer. The Landscape Horticulture Program at DCTC is currently the only PLANET accredited program in the state.

## Professional Organizations

Students may participate as student members of both state and national organizations. Many students are active in the Minnesota Nursery and Landscape Association (MNLA) that offer opportunities for networking with professionals and for education through MNLA workshops. The program also helps students pass the examination to become MNLA Certified Professionals. The MNLA offers two scholarships to DCTC students each year.

As PLANET accredited program, several students annually participate in the national PLANET Student Career Days. PLANET also offers competitive scholarships to DCTC students.

A very active Landscape Horticulture club serves the students by offering various opportunities for educational enrichment. The club, MNLA, and PLANET provide opportunities for professional growth and leadership.

## Student Outcomes

1. Graduates of the program will be prepared for employment in the landscape horticulture field.
2. Students will have work experience through internships and hands-on projects.
3. Students will develop a high level of professionalism.
4. See General Education outcome statement on page 84.

## Landscape Horticulture – A.A.S. Degree

Courses	Cr
ACCT1005 Principles of Bookkeeping	2
LAHT1000 Plant Science	2
LAHT1010 Soil Science	3
LAHT1100 Woody Plant Materials I	2
LAHT1110 Woody Plant Materials II	2
LAHT1200 Plant Pests	3
LAHT1300 Landscape Construction I	3
LAHT1310 Plant Maintenance	2
LAHT1320 Turf Management	3
LAHT1400 Greenhouse Operations	2
LAHT1410 Nursery Operations	2
LAHT1502 Safety and Equipment	1
LAHT1510 Landscape Mathematics	1
LAHT1600 Landscape Design I	3
LAHT2970 Supervised Occupational Experience I	1
LAHT2970 Supervised Occupational Experience II	1

LAHT2000	Herbaceous Plant Materials	2
LAHT2500	Landscape Business Management	4
LAHT2510	Landscape Estimating	3
LAHT2970	Supervised Occupational Experience III	1
LAHT2970	Supervised Occupational Experience IV	1
Total		44

### Technical Electives

Students may select elective courses from the Landscape Horticulture curriculum, as well as First Aid (HLTH1000 or others), with the approval of the advisor.

Total	8
-------	---

### General Education

See the General Education requirements on page 85.

Spanish (SPAN1100 and SPAN1200) are recommended General Education electives.

Total	20
-------	----

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

## Landscape Horticulture – Diploma

Courses	Cr	
ACCT1005	Principles of Bookkeeping	2
LAHT1000	Plant Science	2
LAHT1010	Soil Science	3
LAHT1100	Woody Plant Materials I	2
LAHT1110	Woody Plant Materials II	2
LAHT1200	Plant Pests	3
LAHT1300	Landscape Construction I	3
LAHT1310	Plant Maintenance	2
LAHT1320	Turf Management	3
LAHT1400	Greenhouse Operations	2
LAHT1410	Nursery Operations	2
LAHT1502	Safety and Equipment	1
LAHT1510	Landscape Mathematics	1
LAHT1600	Landscape Design I	3
LAHT2970	Supervised Occupational Experience I	1
LAHT2970	Supervised Occupational Experience II	1
LAHT2000	Herbaceous Plant Materials	2
LAHT2500	Landscape Business Management	4
LAHT2510	Landscape Estimating	3
LAHT2970	Supervised Occupational Experience IV	1
LAHT2970	Supervised Occupational Experience V	1
Total		44

### Technical Electives

Students may select elective credits from the Landscape Horticulture curriculum, as well as First Aid (HLTH1000 or others), with the approval of the advisor.

Total	12
-------	----

### General Education

See the General Education requirements on page 85.

Total	9
-------	---

<b>TOTAL Program Requirements</b>	<b>65</b>
-----------------------------------	-----------

## VISUAL COMMUNICATIONS

### Overview of Visual Communications Programs

Visual Communications involves the exchange of thoughts and ideas with images. In that sense, visual communications touches nearly every part of our lives. Government, large and small business, mass media, the entertainment industry and education depend on visual communications to achieve their goals. Images appear everywhere — from magazines to MTV, billboards to baseball cards, textbooks to training videos, fashion ads to CD covers, and Web sites to wedding albums.

Image creation (whether via photography, computer design, or pencil art mediums) goes through various processes or production stages. As society's appetite for imagery increases, the knowledge and skill to produce high-quality visuals also becomes more valuable.

Visual Communications students have the opportunity to explore many areas in the very wide range of visual communications methods available today. Students have the opportunity to specialize in the area or areas of their choice.

**Applied Visual Arts:** Students work with traditional art methods such as drawing and painting. Students use their artistic skills to produce two- and three-dimensional artwork, which has both commercial and fine art applications.

**Graphic Design/Electronic Publishing:** Students use computers to create electronic artwork and design projects for print.

**Multimedia and Web Page Design:** Students create two- and three-dimensional artwork and animation to be incorporated in interactive multimedia presentations and Web pages.

**Photography:** Students combine the art, science, and business of photography into a dynamic program aimed at helping to achieve one of three broad goals: 1) acceptance to a four-year college; 2) starting a photography business; or 3) entering a specific sector of the visual communications workplace.

**Photographic Imaging Technology:** Students use both traditional and digital media in such areas as photojournalism; portraiture; photography and the Internet; photo processing and imaging; and photography for business and publication.

## DID YOU KNOW?

*Many Visual Communications students choose to double major so they leave DCTC with a broad range of skills in the field, expanding their career possibilities.*



# APPLIED VISUAL ARTS

Applied Visual Arts A.A.S. Degree .....72 credits  
Applied Visual Arts Diploma .....64 credits

## Major Description

Few career opportunities offer more excitement and chances for creative expression than Applied Visual Arts. The program prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences with illustrations and other forms of digital or printed media. Instruction includes areas of design principles, creative problem solving, concept design, illustration, layout, color, typography, advertising and signage. Students develop skills in techniques such as drawing, painting, collage, and computer graphics.

## Nature of Work

A visual arts career is a profession of imaginary and creative expression and can range from designing a layout for an advertisement to illustrating visuals for a publication to creating an identity for a new company. There is a high level of computer graphic work in this field. Artists in the commercial field may design signage, create logos, illustrate, paint murals or work in other artistic and computer design areas.

## Career Opportunities

Skilled visual artists find challenging careers in many areas of creative service such as publishing, advertising and visual merchandising. Many students take the opportunity to start their own business in a creative field, as the education in this field is diversified and covers a myriad of creative professions.

## Program Delivery

Students can begin this program Fall or Spring semester. Courses are primarily offered during the day, however some courses are made available in the evening. Full- or part-time starts are available. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Metropolitan State University, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates completing the program will be prepared for employment in the visual arts field.
2. Students will have a general knowledge of visual communications industries.
3. Students will develop visual presentation, design, illustration, computer application and creative problem solving skills.
4. See General Education outcome statement on page 84.

## Applied Visual Arts – A.A.S. Degree

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1040 Basic Drawing	3
VCOM1051 Scale and Perspective	2
VCOM1060 Creative Problem Solving	3
VCOM1095 Illustration Fundamentals	3
VCOM1400 Intro to QuarkXPress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM2035 Layout II	3
VCOM2085 Drawing for Illustration	2
VCOM2095 Painting for Illustration	2
VCOM2420 Advanced Computer Illustration	3
VCOM2724 Portfolio for Applied Visual Arts	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>44</b>

## Technical Electives

Students may select elective courses from the Visual Communications (VCOM) curriculum upon approval of advisor. Other courses may be approved depending on student focus.

Total	8
-------	---

## General Education

See the General Education requirements on page 85.

Total	20
-------	----

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

## EMPLOYMENT OPPORTUNITIES

*About 62% of fine artists in Minnesota are self-employed.*

*Those that are not self-employed work for: newspapers, magazine and book publishers, design companies and advertising agencies. (iseek)*

**Applied Visual Arts – Diploma**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1040 Basic Drawing	3
VCOM1051 Scale and Perspective	2
VCOM1060 Creative Problem Solving	3
VCOM1095 Illustration Fundamentals	3
VCOM1400 Intro to QuarkXpress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM2035 Layout II	3
VCOM2085 Drawing for Illustration	2
VCOM2095 Painting for Illustration	2
VCOM2420 Advanced Computer Illustration	3
VCOM2724 Portfolio for Applied Visual Arts	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>44</b>

**Technical Electives**

Students may select elective credits from the Visual Communications (VCOM) curriculum upon approval of advisor. Other courses may be approved depending on student focus.

<b>Total</b>	<b>11</b>
--------------	-----------

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
--------------	----------

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------



## GRAPHIC DESIGN TECHNOLOGY

Graphic Design Technology A.A.S. Degree	.72 credits
Multimedia and Web Page Design A.A.S. Degree	.72 credits
Electronic Publishing A.A.S. Degree	.72 credits
Graphic Design Technology Diploma	.64 credits
Electronic Publishing Diploma	.64 credits

**Major Description**

This program prepares an individual to design page layouts for packaging, publications, marketing communications and interactive multimedia. The student will develop skills and knowledge in industry standard computer software to produce multipurpose visual communications.

**Nature of Work**

This program prepares graduates for a variety of electronic publishing opportunities ranging from multimedia production and graphic animator for web, to graphic layout and design for print. Work in the industry makes extensive use of the computer layout, design and multimedia software.

**Career Opportunities**

A graphic design professional finds challenging careers in many areas of creative service in publishing, advertising and areas that serve business and consumer audiences. Positions range from web designers, electronic design, pre-press specialists, and Flash animators, to digital illustrators and photo editors. Many graduates take the opportunity to start their own business in a creative industry, as the education in this field is diversified and covers a myriad of creative professions.

**Program Delivery**

Students can begin this program Fall or Spring semester. A day and evening program are offered. Full- or part-time starts are available. See page 110 for information on advanced standing.

**After DCTC**

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Metropolitan State University, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

**Student Outcomes**

1. Graduates of the program will be prepared for employment in the graphic design field.
2. Students will have computer and graphic art skills.
3. Students will have a general knowledge of the graphics/web/multimedia industries.
4. See General Education outcome statement on page 84.

**Graphic Design Technology – A.A.S. Degree**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1051 Scale and Perspective	2
VCOM1060 Creative Problem Solving	3
VCOM1400 Intro to QuarkXPress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM1422 Print Processes I	2
VCOM2400 Advanced Photoshop	3
VCOM2415 Advanced Electronic Publishing	3
VCOM2420 Advanced Computer Illustration	3
VCOM2422 Print Processes II	3
VCOM2680 Introduction to Flash	2
VCOM2685 Web Page Construction I	2
VCOM2721 Portfolio for Graphic Design	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>46</b>

**Technical Electives**

Students may select elective credits from the Visual Communications (VCOM) curriculum upon approval of advisor.

<b>Total</b>	<b>6</b>
--------------	----------

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
--------------	-----------

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

**Multimedia and Web Page Design – A.A.S. Degree**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1032 Interactive Design Fundamentals	2
VCOM1051 Scale and Perspective	2
VCOM1060 Creative Problem Solving	3
VCOM1400 Intro to QuarkXPress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM2605 Audio/Video for Multimedia	3
VCOM2650 Multimedia Project Management	2
VCOM2660 3D Modeling and Animation	3
VCOM2680 Introduction to Flash	2
VCOM2685 Web Page Construction I	2
VCOM2690 Web Page Construction II	3
VCOM2694 Advanced Multimedia Production	2
VCOM2700 Advanced Flash Animation	3
VCOM2722 Portfolio for Multimedia and Web Page Design	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>50</b>

**Technical Electives**

Students may select elective credits from the Visual Communications (VCOM) curriculum upon approval of advisor.

<b>Total</b>	<b>2</b>
--------------	----------

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
--------------	-----------

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

**Electronic Publishing – A.A.S. Degree**

*Pending MnSCU Board Approval*

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1060 Creative Problem Solving	3
VCOM1400 Intro to QuarkXPress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM1422 Print Processes I	2
VCOM1435 Proofreading Fundamentals	1
VCOM2415 Advanced Electronic Publishing	3
VCOM2422 Print Processes II	3
VCOM2970 VisCom Internship	4
<b>Total</b>	<b>36</b>

**Technical Electives**

Students may select elective credits from the Visual Communications (VCOM) curriculum upon approval of advisor.

Total	16
-------	----

**General Education**

See the General Education requirements on page 85.

Total	20
-------	----

<b>TOTAL Program Requirements</b>	<b>72</b>
-----------------------------------	-----------

**Graphic Design Technology – Diploma**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1051 Scale and Perspective	2
VCOM1060 Creative Problem Solving	3
VCOM1400 Intro to QuarkXPress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	2
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM1422 Print Processes I	2
VCOM2400 Advanced Photoshop	3
VCOM2415 Advanced Electronic Publishing	3
VCOM2420 Advanced Computer Illustration	3
VCOM2422 Print Processes II	3
VCOM2680 Introduction to Flash	2
VCOM2685 Web Page Construction I	2
VCOM2721 Portfolio for Graphic Design	2
VCOM2730 Career Research Skills	1
Total	46

**Technical Electives**

Students may select elective credits from the Visual Communications (VCOM) curriculum upon approval of advisor.

Total	9
-------	---

**General Education**

See the General Education requirements on page 85.

Total	9
-------	---

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

**Electronic Publishing – Diploma**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory and Applications	2
VCOM1010 Introduction to Photoshop	2
VCOM1015 Layout I	2
VCOM1021 Introduction to Photography	3
VCOM1030 Visual Design Fundamentals	3
VCOM1060 Creative Problem Solving	3
VCOM1400 Introduction to QuarkXPress	2
VCOM1430 <b>OR</b> Intro to InDesign (in place of VCOM1400)	2
VCOM1410 Introduction to Illustrator	2
VCOM1415 Typography Fundamentals	2
VCOM1422 Print Processes I	2
VCOM1435 Proofreading Fundamentals	1
VCOM2415 Advanced Electronic Publishing	3
VCOM2422 Print Processes II	3
VCOM2970 VisCom Internship	4
Total	36

**Technical Electives**

Students may select elective credits from the Visual Communications (VCOM) curriculum upon approval of advisor.

Total	19
-------	----

**General Education**

See the General Education requirements on page 85.

Total	9
-------	---

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

**DID YOU KNOW?**

*Electronic Publishing is one of Minnesota's fastest growing careers, with the number of jobs increasing by 62% between 2000-2010.*

*Average wage is \$16.94/hr. (iseek)*



# PHOTOGRAPHY

Photography A.S. Degree .....64 credits

## Major Description

The Photography A.S. Degree at Dakota County Technical College combines the art, science and business of photography into a dynamic program aimed at helping students achieve one of three broad goals: 1) acceptance to a four-year college; 2) starting their own photography business; or 3) entering a specific sector of the visual communications workplace. All students will complete a technical core curriculum and a general education curriculum. Students will choose a Photography emphasis area (major) and then complete photography studies in one of the specialized area.

## Nature of Work

Photographers work in a multitude of industry-specific niches. Some specialize in photographing people, while others work only with products. Some work in very artistic settings, while others work in very technical and scientific arenas. Some work for small and large businesses, while others are self employed. This program gives students the technical core necessary to begin studies in their chosen sector of the photographic marketplace.

## Career Opportunities

After graduation, students may choose to seek further education (four-year college), self-employment or many career options. Some options include historical photography/preservation, advertising, aerial, crime scene, commercial, editorial, fashion, fine art, forensic, medical, photo chemistry, photojournalism, portraits, scientific and stock photography.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered primarily during the day; however, some courses are made available in the evening. Full- or part-time starts are available. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Metropolitan State University, Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

*58% of photographers in Minnesota are self-employed.*

*Other major employers include: photographic portrait studios, newspapers, and magazines . (iseek)*

## Student Outcomes

1. Graduates of the program will be prepared for entry to a four-year college, self employment and entry into the visual communications field.
2. Students will have hands on experience with traditional and digital photographic equipment.
3. Students will complete projects and courses, which closely parallel real-world photographic assignments.
4. Students will display the professional and ethical standards applied within the photographic industry.
5. Students will gain knowledge of the business, art, and science of photography.
6. See General Education outcome statement on page 84.

## Photography – A.S. Degree

Courses	Cr
VCOM1010 Introduction to Photoshop	2
VCOM1021 Introduction to Photography	3
VCOM1025 Law and Ethics for VisCom	1
VCOM1515 Photo Lighting Techniques	2
VCOM1570 Portrait Photography	2
VCOM1580 Introduction to Digital Imaging	2
VCOM2510 Commercial Photography	2
VCOM2520 Digital Photography	2
VCOM2551 Digital Studio Workflow I	2
VCOM2580 Photography Portfolio	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>21</b>

## Technical Electives

Students may select elective credits from the Business Entrepreneur (ENTR) or Visual Communications (VCOM) curricula with advisor approval.

<b>Total</b>	<b>13</b>
--------------	-----------

## General Education

The following courses are required:

ARTS1000 Visual Communication	3
ARTS1100 History of Photography	3
ARTS1200 The Creative Process	3
COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
SPEE1020 Interpersonal Communications	3
Goal 3 Science	3-4
Goal 4 Math	3-4
<b>Total</b>	<b>24-26</b>

## General Education Electives

See the General Education section of this college catalog. Courses must be selected from at least two of the following MnTC Goal Areas (2, 5, 7, 8, 9, and 10).

<b>Total</b>	<b>4-6</b>
<b>TOTAL Program Requirements</b>	<b>64</b>

# PHOTOGRAPHIC IMAGING TECHNOLOGY

Photographic Imaging Technology A.A.S. Degree . . .	64 credits
Photographic Imaging Technology Diploma . . . . .	32 credits
Digital Imaging Technician Certificate . . . . .	24 credits
Photographer Assistant Certificate . . . . .	19 credits

## Major Description

Students in Photographic Imaging Technology use their creative abilities to set up and take the unique photograph, process the film, and produce the professional quality display print. The Photographic Technology major is designed to provide skills in photography, film and paper processing, quality control, professional printing and digital imaging techniques. Students learn in a facility equipped with various types of studio equipment and in a well-equipped lab that replicates the industry. This highly artistic and technical industry requires both training and experience to produce the results that consumers demand.

## Nature of Work

The wide variety of careers in this industry allows students to use their creative ability, technical expertise and equipment knowledge, as well as their eye for details to become successful in the field of their choice. Good skills in traditional photography and processing are paving the way into careers in electronic imaging as many photo companies diversify into other technologies. Graduates have become photographers of all types, darkroom and custom printers, and chemical and equipment specialists, as well as service and sales representatives for larger companies.

## Career Opportunities

As the industry begins to move toward electronic imaging, equipment will become more sophisticated and will require better trained personnel. Opportunities in the new areas of imaging, as well as the traditional areas continue to grow as technology provides both amateur and commercial customers a larger variety of products and services. Knowledgeable and well-trained people are in demand by companies in the metro area and across the country.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered primarily during the day, however, some courses are made available in the evening. Full- or part-time starts are available. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Metropolitan State University, Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates completing the Photographic Imaging Technology program are prepared for employment in photographic imaging technology industries.
2. Students will gain a variety of traditional and digital technical skills (photography, film and paper processing, quality control, professional printing, and computer and software operation) to enable them to make well-informed career decisions within the photographic technology industry.
3. Students will be provided a blend of traditional and advanced imaging technology to enable them to keep pace with future industry development.
4. See General Education outcome statement on page 84.

## Photographic Imaging Technology – A.A.S. Degree

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1006 Color Theory	2
VCOM1010 Introduction to Photoshop	2
VCOM1021 Introduction to Photography	3
VCOM1400 Introduction to QuarkXPress	2
VCOM1515 Photo Lighting Techniques	2
VCOM1525 Basic Darkroom Techniques	4
VCOM1565 Color Printing Systems	4
VCOM1570 Portrait Photography	2
VCOM1580 Introduction to Digital Imaging	2
VCOM2510 Commercial Photography	2
VCOM2520 Digital Photography	2
VCOM2551 Digital Studio Workflow I	2
VCOM2552 Digital Studio Workflow II	2
VCOM2581 Photography Portfolio	2
VCOM2605 Audio/Video for Presentation	3
VCOM2705 Career Research Skills	1
Total	39

## Technical Electives

Students may select elective credits from the Visual Communication (VCOM) curriculum with the approval of the advisor.

Total	5
-------	---

## General Education

See the General Education requirements on page 85.

Total	20
-------	----

<b>Total Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

**Photographic Imaging Technology – Diploma**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1010 Introduction to Photoshop	2
VCOM1021 Introduction to Photography	3
VCOM1515 Photo Lighting Techniques	2
VCOM1525 Basic Darkroom Techniques	4
VCOM1565 Color Printing Systems	4
VCOM1570 Portrait Photographer	2
VCOM1580 Introduction to Digital Imaging	2
VCOM2581 Photography Portfolio	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>24</b>

**Technical Electives**

Students may select elective credits from the Visual Communication (VCOM) curriculum with the approval of the advisor.

<b>Total</b>	<b>5</b>
--------------	----------

**General Education**

Select one of the following courses:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>32</b>

**Digital Imaging Technician – Certificate**

Courses	Cr
VCOM1001 Introduction to Visual Communications	2
VCOM1010 Introduction to Photoshop	2
VCOM1021 Introduction to Photography	3
VCOM1400 Introduction to QuarkXPress	2
VCOM1410 Introduction to Illustrator	2
VCOM1580 Introduction to Digital Imaging	2
VCOM2520 Digital Photography	2
VCOM2551 Digital Studio Workflow I	2
VCOM2605 Audio/Visual for Presentations	3
VCOM2730 Career Research Skills	1
VCOM2500 Photography Portfolio	2
<b>Total</b>	<b>23</b>

**Technical Electives**

Students may select elective credits from the Visual Communication (VCOM) curriculum with the approval of the advisor.

<b>Total</b>	<b>1</b>
--------------	----------

**TOTAL Program Requirements 24**

**Photographer Assistant – Certificate**

Courses	Cr
VCOM1010 Introduction to Photoshop	2
VCOM1021 Introduction to Photography	3
VCOM1360 Photography Workshop	1
VCOM1515 Photo Lighting Techniques	2
VCOM1570 Portrait Photography	2
VCOM2510 Commercial Photography	2
VCOM2520 Digital Photography	2
VCOM2540 The Business of Photography	2
VCOM2580 Photography Portfolio	2
VCOM2730 Career Research Skills	1
<b>Total</b>	<b>19</b>
<b>TOTAL Program Requirements</b>	<b>19</b>

**DID YOU KNOW?**

*Minnesota has the highest paid photographers in the United States.*

*Photographers in the Minneapolis/St. Paul metropolitan area have an average annual salary of \$53,760.*

*(U.S. Bureau of Labor Statistics)*

# WOOD FINISHING TECHNOLOGY

Wood Finishing Technology Diploma .....	36 credits
Furniture Service Technician I Certificate .....	11 credits
Furniture Service Technician II Certificate .....	19 credits

## Major Description

The world of the wood finisher is a blend of the past, present and future. Students can specialize in many different areas where their skills will allow the past to continue or be creative with today's new materials and techniques.

## Nature of Work

An area of specialty is that of a commercial finishing technician. This uses today's modern finishes and techniques on new furniture construction. Being able to create beautiful finishes and match new colors on furniture and millwork is of great value to today's wood finishing industry.

Skilled finishers of wood can use their talents in many different aspects within the wood finishing trade. One major area would be a furniture restoration specialist. This person is someone who can totally refinish or refurbish older furniture, considering the heritage and integrity of the furniture. This includes everything from repairing or replacing wooden parts to repairing or replacing the finish itself.

Within both of these specialties lies another profession, a spot repair artist called a furniture service technician, who can creatively disguise those unavoidable small damages, such as nicks, dents and scratches. This technician can take care of damages that can be repaired at the production site, in the warehouse being prepared for delivery or at the site of location where the furniture has been delivered. Upholstery repair and vinyl repairs are also taught to accommodate other repairs needed to be a furniture service technician or a furniture restoration specialist.

## Career Opportunities

Skilled furniture restorers will work for or start their own furniture refinishing shops. They may also specialize in the restoration of antique furniture, clocks, radios and other items. Commercial finishing technicians will find employment with any furniture manufacturer. Their responsibilities include color matching, surface preparation, color application, sealing, top-coating and rubbing out the finish. A furniture service technician can work independently with the general public, furniture stores, furniture manufacturers or setting up contract maintenance agreements with business offices. Furniture service technicians can also work in-house for a furniture store using their skills repairing nicks, dents, and scratches on furniture before it is sold.

## Program Delivery

Students begin this program in the Fall semester. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University and the University of Minnesota-Crookston. See Career Services for more information.

## Student Outcomes

1. Graduates completing the Wood Finishing Technology program will be prepared for employment in many segments of the wood finishing industry.
2. Students will develop critical thinking and problem-solving skills.
3. Students will have hands-on training in almost all aspects of wood finishing.

## Wood Finishing Technology – Diploma

Courses	Cr
WOOD1004 Woodworking	3
WOOD1007 Methods of Fastening	3
WOOD1010 Wood and Finishing Technology	5
WOOD1012 Color Theory	3
WOOD1015 Spot Repair I	3
WOOD1019 Spot Repair II	5
WOOD1021 Wood Refinishing	6
WOOD1026 Advanced Finishing Techniques	5
WOOD1032 Antique Furniture Conservation	3
Total	36
<b>TOTAL Program Requirements</b>	<b>36</b>

## Furniture Service Technician I – Certificate

*Pending MnSCU Board Approval*

Courses	Cr
WOOD1012 Color Theory	3
WOOD1015 Spot Repair I	3
WOOD1019 Spot Repair II	5
Total	11
<b>TOTAL Program Requirements</b>	<b>11</b>

## Furniture Service Technician II – Certificate

*Pending MnSCU Board Approval*

Courses	Cr
WOOD1010 Wood and Finishing Technology	5
WOOD1012 Color Theory	3
WOOD1015 Spot Repair I	3
WOOD1019 Spot Repair II	5
WOOD1032 Antique Furniture Conservation	3
Total	19
<b>TOTAL Program Requirements</b>	<b>19</b>





Child Development	56
Dental Assistant	58
Exercise and Sport Science	59
Medical Assistant	61
Nursing Asst./Home Health Aide	62
Practical Nursing	63

# health & human services

## CHILD DEVELOPMENT

Child Development A.S. Degree .....	63 credits
Child Development A.A.S. Degree .....	65 credits
Child Development Diploma .....	33 credits
Child Development Certificate .....	17 credits

### Major Description

The Child Development program is designed to prepare individuals for employment in a variety of early childhood settings. Courses are designed to meet Minnesota Department of Human Services educational requirements for assistant teachers and teachers in a child care setting. Throughout the program, students will learn about child development, guidance, professional relationships, nutrition, health and safety, cultural sensitivity and techniques for promoting learning in young children.

Each level provides either lab, internship or practicum opportunities that allow students to apply their skills and knowledge in a practical experience.

The Child Development Program at DCTC is a participant in E-LECT. Through E-LECT (e-learning for early childhood teachers) we are able to offer high quality credit-based child development courses, certificate, diploma and A.A.S./A.S. degree online.

This program also meets Associates in Applied Science/A.S. Degree requirements for school district paraprofessionals and Head Start mandates. Students with an A.A.S./A.S. degree can transfer to University of Wisconsin – Stout or Southwest Minnesota State University to complete their Pre-K-Primary teaching degree or transfer to Metropolitan State University to complete a B.A. in Psychology or B.A.S. in Early Childhood Studies.

### Nature of Work

Students completing the Child Development program will be able to work with infants, toddlers, preschoolers, school-aged children, children with special needs and parents of young children in homes, centers and community-based programs. Other career options could be in child advocacy or social service agencies.

### Career Opportunities

Depending on the level of training and experience, a student may find employment as a child care assistant teacher or teacher, child care center director, family child care provider, nanny, home visitor, child care resource and referral counselor, special education program assistant or child advocate.

### Program Delivery

Students can begin this program Fall or Spring semester. Day, evening, weekend and online courses are offered. Full- or part-time starts are available. See page 110 for information on advanced standing.

### After DCTC

Southwest Minnesota State University offers a Bachelor of Science Degree in Early Childhood Education (Pre-K-Primary) at DCTC. This program allows working students to become part of a cohort group completing online, I-TV, and traditional courses to complete a bachelor's degree requirements. DCTC has transfer agreements for this program with the following colleges: Metropolitan State University, University of Wisconsin – Stout, we have also worked with Concordia University in St. Paul. See Career Services for more information.

### Program Prerequisites

No prior record involving child maltreatment or any crime of violence.

### Student Outcomes

1. Students completing any of the Child Development programs will be prepared for employment as qualified child care providers.
2. Students will be able to demonstrate basic caregiving skills.
3. Students will have the ability and knowledge to access community and family resources and systems that impact children's/families' lives.
4. Students will have knowledge of a variety of early childhood curriculum models.
5. Students will have hands-on training in a variety of childcare settings.
6. See General Education outcome statement on page 84.

### Child Development – A.S. Degree

Courses	Cr
CDEV1200 Prof. Relations in Early Childhood Careers	3
CDEV1210 Foundations of Child Development I	3
CDEV1220 Child Safety, Health, and Nutrition	4
CDEV1230 Guidance and the Early Childhood Env.	4
CDEV1320 Foundations of Child Development II	4
CDEV1340 Planning and Implementing Curriculum	3
CDEV1510 Internship	3
CDEV2320 Profiles of the Exceptional Child	3
CDEV2600 Professional Leadership	3
Total	30

### Technical Electives

Students may select elective courses from the Child Development (CDEV) curriculum with the approval of the advisor. Students transferring to other colleges need to talk to advisor about recommended elective courses.

Total	3
-------	---

### General Education

See the General Education requirements on page 84.

Total	30
<b>TOTAL Program Requirements</b>	<b>63</b>

**Child Development – A.A.S. Degree**

Courses	Cr
CDEV1200 Prof. Relations in Early Childhood Careers	3
CDEV1210 Foundations of Child Development I	3
CDEV1220 Child Safety, Health, and Nutrition	4
CDEV1230 Guidance and the Early Childhood Env.	4
CDEV1320 Foundations of Child Development II	4
CDEV1340 Planning and Implementing Curriculum	3
CDEV1510 Internship	3
CDEV2320 Profiles of the Exceptional Child	3
CDEV2330 Advanced Child Guidance	3
CDEV2600 Professional Leadership	3
CDEV2640 Program Planning	3
CDEV2840 Practicum	3
<b>Total</b>	<b>39</b>

**Technical Electives**

Students may select elective courses from the Child Development (CDEV) curriculum with the approval of the advisor.

<b>Total</b>	<b>6</b>
--------------	----------

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>65</b>

**Child Development – Diploma**

Courses	Cr
CDEV1200 Prof. Relations in Early Childhood Careers	3
CDEV1210 Foundations of Child Development I	3
CDEV1220 Child Safety, Health, and Nutrition	4
CDEV1230 Guidance and the Early Childhood Env.	4
CDEV1320 Foundations of Child Development II	4
CDEV1340 Planning and Implementing Curriculum	3
CDEV1510 Internship	3
<b>Total</b>	<b>24</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>33</b>

**Child Development – Certificate**

Courses	Cr
CDEV1200 Prof. Relations in Early Childhood Careers	3
CDEV1210 Foundations of Child Development I	3
CDEV1220 Child Safety, Health, and Nutrition	4
CDEV1230 Guidance and the Early Childhood Env.	4
<b>Total</b>	<b>14</b>

**General Education**

The following course is required:

ENGL1100 Writing and Research Skills	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>17</b>



# DENTAL ASSISTANT

Dental Assistant A.A.S. Degree .....	64 credits
Dental Assistant Diploma .....	44 credits

## Major Description

The Dental Assistant program is accredited by the Commission on Dental Accreditation. It prepares students for employment in dentistry. Students study ways to control/prevent dental disease, as well as ways to teach patients preventive care. Students are trained to expose/process dental X-rays and perform chairside skills and expanded functions delegated by the State Board of Dentistry. Learning is accomplished in on-campus classrooms and labs, and dental clinics in the metro area. Graduates are eligible to write the Dental Assisting National Board Certification exam and the Minnesota Registration exam.

## Nature of Work

Dental Assistants provide direct patient care working under the direction of a dentist. Potential employers include dentists in both general and specialty offices.

## Career Opportunities

Employment and career opportunities may be developed in government and private dental offices. Advancement within a work setting may occur with experience. Graduates may choose to pursue a dental hygiene license.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

## Professional Organizations

The American Dental Assistants Association and the Minnesota Dental Assistants Association offer memberships at a minimal cost for students. Continued membership after graduation provides the graduate with professional contacts, opportunities for learning and a chance to participate in local and national governance of professional associations.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Admissions Requirements

Students applying to this program must meet the requirements identified on the Admissions Checklist. Students must have a high school diploma or GED to be accepted into the program as required by the American Dental Association (the program's accrediting body).

## Student Outcomes

1. Graduates of this program will be prepared for immediate employment in the dental assisting field.
2. Graduates will be able to successfully pass the National Certification Exam and the State Registration Exam.

3. Graduates will be experienced in dental office protocol via externship.
4. See General Education outcome statement on page 84.

## Dental Assistant – A.A.S. Degree

Courses	Cr
DENT1100 Dental Science	4
DENT1110 Pre-Clinical Dental Assisting	3
DENT1120 Dental Health	2
DENT1130 Chairside Assisting I	3
DENT1140 Dental Materials	3
DENT1250 Radiology	5
DENT1260 Expanded Functions	5
DENT1270 Chairside Assisting II	3
DENT1280 Dental Practice Management	2
DENT2970 Externship	8
<b>Total</b>	<b>38</b>

## General Education

See the General Education requirements on page 85.

Total	26
<b>TOTAL Program Requirements</b>	<b>64</b>

## Dental Assistant – Diploma

Courses	Cr
DENT1100 Dental Science	4
DENT1110 Pre-Clinical Dental Assisting	3
DENT1120 Dental Health	2
DENT1130 Chairside Assisting I	3
DENT1140 Dental Materials	3
DENT1250 Radiology	5
DENT1260 Expanded Functions	5
DENT1270 Chairside Assisting II	3
DENT1280 Dental Practice Management	2
DENT2970 Externship	8
<b>Total</b>	<b>38</b>

## General Education

The following courses are required:

COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>6</b>
<b>TOTAL Program Requirements</b>	<b>44</b>

## DID YOU KNOW?

*Dental assisting is expected to be among the fastest growing occupations over the 2006-16 projection period.*  
(U.S. Bureau of Labor Statistics)

## EXERCISE & SPORT SCIENCE

Exercise and Sport Science A.S. Degree .....	64 credits
Exercise and Sport Science A.A.S. Degree .....	64 credits
Personal Training Certificate .....	16 credits
Group Fitness Certificate .....	16 credits
Geriatric Health and Fitness Certificate .....	16 credits
Advanced Personal Training Certificate .....	16 credits
Community Coaching Certificate .....	16 credits

### Major Description

This program will provide educational experiences to students interested in seeking positions in a variety of health, fitness and sport occupations. The curriculum includes core courses in exercise and sport science, as well as classes in supporting academic areas such as health science and physiology. Practical experiences are available throughout the program of study and through a final semester internship. Opportunities for practical experiences and internships are available on and off campus. An on-campus opportunity will be working in the college's Wellness Center.

The program will provide comprehensive curriculum content that will prepare students for various certification exams, such as those offered by the American Council on Exercise (ACE).

### Nature of Work

This program is designed for students planning to secure positions in fitness, sport and health occupations.

### Career Opportunities

Students will learn skills that will prepare them for various certifications as well as skills that will enable them to be valuable employees in fitness centers, the YMCA/ YWCA, corporate fitness centers, hospital-based wellness centers and cardiac rehabilitation centers.

### Program Delivery

Students can begin this program full- or part-time in the Spring or Fall semesters. Courses are offered during the day, evening, weekend and online. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: College of Saint Catherine, Mankato, Winona, Southwest Minnesota State, St. Cloud State University. See Career Services for more information.

### Program Prerequisites

Students must complete HLTW/HEAL1000 First Aid/CPR or have equivalent certification before internship or completion of program.

### Student Outcomes

1. Graduates of this program will be prepared for immediate employment in the exercise and sport science field or for transfer to a four-year college or university to complete a degree.

2. Graduates will be prepared for many national certification exams in the field of exercise and sport science.
3. Graduates will have the opportunity to gain work experience in the field through a practicum.
4. See General Education outcome statement on page 84.

### Exercise and Sport Science – A.S. Degree

Courses	Cr
EXER1000 Introduction to Human Performance Studies	3
EXER1015 Personal Health and Wellness	3
EXER1020 Strength Training	2
EXER1025 Physical Conditioning	2
EXER1065 Psychology of Sport and Performance	3
EXER2295 Social and Ethical Aspects of Sport	3
INTS1010 Job Search Skills	1
<b>Total</b>	<b>17</b>

### Technical Electives

Students may select elective courses from the Exercise and Sport Science (EXER) curriculum upon approval of advisor. Other courses may be approved depending on student focus.

<b>Total</b>	<b>13</b>
--------------	-----------

### General Education

The following courses are required:

BIOL1500 General Biology	4
BIOL2000 Anatomy and Physiology I	4
BIOL2010 Anatomy and Physiology II	4
SPEE1020 Interpersonal Communication	3
PSYC1100 General Psychology	3
ENGL1100 Writing and Research Skills	3
COML1400 Introduction to Computers	3
SOCY1110 Intro to Sociology OR	3
SOCY1010 Marriage & Family	
<b>Total</b>	<b>27</b>

### General Education Electives

Students must select courses from at least two of the following MnTC Goal Areas 4, 6, 8, 9, or 10.

<b>Total</b>	<b>7</b>
--------------	----------

**TOTAL Program Requirements 64**

### Exercise and Sport Science – A.A.S. Degree

Courses	Cr
EXER1000 Introduction to Human Performance Studies	3
EXER1015 Personal Health and Wellness	3
EXER1020 Strength Training	2
EXER1025 Physical Conditioning	2
EXER1050 Nutrition for Health & Human Performance	3
EXER1065 Psychology of Sport and Performance	3
EXER2020 Personal Training and Exercise Leadership I	2
EXER2060 Personal Training and Exercise Leadership II	2
EXER2090 Exercise for Special Populations	2

EXER2115	Applied Exercise Physiology	3
EXER2295	Social and Ethical Aspects of Sport	3
EXER2975	Practicum	3
INTS1010	Job Seeking Skills	1
Total		32

### Technical Electives

Students may select elective courses from the Exercise and Sport Science (EXER) curriculum upon approval of advisor. Other courses may be approved depending on student focus.

Total	8
-------	---

### General Education

The following courses are required:

BIOL1500	General Biology	4
BIOL2000	Anatomy and Physiology I	4
BIOL2010	Anatomy and Physiology II	4
SPEE1020	Interpersonal Communication	3
PSYC1100	General Psychology	3
ENGL1100	Writing and Research Skills	3
COML1400	Introduction to Computers	3
Total		24

<b>TOTAL Program Requirements</b>	<b>64</b>
-----------------------------------	-----------

### Personal Training – Certificate

Courses		Cr
EXER1020	Strength Training	2
EXER1065	Psychology of Sport and Performance	3
EXER2020	Personal Training and Exercise Leadership I	2
EXER2975	Practicum	1
HEAL1000**	First Aid/CPR	1
HEAL1101*	Anatomy and Physiology	4
SPEE1020	Interpersonal Communications	3
Total		16

<b>TOTAL Program Requirements</b>	<b>16</b>
-----------------------------------	-----------

\* Students can substitute BIOL2000 and BIOL2010 for HEAL1101.

\*\*Students can substitute HLTW1000 for HEAL1000.

### Group Fitness – Certificate

Courses		Cr
EXER1020	Strength Training	2
EXER1065	Psychology of Sport and Performance	3
EXER2020	Personal Training and Exercise Leadership I	2
EXER2250	Group Fitness Instruction	2
EXER2975	Practicum	2
HEAL1000**	First Aid/CPR	1
HEAL1101*	Anatomy and Physiology	4
Total		16

<b>TOTAL Program Requirements</b>	<b>16</b>
-----------------------------------	-----------

\* Students can substitute BIOL2000 and BIOL2010 for HEAL1101.

\*\*Students can substitute HLTW1000 for HEAL1000.

### Geriatric Health and Fitness – Certificate

Courses		Cr
EXER1020	Strength Training	2
EXER2020	Personal Training and Exercise Leadership I	2
EXER2090	Exercise for Special Populations	2
EXER2250	Group Fitness Instruction	2
EXER2280	Health and Aging	3
HEAL1000**	First Aid/CPR	1
HEAL1101*	Anatomy and Physiology	4
Total		16

<b>TOTAL Program Requirements</b>	<b>16</b>
-----------------------------------	-----------

\* Students can substitute BIOL2000 and BIOL2010 for HEAL1101.

\*\*Students can substitute HLTW1000 for HEAL1000.

### Advanced Personal Training – Certificate

(Must be ACE certified or have completed the Personal Training Certificate)

Courses		Cr
ENTR1650	Selling Strategies for the Entrepreneur	3
EXER1025	Physical Conditioning	2
EXER1050	Nutrition for Health and Human Performance	3
EXER2060	Personal Training and Exercise Leadership II	2
EXER2125	Applied Biomechanics & Movement Anatomy	3
MKTC1000	Principles of Marketing	3
Total		16

<b>TOTAL Program Requirements</b>	<b>16</b>
-----------------------------------	-----------

### Community Coaching – Certificate

Courses		Cr
EXER1045	Organization and Management of Sports	3
EXER1200	Team and Individual Games	2
EXER2060	Personal Training and Exercise Leadership II	2
EXER2225	Theory of Coaching	2
EXER2235	Introduction to Athletic Training	3
EXER2975	Practicum	2
HEAL1010	CPR for the Professional Rescuer	1
HEAL1020	Advanced First Aid	1
Total		16

<b>TOTAL Program Requirements</b>	<b>16</b>
-----------------------------------	-----------

## DID YOU KNOW?

*Public interest in fitness is expected to continue to grow. In part, this growth will come from the retiring Baby Boomers that will take fitness classes. In addition, businesses are starting to pay for their employees to work out so they will be more alert and feel better while at work. (iseek)*

# MEDICAL ASSISTANT

Medical Assistant A.A.S. Degree .....	62 credits
Medical Assistant Diploma .....	42 credits

## Major Description

Dakota County Technical College's Medical Assistant Program is accredited by CAAHEP (Commission on Accreditation of Allied Health Education Programs) on recommendation of the Curriculum Review Board of the American Association of Medical Assistants' Endowment (AAMAE). The medical assistant is a professional, multi-skilled person dedicated to assisting in patient care management. This program is a one-year program, including an unpaid seven-week externship in the final semester.

## Nature of Work

The program prepares graduates to assist doctors with examinations and treatments, take medical histories, perform diagnostic tests, sterilize instruments and supplies, assist with minor surgery and administer medications. Office work may include answering phones, making appointments, working with medical records, correspondence and completing insurance forms. The laboratory work may include specimen collection and completing routine lab work done in doctor's offices, like urinalysis, microbiology, blood work, ECG and X-ray.

## Career Opportunities

Graduates assist primary care physicians and specialists in clinics ranging from single physician to large multi-specialty clinics. Opportunities may be available in other health care industries in a variety of areas. This occupation is listed by the U.S. Department of Labor as one of the fastest-growing careers in the United States.

## Program Delivery

Students can start full-time in the Fall for the on-campus program and full-time in January for the online enhanced program. Students may begin part-time any semester. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Professional Organizations

The American Association of Medical Assistants has a chapter in Minnesota and a local chapter in the south suburban area to allow the students to have a professional organization to affiliate with while in school. There is a national certification test that is taken at the completion of the program for the Certified Medical Assistant title.

## Admissions Requirements

Students applying to the Medical Assistant program must meet the requirements identified on the DCTC Admissions Checklist. Students must have a high school diploma or GED to be accepted into the program. This credential is required because of the Clinical Laboratory Improvement Amendment

of 1988 (federal law) that states no one can practice in a laboratory without a high school diploma or GED.

## Other Requirements

The student will be required to begin the Hepatitis B vaccination series or sign a declination statement before beginning invasive procedures in the first semester. The student will be required to show proof of immunization prior to their externship course.

## Course Prerequisites

Students must score 66 or above on the Reading Comprehension portion of the ACCUPLACER test in order to register for MDAS courses. It is recommended that students who score below 66 on this portion of the test, take a reading intensive course like ENGL 0123 Medical Reading and Study Skills to help raise their score.

Students who score below 38 on the arithmetic portion of the ACCUPLACER test will be required to take MATS0200 Basic Math or MATS0334 Independent Math prior to enrolling or concurrent with HEAL1150 Health Careers Math.

## Student Outcomes

1. Graduates of this program will be prepared for immediate employment in the medical assisting field.
2. Graduates will be able to successfully take and pass the national certification exam.
3. Graduates will be experienced in medical office protocol and this transition will familiarize them with the world of work.
4. See General Education outcome statement on page 84.



**Medical Assistant – A.A.S. Degree**

Courses	Cr
HEAL1101 Anatomy and Physiology	4
HEAL1150 Health Career Mathematics	1
HEAL1502 Medical Terminology	2
MDAS1122 Laboratory Skills I	5
MDAS1130 Clinical Procedures I	3
MDAS1140 Phlebotomy	1
MDAS1210 Disease/Medical Treatment & Nutrition	3
MDAS1222 Laboratory Skills II	4
MDAS1230 Clinical Procedures II	3
MDAS1250 Fundamentals of Radiographic Imaging	2
MDAS1270 Administrative Procedures	3
MDAS1700 Pharmacology for Medical Assistants	3
MDAS2970 Externship	6
OFFC1130 MS Word I	2
<b>Total</b>	<b>42</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>62</b>

**Medical Assistant – Diploma**

Courses	Cr
HEAL1101 Anatomy and Physiology	4
HEAL1150 Health Career Mathematics	1
HEAL1502 Medical Terminology	2
MDAS1122 Laboratory Skills I	5
MDAS1130 Clinical Procedures I	3
MDAS1140 Phlebotomy	1
MDAS1210 Disease/Medical Treatment, incl. Nutrition	3
MDAS1222 Laboratory Skills II	4
MDAS1230 Clinical Procedures II	3
MDAS1250 Fundamentals of Radiographic Imaging	2
MDAS1270 Administrative Procedures	3
MDAS1700 Pharmacology for Medical Assistants	3
MDAS2970 Externship	6
OFFC1130 MS Word I	2
<b>Total</b>	<b>42</b>
<b>TOTAL Program Requirements</b>	<b>42</b>

**NURSING ASSISTANT/  
HOME HEALTH AIDE**

Nursing Asst./Home Health Aide Certificate .....5 credits

**Major Description**

This course prepares individuals to assist others with personal care needs. These populations include dependent elderly, home care clients and hospital patients.

**Nature of Work**

The nursing assistant/registered (NA/R) and/or home health aide (HHA) provides care under the direct supervision of licensed nurses. Employment is primarily in long-term care facilities, home health agencies and hospitals.

**Career Opportunities**

The demand for NA/Rs continues to grow due to the country's aging population. Expanding home care opportunities include working with populations ranging in age from infancy to elderly. The NA/R position is the first step in nursing career mobility. The course is a prerequisite for the Practical Nursing program and for many Registered Nurse programs.

**Program Delivery**

Students can take this course in the Fall or Spring semester or during Summer session. The course is offered in a morning into afternoon or afternoon into evening format.

**Program Approval**

The program is approved by the Minnesota Department of Health (MDH). Students completing the course are eligible to take the MDH Competency test for nursing assistants which is offered at the college. Successful candidates are placed on the State Nursing Assistant Registry.

**Nursing Assistant /Home Health Aide –  
Certificate**

Courses	Cr
HEAL1055 Nursing Assistant/Home Health Aide	5
<b>Total</b>	<b>5</b>
<b>TOTAL Program Requirements</b>	<b>5</b>

**MEDICAL ASSISTANT**

*Employment is projected to grow much faster than average, ranking the medical assistant field among the fastest growing occupations over the 2006-16 decade. Job opportunities should be excellent, particularly for those with formal training or experience, and certification.*

*(U.S. Bureau of Labor Statistics)*



# PRACTICAL NURSING

Practical Nursing Diploma .....56 credits

## Major Description

The Practical Nursing Program prepares graduates to administer safe, ethical, multi-skilled, client-focused nursing care in traditional and alternative health care settings. The LPN role in the nursing process is used in classroom learning, in simulated client care, and in instructor-supervised experiences in the health care setting. This is a two-year program. Taking summer courses may decrease semester credit load as well as program length.

## Nature of Work

Licensed practical nurses (LPNs) provide direct client care under the supervision of a Registered Nurse (RN), Advanced Practice Nurse (APN), Physician's Assistant (PA) or Physician (MD). Potential employers include hospitals, long-term care facilities, health care clinics, schools, home health agencies and homes for special populations.

## Career Opportunities

Opportunities for LPN's in health care are continually expanding. Employment may be obtained in government and private health care settings. Advancement within a work setting may occur with experience.

Graduates may choose to pursue an associate degree (ADN) in professional nursing through a community college or a baccalaureate degree (BSN) through a university. Articulation/mobility plans are in place at colleges and universities in the state of Minnesota. Faculty advisors are available to assist students with this process.

## Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered during the day. Full- or part-time starts are available.

## Program Approval

The program is approved by the Minnesota Board of Nursing, 2829 University Avenue SE #500, Minneapolis, MN 55414, (612) 617-2270. Graduates are eligible to apply to take the licensing examination administered by the National Council of State Boards of Nursing.

## Professional Organization

The National Federation of Licensed Practical Nurses, Inc. (NFLPN) is the professional organization for licensed practical nurses and licensed vocational nurses and practical/vocational nursing students in the US and Canada.

NFLPN serves as the central source of information on what is new and changing in practical/vocational nursing education and practiced at the local, state and national levels. Students will be given membership information for the NFLPN.

## Background Study Requirement

Background studies are required for health care providers with direct patient contact. All students must pass a background study prior to the clinical courses.

## Admissions Requirements

Students interested in the Practical Nursing Program must first complete admission to DCTC as a Pre-Nursing student. This includes supplying proof of high school diploma or GED. The Pre-Nursing program allows students to enroll in prerequisite courses.

- Nursing Assistant/Home Health Aide
- Medical Terminology
- First Aid/CPR for Allied Health

In order to be considered for admittance into the three core semester Practical Nursing Program, DCTC Pre-Nursing students must complete the following:

- Successfully complete a state approved Nursing Assistant training program.
- Pass the state approved national Nursing Aide Assessment Program (NNAAP) and listed on the MN Nursing Assistant Registry.
- All students, regardless of previous degrees, must take the ACCUPLACER test for reading comprehension, sentence skills, and arithmetic skills. (Student who have completed a college level writing course that is eligible for transfer may be exempt from the sentence skill portion of the test).

Students must score 80 in reading comprehension and 56 in arithmetic prior to admission into nursing core courses. If these scores are not achieved, developmental courses may be taken, and the ACCUPLACER test can be repeated until the required test scores are achieved.

- Successfully complete 11-12 nursing program required general education credits.

## EMPLOYMENT

*In Minnesota, about 18,187 licensed  
practical nurses work in this large occupation.*

*Major employers include:  
nursing and personal care agencies,  
hospitals, doctors' offices, home health care  
agencies, and temporary worker agencies.  
(iseek)*

**Student Outcomes**

1. Graduates of the Practical Nursing program will be prepared for employment as licensed practical nurses.
2. Graduates will be prepared to pass the NCLEX-PN.
3. Graduates will demonstrate the knowledge, skills, and behaviors essential for successful practical nursing.
4. See General Education outcome statement on page 84.

*Studies predict that nearly  
1,000,000 nurses will be  
needed by the year 2010.  
(iseek)*

**Practical Nursing – Diploma**

Courses		Cr
HEAL1101	Anatomy and Physiology	4
HEAL1150	Health Careers Math	1
HEAL1400	Nutrition and Diet Therapy	2
PNSG1350	Pharmacology	2
PNSG1000	Foundations of Nursing Practice I	2
PNSG1100	Foundations of Nursing Practice II	2
PNSG1400	Adult Health Nursing I	4
PNSG1500	Adult Health Nursing II	3
PNSG1530	Beginning Clinical	3
PNSG1540	Clinical Practice I	2
PNSG1560	Clinical Practice II	3
PNSG1570	Clinical Practice III	2
PNSG1580	Clinical Practice IV	3
PNSG1800	Family and Community Nursing	3
Total		36

**General Education**

The following courses are required:

COML1400	Introduction to Computers	3
ENGL1100	Writing and Research Skills	3
SPEE1020	Interpersonal Communication	3
PSYC1100	General Psychology	3
PSYC1200	Abnormal Psychology	3
PSYC1300	Child and Adolescent Psychology	3
PSYC1400	Adult and Geriatric Psychology	2
Total		20

**TOTAL Program Requirements 56**





Biomedical Equipment Technology 66

Concrete and Masonry 67

Electrical Construction & Maintenance 68

Electrical Lineworker 69

Nanoscience Technology 70

Welding Technology 72

# technical careers

# BIOMEDICAL EQUIPMENT TECHNOLOGY

Biomedical Equip. Technology A.A.S Degree .....69 credits  
Biomedical Equip. Technology Certificate .....26 credits

## Major Description

This program prepares individuals for employment as Biomedical Equipment Technicians (BMETs). Students will learn to maintain life support equipment found in hospitals, medical centers and research laboratories.

## Nature of Work

BMET's inspect, calibrate, maintain and repair diagnostic, monitoring, therapeutic and life-saving equipment. BMETs can find employment with hospitals, clinics, universities, equipment manufacturers and contract service providers. BMETs work closely with physicians, nurses, scientists, healthcare technicians and administrators to assure the safe and effective use of sophisticated electronic medical devices.

## Career Opportunities

Minnesota Department of Employment and Economic Development (MDEED) projects a 25 percent increase for medical equipment repairer positions per year in Minnesota from 2000 to 2010. MDEED projects good opportunities for electronic and electrical engineering technician positions available in Minnesota. The average annual salary was \$52,441 for electronic and electrical engineering technicians in Minnesota in the first quarter of 2005.

## Program Delivery

Students can begin general education courses any semester, however, the technical courses begin in the Fall semester only. BMET courses are offered evenings and weekends. See page 110 for information on advanced standing.

## Student Outcomes

1. Graduates of the program will be prepared for employment in the equipment repair field, specializing in medical equipment.
2. Students will be able to test the performance and operating characteristics of medical electronic/electro-mechanical equipment of moderate complexity to ensure compliance with established performance and safety standards.
3. Students will be able to document the results of equipment safety/performance evaluations.
4. Students will be able to diagnose problems and perform corrective repair work and/or calibration as required on medical electronic/electro-mechanical equipment of moderate complexity.
5. Students will be able to document actions required to correct equipment malfunctions.

## Biomedical Equip. Technology – A.A.S. Degree

Courses	Cr
BMET1112 DC Electricity	3
BMET1123 AC Electricity	3
BMET1110 Introduction to Biomedical Technology	3
BMET1116 Solid State Electronics and Lab	5
BMET1121 Administrative Functions	3
BMET1136 Managing Customer Satisfaction in the Health Care Environment	1
BMET1221 Instrumentation I	4
BMET1231 Instrumentation II	4
BMET1241 Mechanical Systems	3
BMET1530 Digital and Micro Processors	3
BMET2970 Biomedical Equipment Tech. Internship	1
HEAL1101 Anatomy and Physiology	4
HEAL1502 Medical Terminology	2
ISTC1010 Microcomputer Maintenance	3
ISTC1040 Network Systems I	3
ISTC2005 Network System II	3
ISTC2010 Network Systems III	3
ISTC2015 Network Systems IV	3
<b>Total</b>	<b>54</b>

## General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>15</b>
<b>TOTAL Program Requirements</b>	<b>69</b>

## Biomedical Equip. Technology – Certificate

This certificate is designed for those who have completed a degree in Electronics Technology.

Courses	Cr
BMET1110 Introduction to Biomedical Technology	3
BMET1121 Administrative Functions	3
BMET1221 Instrumentation I	4
BMET1231 Instrumentation II	4
BMET1241 Mechanical Systems	3
BMET2970 Biomedical Equipment Tech. Internship	2
HEAL1101 Anatomy and Physiology	4
HEAL1502 Medical Terminology	2
SMGT1250 Managing Customer Service	1
<b>Total</b>	<b>26</b>
<b>TOTAL Program Requirements</b>	<b>26</b>

## MEDIAN WAGE

*The average hourly wage for a medical equipment repair technician in the St. Paul/Minneapolis area is \$25.73/hr.*

*(MN Dept. of Employment and Economic Development)*

# CONCRETE AND MASONRY

Concrete and Masonry A.A.S. Degree .....67 credits  
Concrete and Masonry Diploma .....33 credits

## Major Description

The Concrete and Masonry program prepares individuals for careers such as a concrete mason, concrete finisher or block mason in both residential and commercial construction. Students will learn fundamental construction skills as well as study properties and testing of concrete, concrete repair, specialty concrete properties, concrete production facilities operation and concrete construction methods.

## Nature of Work

Cement masons, concrete finishers, and brick and block workers all work with concrete, one of the most common and durable materials used in construction. Once set, concrete – a mixture of Portland cement, sand, gravel, and water – becomes the foundation for everything from decorative patios and floors to huge dams or miles of roadways. Like many other construction trades workers, layoffs may occur during downturns in construction activity.

## Career Opportunities

Employment opportunities are excellent. Graduates may be employed by residential or commercial contractors as bricklayers or cement masons. After additional experiences, graduates may work in other related positions such as foreman, tile setter, and stonemason. Business ownership is also a possibility.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Student Outcomes

1. Graduates from the Concrete and Masonry program will be prepared for employment in the concrete masonry field.
2. Graduates will be able to use and operate related industry equipment.
3. Graduates will be able to diagnose and resolve problems in fresh and hard concrete.
4. Graduates will understand regulations and building codes as pertaining to residential/commercial practices.
5. See General Education outcome statement on page 84.

## Concrete and Masonry – A.A.S. Degree

Courses	Cr
CONC1600 Shop Theory	2
CONC1601 Shop I: Site Preparation for Construction	6
CONC1602 Shop II: Brick and Block Construction	4
CONC1604 Foundations, Concrete, & Safety for Masons	4
CONC1605 Math for Masons	2
CONC1606 Testing of Mortar and Concrete	3
CONC1610 Concrete Problems: Diagnosis, Prevention, & Resolution	2
CONC1613 Shop III: Adv. Brick & Block Construction	4
CONC1614 Shop IV: Integrated Concrete Systems	4
CONC1615 Blueprint Reading Estimating	2
ENTR1860 Business Plan Development	3
OFFC1240 Quick Books I	2
SMGT1000 Principles of Supervision	3
SMGT1028 Management Effectiveness	3
SMGT1033 Business Law and Ethics	3
<b>Total</b>	<b>47</b>

## General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>67</b>

## Concrete and Masonry – Diploma

Courses	Cr
CONC1600 Shop Theory	2
CONC1601 Shop I: Site Preparation for Construction	6
CONC1602 Shop II: Brick and Block Construction	4
CONC1604 Foundations, Concrete, & Safety for Masons	4
CONC1605 Math for Masons	2
CONC1606 Testing of Mortar and Concrete	3
CONC1610 Concrete Problems: Diagnosis, Prevention, & Resolution	2
CONC1613 Shop III: Adv. Brick & Block Construction	4
CONC1614 Shop IV: Integrated Concrete Systems	4
CONC1615 Blueprint Reading Estimating	2
<b>Total</b>	<b>33</b>
<b>TOTAL Program Requirements</b>	<b>33</b>

## DID YOU KNOW?

*Nearly half of all masons work for concrete contractors. They work on projects such as highways, bridges, shopping malls, factories, schools, and hospitals. Most self-employed masons specialize in small jobs, such as driveways, sidewalks, and patios. (iseek)*

## ELECTRICAL CONSTRUCTION & MAINTENANCE TECHNOLOGY

Electrical Construction & Maintenance Technology A.A.S. Degree .....83 credits  
 Electrical Construction & Maintenance Technology Diploma .....72 credits

### Major Description

This program is designed to give students hands-on-experience for entrance into numerous electrical construction, installation, operation and maintenance occupations. The program consists of technical courses in electrical/electronics theory, installation, maintenance and testing of electrical apparatus and wiring. Additional courses cover installation and testing of electrical/electronic control devices and the application of the National Electric Code.

### Nature of Work

Electricians need to be in good physical health, be able to lift, distinguish colors, work from ladders, enjoy working indoors and out, and be safety conscious.

### Career Opportunities

Graduates may be employed by electrical contractors, private companies/plants and manufacturers of electrical equipment. Other positions in the electrical field include inspectors, contractors, estimators and repair persons. Business ownership is also a possibility for graduates.

### Program Delivery

Students can begin this program Fall or Spring semester. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Student Outcomes

1. Graduates of this program will be prepared for apprenticeship in the electrical field.
2. Graduates will have knowledge of the National Electrical Code, enabling them to understand the application of the NEC to install electrical services legally and safely.
3. Graduates will have the ability to apply electrical/electronic theory to practical applications.
4. See General Education outcome statement on page 84.

### Electrical Construction and Maintenance Technology – A.A.S. Degree

Courses	Cr
ELEC1110 D. C. Electricity Theory and Lab	3
ELEC1120 A. C. Electricity Theory and Lab	3
ELEC1130 National Electrical Code I	3
ELEC1140 Blueprint Reading for Technicians	3
ELEC1210 Analog/ Digital Electronics Theory	2
ELEC1220 Analog/ Digital Electronics Lab	4
ELEC1230 Construction Skills & Intro to Wiring Theory	3
ELEC1240 Construction Skills & Intro to Wiring Lab	6
ELEC2110 Electrical Apparatus Theory	3
ELEC2120 Electrical Apparatus Lab	6
ELEC2131 Programmable Logic Controllers Theory	2
ELEC2141 Programmable Logic Controllers Lab	4
ELEC2210 National Electrical Code II	3
ELEC2220 Electrical/Electronic Controls & Systems Thry.	2
ELEC2230 Electrical/Electronic Controls & Systems Lab	4
ELEC2241 Industrial and Maintenance Wiring Theory and Lab	3
ELEC2251 Commercial Wiring Theory and Lab	3
ELEC2260 Heating, Ventilation, and Air Conditioning Wiring Theory and Lab	3
MATS1205 Math for Electricians	3
<b>Total</b>	<b>63</b>

### General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>83</b>



## ELECTRICAL LINeworker

Electrical Lineworker A.A.S. Degree .....60 credits  
 Electrical Lineworker Diploma .....43 credits

### Electrical Construction and Maintenance Technology – Diploma

Courses	Cr
ELEC1110 D. C. Electricity Theory and Lab	3
ELEC1120 A. C. Electricity Theory and Lab	3
ELEC1130 National Electrical Code I	3
ELEC1140 Blueprint Reading for Technicians	3
ELEC1210 Analog/ Digital Electronics Theory	2
ELEC1220 Analog/ Digital Electronics Lab	4
ELEC1230 Construction Skills & Intro to Wiring Theory	3
ELEC1240 Construction Skills & Intro to Wiring Lab	6
ELEC2110 Electrical Apparatus Theory	3
ELEC2120 Electrical Apparatus Lab	6
ELEC2131 Programmable Logic Controllers Theory	2
ELEC2141 Programmable Logic Controllers Lab	4
ELEC2210 National Electrical Code II	3
ELEC2220 Electrical/Electronic Controls & Systems Thry.	2
ELEC2230 Electrical/Electronic Controls & Systems Lab	4
ELEC2240 Adv. Construction Skills & Industrial Maintenance Tech	3
ELEC2250 Advanced Construction Skills & Industrial Maintenance Tech Lab	6
MATS1205 Math for Electricians	3
<b>Total</b>	<b>63</b>

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>72</b>



### Major Description

Student will prepare to join the work force as a safe and knowledgeable apprentice ready to serve the electrical power industry. Students are given extensive hands-on experience building power lines. Both overhead and underground techniques are presented and practiced. The instruction involves classroom and outdoor hands-on activities related to overhead and underground lines. Campus facilities for instruction include a large outdoor training field that features pole climbing, line construction, bucket-truck operations and the use of powerline construction trucks for erecting power lines. Related overhead line work and operation of underground equipment is also involved.

### Nature of Work

Electrical lineworkers spend most of their time outdoors building overhead power lines and/or laying underground cable. Skilled workers maintain these cables, which includes making proper connections and installing transformers and related equipment. The use and care of tools is an essential part of the worker's duties. Safety is of prime importance in this occupation. Electrical lineworkers must be able to lift 50 lbs. and perform strenuous physical duties. They must also respond creatively to business challenges, have strong communication skills and an attitude of success through teamwork.

### Career Opportunities

Employment opportunities are available in investor- or consumer-owned power companies, in municipal electric companies and with electrical contractors. Graduates usually enter the field as first- or second-step apprentices and qualify for rapid advancement. Job placement is excellent, especially if graduates are willing to relocate.

### Program Delivery

Students can begin this program in July only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Program Prerequisites

Introduction to Climbing (ELLW0098), a one-credit course, should be taken prior to entry in the Electrical Lineworker major, unless the student has instructor approval for previous climbing experience.

### Student Outcomes

1. Graduates of this program will be prepared for employment as apprentice electrical lineworkers.

- Students will know safety measures for the job.
- Students will know how to communicate clearly and comprehend directions on the job.
- See General Education outcome statement on page 84.

### Electrical Lineworker – A.A.S. Degree

Courses	Cr
ELLW1110 Distribution I	4
ELLW1120 Utility Equipment and Tools	2
ELLW1130 Basic Electricity	2
ELLW1140 Distribution IIA	4
ELLW1141 Distribution IIB	4
ELLW1150 Construction Planning and Practices	2
ELLW1160 Transformers I	4
ELLW1162 Transformers II	4
ELLW1170 Line Construction and Maintenance A	4
ELLW1172 Line Construction and Maintenance B	4
ELLW1180 Underground Cable and Fault Locating	2
ELLW1185 Electrical Industry Search Skills	1
HEAL1030 Emergency Care Technical Trades	3
<b>Total</b>	<b>40</b>

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>60</b>

### Electrical Lineworker – Diploma

Courses	Cr
ELLW1110 Distribution I	4
ELLW1120 Utility Equipment and Tools	2
ELLW1130 Basic Electricity	2
ELLW1140 Distribution IIA	4
ELLW1141 Distribution IIB	4
ELLW1150 Construction Planning and Practices	2
ELLW1160 Transformers I	4
ELLW1162 Transformers II	4
ELLW1170 Line Construction and Maintenance A	4
ELLW1172 Line Construction and Maintenance B	4
ELLW1180 Underground Cable and Fault Locating	2
ELLW1185 Electrical Industry Search Skills	1
HEAL1030 Emergency Care Technical Trades	3
<b>Total</b>	<b>40</b>

### General Education

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL1102 Technical Written Communications	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>43</b>

## NANOSCIENCE TECHNOLOGY

Nanoscience Technology A.A.S. Degree .....72 credits

### Major Description

This major prepares students for employment in Minnesota's nanobiotech nanomaterials and nanoelectronics careers. The program is offered through a partnership with the University of Minnesota. Students will take their first three semesters at DCTC and the final semester at the U of M in its Nanofabrication Center, Materials Characterization Lab, and Nanoparticles/Biotechnology Labs.

### Nature of Work

The ultra-small scale of nanoscience allows individuals working in the field to apply basic sciences, chemistry, physics and biology to the molecular and atomic world and enter the job market in a variety of areas. Nanoscience technicians work in research, production, marketing, and business environments where nano scale is a part of the industry.

### Career Opportunities

"The market for nanotechnology in the United States is rapidly growing and projected to reach \$1 trillion by 2012. Growth over this period is expected to produce between 800,000 and two million new technical jobs." Graduates of this program will be prepared for employment in a multitude of industries with positions in product development, testing, research and development supported and manufacturing design. The need for nanoscience technologists is strong in Minnesota, with over 50 companies using or applying nanoscience technology.

### Program Delivery

Courses are offered during the day. Technical courses currently begin in the Fall semester only, however students can begin general education courses any semester. The fourth semester is delivered at the University of Minnesota. See page 110 for information on advanced standing.

## DID YOU KNOW?

*Mike Roco, Director of the National Nanotechnology Initiative, forecasts that over 800,000 nanoscience technologists will be needed in the US over the next eight years.*

*These technologies will work in all areas of industry, including materials, consumer products, electronics, medical devices, and biotechnology.*



**After DCTC**

DCTC has transfer agreements for this program with the following colleges: the University of Minnesota– Minneapolis, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

**Student Outcomes**

1. Students will have the knowledge to explain basic scientific principles related to the behavior of matter at the atomic level in chemical, biological, and mechanical systems.
2. Students will demonstrate proficiency in operating state-of-the-art nanofabrication equipment such as scanning electron microscopes and atomic force microscopes.
3. Students will know how to apply the concepts of the nanotechnology related to advanced electronic and the latest nano-level manufacturing technologies.
4. Students will demonstrate the skills necessary to function as a technician in the fields of materials science, electronics and biotechnology applying nanoscience knowledge.
5. Students will demonstrate skills of teamwork, communication, data presentation and understanding.
6. See General Education outcome statement on page 84.

**Admission Requirements**

Applicants to this program must take the Computerized Placement Test (CPT) and achieve a score above the minimum standards in math and reading to be eligible for acceptance into several first semester courses.

**Nanoscience Technology – A.A.S. Degree**

Courses	Cr
NANO1100 Fundamentals of Nanoscience I	3
NANO1200 Fundamentals of Nanoscience II	3
NANO1210 Computer Simulation	1
NANO2101 Nanoelectronics	3
NANO2111 Nanobiotechnology/Agriculture	3
NANO2121 Nanomaterials	3
NANO2131 Manufacturing Quality Assurance	2
NANO2140 Interdisciplinary Lab	3
NANO2151 Career Planning and Industry Tours	1
NANO2970 Industry Internship & Observation	2
<b>Total</b>	<b>24</b>

**Capstone at the University of Minnesota**

MT 3111 Elements of Microelectronic Manufacturing	3
MT 3112 Elements of Micro & Nano Manuf. Laboratory	1
MT 3121 Thin Films Deposition	3
MT 3131 Introduction to Materials Characterization	3
MT 3132 Materials Characterization Laboratory	1
MT 3141 Principles & Applications of Bionanotechnology	3
MT 3142 Nanoparticles and Biotechnology Laboratory	1
<b>Total</b>	<b>15</b>

**General Education**

BIOL1500 General Biology	4
COML1400 Intro to Computers	3
ENGL1100 Writing and Research Skills	3
CHEM1500 Introduction to Chemistry	4
MATS1251 Statistics	4
MATS1300 College Algebra	4
PHYS1100 College Physics I	4
PHYS1200 College Physics II	4
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>33</b>
<b>TOTAL Program Requirements</b>	<b>72</b>



# WELDING TECHNOLOGY

Welding Technology Diploma .....32 credits

## Major Description

The Welding Technology major is designed to provide training in many areas of the welding trades. Subjects covered include electric arc, wire feed, heliarc welding, oxyacetylene welding and various flame cutting processes. Students work with a wide variety of metals, including steel, stainless steel, aluminum, and cast iron. Shop fabrication, math, and blueprint reading are also covered. Welders already in the field can update their knowledge by registering for specific major courses.

## Nature of Work

The welder will interpret prints and lay out, fit, and weld components to assemble products. Knowledge of the physical properties of metal, effects of heat, allowance of machining, weld shrinkage and welding techniques is essential. Materials welded will vary from sheet metal to heavy plate, carbon steel to aluminum. Welding processes used are oxyacetylene, arc, wire feed, heliarc, and fluxcore arc welding.

## Career Opportunities

There is a need for workers with the ability to fabricate/weld metal products from blueprints. Jobs are available as welders' helpers, welders, supervisors, welding technicians, sales representatives and shop owners. Most industries use welding in one form or another. Industry examples include heavy construction, heavy fabrication (such as tanks and machinery), transportation units, packaging, material conveyance and electronics, as well as precision sheet metal and repair.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University and Cardinal Stritch. See Career Services for more information.

## Student Outcomes

1. Graduates completing the program will be prepared for entry level employment in the welding industry and related areas.
2. Students will develop skills in welding processes: oxyacetylene, wirefeed, heliarc, and fluxcore arc welding.
3. See General Education outcome statement on page 84.

## Welding Technology – Diploma

Courses	Cr
WELD1100 Welding Safety and Theory	2
WELD1102 Shielded Metal Arc Welding I	4
WELD1104 Semi-Automatic Arc Welding I	3
WELD1106 Gas Tungsten Arc Welding I	3
WELD1108 Blueprint Reading	3
WELD1110 Layout	3
WELD1112 Welding Fabrication/Qualification	3
WELD1114 Shielded Metal Arc Welding II	4
WELD1116 Semi-Automatic Arc Welding II	2
WELD1118 Gas Tungsten Arc Welding II	2
Total	29

## General Education

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL1102 Technical Written Communications	3
SPEE1020 Interpersonal Communication	3
Total	3
<b>TOTAL Program Requirements</b>	<b>32</b>





Auto Body Collision Technology 74

---

Automotive Technician 76

---

GM Automotive Service  
Educational Program (ASEP) 78

---

Heavy Construction Equip. Technology 79

---

Heavy Duty Truck Technology 80

---

Railroad Conductor Technology 82

---

# transportation

## AUTO BODY COLLISION TECHNOLOGY

Auto Body Collision Technology A.A.S. Degree	.72 credits
Auto Body Collision Technology Diploma	.64 credits
Body Technician Certificate	.28 credits
Paint Preparation Certificate	.21 credits
Estimator Certificate	.14 credits

### Major Description

Auto body collision technicians are the skilled professionals who repair damaged vehicles. Repairing today's technologically advanced cars requires knowledge and training in metals, plastics, structural repairs and other areas that require the use of specialized equipment. The instruction will involve classroom theory, demonstrations, and repair of customers' cars. Making actual repairs on vehicles plays a major role in skill development. Students will train on school-supplied shop equipment that uses the latest technology. Technicians already in the field can update their knowledge by registering for specific courses. Auto body work is an exciting profession because each damaged vehicle presents a new and different challenge.

**Automotive Restoration - Skill Development:** DCTC offers a restoration course designed for hobbyists looking to improve their skills in the restoration of automotive sheet metal. The class includes welding, rust repair procedures, sheet metal straightening techniques and plastic filler usage. Students are required to supply their own tools and projects.

### Nature of Work

Auto body collision technicians repair or replace body panels, structural panels, glass, trim and mechanical components. Understanding body alignment, welding, plastic repair, painting and estimating is critical to the profession.

### Career Opportunities

Skilled graduates find challenging careers as body, frame, or paint technicians, adjusters, appraisers and managers in automobile dealerships, independent body shops, specialty shops and insurance companies. Students have the opportunity to gain I-Car Gold Class Points, along with the regular curriculum to gain additional employability qualifications.

### Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Student Outcomes

1. Students completing the program will be prepared for employment in the auto body repair field.
2. Graduates will be able to accurately diagnose and repair vehicle damage to all body-damaged vehicles.
3. Graduates will be provided actual hands-on experience by working on customer vehicles.
4. See General Education outcome statement on page 84.

### Auto Body Collision Technology – A.A.S. Degree

Courses	Cr
ABCT1111 Collision Repair Welding I	2
ABCT1120 Sheet Metal Repair	5
ABCT1130 Refinishing Preparation I	2
ABCT1142 Glass, Trim and Hardware	4
ABCT1150 Reconditioning and Detailing	2
ABCT1212 Collision Repair Welding II	2
ABCT1214 Refinishing Preparation II	3
ABCT1216 Refinishing Application	5
ABCT1230 Auto Body Plastic Repair	2
ABCT2100 Body Electrical	2
ABCT2102 Shop Management and Estimating	2
ABCT2106 Collision Damage Repair/Replacement	6
ABCT2108 Unibody/Frame/Wheel Alignment I	4
ABCT2212 Unibody/Frame/Wheel Alignment II	6
ABCT2230 Body Mechanical and Air Conditioning	3
ABCT2970 Autobody Internship	2
<b>Total</b>	<b>52</b>

### General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>72</b>

## JOB OUTLOOK

*Employment of automotive body and related repairers is expected to grow about as fast as average through the year 2016, and job opportunities are projected to be excellent due to a growing number of retirements in this occupation.*

*(US Dept. of Labor)*

**Auto Body Collision Technology – Diploma**

Courses	Cr
ABCT1111 Collision Repair Welding I	2
ABCT1120 Sheet Metal Repair	5
ABCT1130 Refinishing Preparation I	2
ABCT1142 Glass, Trim and Hardware	4
ABCT1150 Reconditioning and Detailing	2
ABCT1212 Collision Repair Welding II	2
ABCT1214 Refinishing Preparation II	3
ABCT1216 Refinishing Application	5
ABCT1230 Auto Body Plastic Repair	2
ABCT2100 Body Electrical	2
ABCT2102 Shop Management and Estimating	2
ABCT2106 Collision Damage Repair/Replacement	6
ABCT2108 Unibody/Frame/Wheel Alignment I	4
ABCT2212 Unibody/Frame/Wheel Alignment II	6
ABCT2230 Body Mechanical and Air Conditioning	3
ABCT2970 Autobody Internship	5
<b>Total</b>	<b>55</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>64</b>

**Body Technician – Certificate**

Courses	Cr
ABCT1111 Collision Repair Welding I	2
ABCT1120 Sheet Metal Repair	5
ABCT1142 Glass, Trim and Hardware	4
ABCT1212 Collision Repair Welding II	2
ABCT2100 Body Electrical	2
ABCT2106 Collision Damage Repair/Replacement	6
ABCT2108 Unibody/Frame/Wheel Alignment I	4
ABCT2230 Body Mechanical and Air Conditioning	3
<b>Total</b>	<b>28</b>
<b>TOTAL Program Requirements</b>	<b>28</b>

**Paint Preparation – Certificate**

Courses	Cr
ABCT1130 Refinishing Preparation I	2
ABCT1142 Glass, Trim and Hardware	4
ABCT1150 Reconditioning and Detailing	2
ABCT1214 Refinishing Preparation II	3
ABCT1216 Refinishing Application	5
ABCT1230 Auto Body Plastic Repair	2
<b>Total</b>	<b>18</b>

**General Education**

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1102 Technical Written Communication	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>21</b>

**Estimator – Certificate**

Courses	Cr
ABCT1120 Sheet Metal Repair	5
ABCT2102 Shop Management and Estimating	2
ABCT2108 Unibody/Frame/Wheel Alignment I	4
<b>Total</b>	<b>11</b>

**General Education**

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1102 Technical Written Communication	3
SPEE1020 Interpersonal Communication	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>14</b>



# AUTOMOTIVE TECHNICIAN

Automotive Technician A.A.S. Degree .....	72 credits
Automotive Technician Diploma .....	65 credits
Driveability Certificate .....	20 credits
Drivetrain/Transmission Certificate .....	20 credits
Engines/General Automotive Certificate .....	20 credits
Brakes, Suspension and Electrical .....	17 credits

## Major Description

The automotive technician is one of today's most skilled professionals. Students will learn to maintain and repair the engine, chassis, drive train, front-wheel drive, fuel injection and modern electrical and emission systems. The instruction will involve classroom theory, demonstrations, computer applications and repair of automobiles. Making repairs on vehicles plays a vital role in skill development. Technicians already in the field can update their knowledge by registering for individual automotive technical courses.

## Nature of Work

Automotive technicians use their analytical ability to quickly and accurately diagnose mechanical problems including engine and transmission, fuel injection, suspension, and electrical systems. Technicians use a variety of current, state-of-the-art equipment, hand and power tools and aligning equipment to return vehicles safely to the road.

## Career Opportunities

Automotive technicians find jobs at dealerships and independent and specialty shops. A graduate can find a challenging career as a technician, service manager, sales representative, factory representative, service writer or shop owner.

## Program Delivery

Students can begin this program in the Fall or Spring semester. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Minnesota State University Moorhead, Cardinal Stritch, Southwest Minnesota State University, the University of Minnesota– Crookston and Saint Mary's University. See Career Services for more information.

## JOB OUTLOOK

*Jobs for automotive service technicians  
and mechanics are projected to grow  
faster than average over the next decade.*

*(US Dept. of Labor)*

## Student Outcomes

1. Graduates of the Automotive Technician program will be prepared for employment in the automotive technician field.
2. Students will accurately diagnose mechanical problems.
3. Students will have the knowledge to repair vehicles through engine overhaul, drive train overhaul, suspension overhaul, driveability service and electrical trouble-shooting.
4. See General Education outcome statement on page 84.

## Automotive Technician – A.A.S. Degree

Courses	Cr
AUTM2000 Basic Automotive Electrical/Battery	3
AUTM2010 Suspension, Steering, & Alignment Systems	3
AUTM2020 Brakes	4
AUTM2031 Differential and Four-Wheel Drive	3
AUTM2120 Engine Overhaul, Theory, Diagnosis, & Repair	7
AUTM2136 Heating, Ventilation, and Air Conditioning	3
AUTM2140 General Automotive	3
AUTM2200 Manual Transmissions, Transaxle & Clutches	4
AUTM2210 Basic Automatic Transmission/Transaxle	4
AUTM2220 Advanced Automatic Transmission/Transaxle	5
AUTM2300 Driveability and Emissions	4
AUTM2310 Body and Engine Electrical Systems	4
AUTM2320 Automotive Computers and Fuel Injection	5
Total	52

## General Education

See the General Education requirements on page 85.

Total	20
<b>TOTAL Program Requirements</b>	<b>72</b>

## Automotive Technician – Diploma

Courses	Cr
AUTM2000 Basic Automotive Electrical/Battery	3
AUTM2010 Suspension, Steering, & Alignment Systems	4
AUTM2020 Brakes	4
AUTM2031 Differential and Four-Wheel Drive	3
AUTM2120 Engine Overhaul, Theory, Diagnosis, & Repair	8
AUTM2136 Heating, Ventilation, and Air Conditioning	3
AUTM2140 General Automotive	3
AUTM2200 Manual Transmissions, Transaxle & Clutches	4
AUTM2210 Basic Automatic Transmission/Transaxle	5
AUTM2220 Advanced Automatic Transmission/Transaxle	5
AUTM2300 Driveability and Emissions	5
AUTM2310 Body and Engine Electrical Systems	4
AUTM2320 Automotive Computers and Fuel Injection	5
Total	56

## General Education

See the General Education requirements on page 85.

Total	9
<b>TOTAL Program Requirements</b>	<b>65</b>

**Driveability – Certificate**

Courses	Cr
AUTM2000 Basic Automotive Electrical/Battery	3
AUTM2300 Driveability and Emissions	5
AUTM2310 Body and Engine Electrical Systems	4
AUTM2320 Automotive Computers and Fuel Injection	5
Total	17

**General Education**

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL1102 Technical Written Communications	3
SPEE1020 Interpersonal Communication	3
Total	3

**TOTAL Program Requirements 20**

**Engines/General Automotive – Certificate**

Courses	Cr
AUTM2000 Basic Automotive Electrical/Battery	3
AUTM2120 Engine Overhaul, Theory, Diagnosis, & Repair	8
AUTM2136 Heating, Ventilation, and Air Conditioning	3
AUTM2140 General Automotive	3
Total	17

**General Education**

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL1102 Technical Written Communications	3
SPEE1020 Interpersonal Communication	3
Total	3

**TOTAL Program Requirements 20**

**Drivetrain/Transmission – Certificate**

Courses	Cr
AUTM2000 Basic Automotive Electrical/Battery	3
AUTM2200 Manual Transmissions, Transaxle & Clutches	4
AUTM2210 Basic Automatic Transmission/Transaxle	5
AUTM2220 Advanced Automatic Transmission/Transaxle	5
Total	17

**General Education**

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL1102 Technical Written Communications	3
SPEE1020 Interpersonal Communication	3
Total	3

**TOTAL Program Requirements 20**

**Brakes, Suspension and Electrical – Certificate**

Courses	Cr
AUTM2000 Basic Automotive Electrical/Battery	3
AUTM2010 Suspension, Steering, & Alignment Systems	4
AUTM2020 Brakes	4
AUTM2031 Differential and Four-Wheel Drive	3
Total	14

**General Education**

Students may select one course from the following:

COML1400 Introduction to Computers	3
ENGL1100 Writing and Research Skills	3
ENGL1102 Technical Written Communications	3
SPEE1020 Interpersonal Communication	3
Total	3

**TOTAL Program Requirements 17**



# GM AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM

Automotive Service A.A.S. Degree .....87 credits

## Major Description

DCTC's partnership with General Motors allows students to become highly-specialized service technicians for General Motors dealers and A/C Delco shops. The Automotive Service Educational Program (ASEP) makes specialized knowledge of General Motors products a valuable asset. The two-year major strengthens academic skills while focusing on technical automotive training.

Through ASEP, students gain paid work experience at a sponsoring General Motors dealership and A/C Delco shops, allowing them to apply classroom learning to real world situations. Half of the student's time is spent at DCTC, and the remainder is spent with a sponsoring General Motors dealer or A/C Delco affiliated shop.

ASEP labs are equipped with the latest General Motors technology including vehicles, components, training aids and technical information. Through ASEP, General Motors and A/C Delco can rely on a staff of trained technicians whose knowledge of the company's computer-oriented product will keep pace with tomorrow's technology.

## Nature of Work

ASEP prepares students for employment in GM dealerships and A/C Delco affiliated shops. The automotive technician diagnoses, repairs and services GM vehicles. Technicians use up-to-date testing equipment and procedures necessary for the new technology in today's vehicles.

## Career Opportunities

Employment opportunities are plentiful for service technicians, advisors, and managers.

## Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. The semester is split between the DCTC's main campus and the sponsoring General Motors dealership or and A/C Delco affiliated shops. See page 110 for information on advanced standing.

## After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

## Admissions Requirements

**ACCUPLACER Test:** Applicants to this program must take the ACCUPLACER Test unless they have a prior two- or four-year degree. Acceptance into ASEP will be based on a score of 50% or greater on both the reading comprehension and sentence

skills portion of the ACCUPLACER. Applicants not meeting these scores must take the appropriate developmental courses first and then retest before being accepted into the program.

Applicants to this program must also take a written Mechanical Reasoning Test to be eligible for acceptance. Applicants who achieve qualifying scores on the ACCUPLACER and Mechanical Reasoning Tests will then be given a Sponsor Form by the ASEP faculty. The GM dealer and A/C Delco shops who has agreed to sponsor the student must complete this form. After the form is completed it should be returned to the ASEP faculty.

## Student Outcomes

1. Students completing the two-year Associate in Applied Science degree program will be prepared for immediate employment in the automotive service industry.
2. Graduates will be able to repair and maintain General Motors vehicles.
3. Students will gain experience by providing automotive service work during the internship component.
4. See General Education outcome statement on page 84.

## Automotive Service – A.A.S. Degree

Courses	Cr
ASEP1101 Automotive Fundamentals	3
ASEP1102 Electrical and Fuel Systems	3
ASEP1103 Driveability	3
ASEP1104 Body Electronics	3
ASEP1105 Heating and Air Conditioning	3
ASEP1108 Brake Systems	3
ASEP1201 Dealer Work Experience I	8
ASEP1202 Dealer Work Experience II	8
ASEP1204 Dealer Work Experience IV	8
ASEP1205 Dealer Work Experience V	8
ASEP1212 Advanced Diagnostics/New Model Update	1
ASEP2107 Steering and Suspension	2
ASEP2110 Automatic Transmissions	3
ASEP2111 Engines	3
ASEP2209 Driveline and Four-Wheel Drive	3
ASEP2303 Dealer Work Experience III	5
<b>Total</b>	<b>67</b>

## General Education

These classes are recommended to fulfill the General Education requirements for an Associate in Applied Science degree:

ENGL1100 Writing and Research Skills	3
COML1400 Introduction to Computers	3
SPEE1020 Interpersonal Communication	3
INTS1000 College Success Strategies	2
BIOL1110 Environmental Science	3
SOCY1010 Marriage and Family	3
PSYC1100 General Psychology	3
<b>Total</b>	<b>20</b>

**TOTAL Program Requirements 87**



# HEAVY CONSTRUCTION EQUIPMENT TECHNOLOGY

## Heavy Construction

Equipment Technology A.A.S. Degree .....72 credits

## Heavy Construction

Equipment Mechanic Diploma .....64 credits

## Heavy Construction

Equipment Maintenance Certificate .....28 credits

### Major Description

The construction industry needs well-trained, mechanically minded, hard-working mechanics. All coursework is designed to prepare students to work with heavy equipment dealers and contractors. The instruction will involve classroom theory, mock-up demonstrations and repair of customers' heavy equipment. Making repairs on equipment plays a vital role in skill development. Mechanics already in the field can update their knowledge by registering for specific major courses.

### Nature of Work

Heavy construction equipment mechanics troubleshoot, rebuild, and repair loaders, scrapers, motor graders, excavators, backhoes, crawlers and other construction equipment. Mechanics use precision tools and power equipment to make repairs and to do periodic maintenance checks on hydraulic, hydrostatic, engine, electrical, mechanical and on-board computing systems. Construction mechanics work at field sites or in shops. High-tech equipment and advanced systems require the skills of well-paid, highly educated technical experts.

### Career Opportunities

Heavy equipment dealers and earth-moving contractors hire the majority of graduates. Jobs are also available with mining and logging companies and service departments related to the construction industry.

### Program Delivery

Students begin this program in the Fall semester. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with: Bemidji State University, Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

### Student Outcomes

1. Graduates will be prepared for employment in the heavy construction equipment field.
2. Students will build skills in heavy equipment repair, safety and communication, as well as teamwork.
3. Students will be familiar with a wide variety of construction equipment.
4. See General Education outcome statement on page 84.

## Heavy Construction Equipment Technology – A.A.S. Degree

Completion of this degree will also satisfy the requirements for the Advanced Caterpillar Technology A.A.S. degree, which prepares students for a challenging career with a focus on the Caterpillar product line. Ziegler/Caterpillar of Minnesota/Iowa has formed a partnership with DCTC to offer this degree.

Courses	Cr
HCEM1101 General Shop Mechanics - Introduction	2
HCEM1110 Welding and Flame Cutting	2
HCEM1132 Heavy Duty Electrical	3
HCEM1140 Diesel Engine Overhaul I	4
HCEM1160 Specialized Lab I	3
HCEM1234 Heavy Duty Electronics	3
HCEM1246 Diesel Engine Overhaul II	3
HCEM1250 Brakes	2
HCEM1256 Diesel Engine Tune-up	3
HCEM1261 Specialized Lab II-A.A.S.	2
HCEM2115 Transmissions	4
HCEM2135 Hydraulics I	3
HCEM2145 Hydrostatic Systems	3
HCEM2176 Specialized Lab III-A.A.S.	2
HCEM2225 Track Drive Systems	3
HCEM2238 Hydraulics II	3
HCEM2255 Steering Systems	3
HCEM2265 Differentials	2
HCEM2280 Climate Control	2
<b>Total</b>	<b>52</b>

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>72</b>



## Heavy Construction Equipment Mechanic – Diploma

Courses	Cr
HCEM1101 General Shop Mechanics - Introduction	2
HCEM1110 Welding and Flame Cutting	2
HCEM1132 Heavy Duty Electrical	3
HCEM1140 Diesel Engine Overhaul I	4
HCEM1160 Specialized Lab I	3
HCEM1234 Heavy Duty Electronics	3
HCEM1246 Diesel Engine Overhaul II	3
HCEM1250 Brakes	2
HCEM1256 Diesel Engine Tune-up	3
HCEM1260 Specialized Lab II	3
HCEM2115 Transmissions	4
HCEM2135 Hydraulics I	3
HCEM2145 Hydrostatic Systems	3
HCEM2175 Specialized Lab III	3
HCEM2225 Track Drive Systems	3
HCEM2238 Hydraulics II	3
HCEM2255 Steering Systems	3
HCEM2265 Differentials	2
<b>Total</b>	<b>52</b>

### Technical Electives

Students may select their elective from the following courses:

HCEM2279 Specialized Lab IV	1-3
HCEM2280 Climate Control	2
<b>Total</b>	<b>3</b>

### General Education

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>64</b>

## Heavy Construction Equipment Maintenance – Certificate

Courses	Cr
HCEM1101 General Shop Mechanics - Introduction	2
HCEM1110 Welding and Flame Cutting	2
HCEM1132 Heavy Duty Electrical	3
HCEM1140 Diesel Engine Overhaul I	4
HCEM1160 Specialized Lab I	3
HCEM1234 Heavy Duty Electronics	3
HCEM1246 Diesel Engine Overhaul II	3
HCEM1250 Brakes	2
HCEM1256 Diesel Engine Tune-up	3
HCEM1260 Specialized Lab II	3
<b>Total</b>	<b>28</b>
<b>TOTAL Program Requirements</b>	<b>28</b>

## HEAVY DUTY TRUCK TECHNOLOGY

Heavy Duty Truck Technology A.A.S. Degree	.....72 credits
Heavy Duty Truck Technology Diploma	.....64 credits
Truck Fleet Maintenance Certificate	.....31 credits

### Major Description

Students in will learn all aspects of heavy duty truck repair and maintenance. The program focuses on large trucks, typically class 7 and 8. Some of the areas included are electrical systems, steering and alignment, and air and foundation brakes. Students will perform diesel engine troubleshooting, overhauls and tune-ups on both mechanical and electronic engines. Clutch, transmission, drive axle repair and overhaul will be taught along with welding instruction and preventive maintenance. The instruction will include classroom theory, shop demonstrations, and hands-on skill development. Much of the shop work is performed on vehicles in operating condition.

### Nature of Work

Heavy duty truck technicians diagnose, troubleshoot and repair truck malfunctions to minimize time removed from service. Preventive maintenance is a major responsibility of the entry-level mechanic. The mechanic inspects the truck visually to determine the need for repairs and provides routine tests and maintenance. The heavy duty truck technician must have a thorough knowledge of truck components and be competent in safety inspections, tune-ups and troubleshooting.

### Career Opportunities

Employment opportunities for graduates are available with truck fleet companies, dealerships and truck repair shops. The employment outlook remains bright for graduates whose skills can prevent costly vehicle down time and keep company rigs and drivers on the road.

### Program Delivery

Students can begin this program in the Fall semester only. Courses are offered during the day. A full-time start is preferred. See page 110 for information on advanced standing.

### After DCTC

DCTC has transfer agreements for this program with the following colleges: Bemidji State University, Minnesota State University Moorhead, Southwest Minnesota State University and Saint Mary's University. See Career Services for more information.

*Job opportunities for diesel mechanics are expected to be very good for those who complete formal training programs. (US Dept. of Labor)*

**Student Outcomes**

1. Graduates of this program will be prepared for employment in the heavy duty truck technology field.
2. Students will have hands-on training to simulate the real world environment.
3. Students will be familiar with the most current heavy duty truck related technology.
4. See General Education outcome statement on page 84.

**Heavy Duty Truck Technology – A.A.S. Degree**

Courses	Cr
HDTT1100 Truck Technology Fundamentals	4
HDTT1103 Air Brake Systems	6
HDTT1106 Welding Procedures	2
HDTT1109 Fluid Power Systems	2
HDTT1212 Preventive Maintenance	4
HDTT1215 Suspensions and Steering Systems	4
HDTT1218 Electrical Systems	4
HDTT1222 Truck A/C	2
HDTT2101 Drive Train I	6
HDTT2104 Drive Train II	4
HDTT2107 Diesel Fundamentals	3
HDTT2110 Diesel Fuel Systems	1
HDTT2213 Diesel Engine Fundamentals	4
HDTT2216 Diesel Electronics	3
HDTT2970 Internship or HDTT2222 Diesel Engine Lab	3
<b>Total</b>	<b>52</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>20</b>
<b>TOTAL Program Requirements</b>	<b>72</b>

**Heavy Duty Truck Technology – Diploma**

Courses	Cr
HDTT1100 Truck Technology Fundamentals	4
HDTT1103 Air Brake Systems	6
HDTT1106 Welding Procedures	2
HDTT1109 Fluid Power Systems	2
HDTT1212 Preventive Maintenance	4
HDTT1215 Suspensions and Steering Systems	4
HDTT1218 Electrical Systems	4
HDTT1222 Truck A/C	2
HDTT2101 Drive Train I	6
HDTT2104 Drive Train II	4
HDTT2107 Diesel Fundamentals	3
HDTT2110 Diesel Fuel Systems	1
HDTT2213 Diesel Engine Fundamentals	4
HDTT2216 Diesel Electronics	3
HDTT2222 Diesel Engine Lab or HDTT2970 Internship	6
<b>Total</b>	<b>55</b>

**General Education**

See the General Education requirements on page 85.

<b>Total</b>	<b>9</b>
<b>TOTAL Program Requirements</b>	<b>64</b>

**Truck Fleet Maintenance – Certificate**

Courses	Cr
HDTT1100 Truck Technology Fundamentals	4
HDTT1103 Air Brake Systems	6
HDTT1106 Welding Procedures	2
HDTT1109 Fluid Power Systems	2
HDTT1212 Preventive Maintenance	4
HDTT1215 Suspensions and Steering Systems	4
HDTT1218 Electrical Systems	4
HDTT1222 Truck A/C	2
<b>Total</b>	<b>28</b>

**General Education**

The following course is required:

COML1400 Introduction to Computers	3
<b>Total</b>	<b>3</b>
<b>TOTAL Program Requirements</b>	<b>31</b>

## HEAVY DUTY TRUCK TECHNOLOGY

*A career in diesel engine repair can offer high wages  
(\$19.69/hr. average in Minnesota) and the challenge of skilled repair work. (US Dept. of Labor)*

*Major employers include: Local and long distance trucking companies,  
local government motor pools, automotive and truck repair shops,  
motor vehicle parts and supply dealers, and automotive rental companies. (iseek)*

# RAILROAD CONDUCTOR TECHNOLOGY

Railroad Conductor Technology Certificate .....16 credits

## Major Description

The railways are critical to our nation's livelihood - transporting goods and materials Americans buy and sell across the country. You have a chance to be a part of this exciting industry as a railway conductor. At present, many railway conductors are retiring or approaching retirement, resulting in an excellent job outlook for those interested in seeking a position with a railroad. By enrolling in the conductor certificate program at Dakota County Technical College, you will be putting yourself on the fast track to employment in the industry.

## Nature of Work

Railroad conductors carry out specific instructions detailing a train's route and movements. They handle the switching of cars, signal crew members for movement of the engine or train, provide flag protection and relay signals to trains in emergency situations. Conductors will entrain and detrain moving or stationary equipment while train is performing industrial, station, or yard switching. They also fill out forms including train orders and switch lists. Conductors work irregular hours including holidays, weekends, days and nights for periods of time up to 12 hours. They must be constantly alert to changing conditions and be able to take safe and responsible action.

## Career Opportunities

DCTC has formed partnerships with Canadian Pacific Railway, Union Pacific Railroad and many other regional and short lines to develop a curriculum to best prepare graduates for employment. Students will complete a one-week orientation and six weeks of classroom and field exercises.

In addition to the training, students will need to meet the physical requirements established by the railroad to be hired.

## Program Delivery

The Railroad Conductor program is 15 weeks long and has five to six starts per year. The program includes seven weeks of instructional training and field exercises on campus and an eight week off-campus internship where students are qualified to seek employment with the railroads. Classes meet Monday-Friday, from 7 a.m. to 3 p.m.

## Admissions Requirements or Prerequisites

In addition to the admissions requirements applicants to this program must comply with the following requirements:

- Minimum age of 18
- H.S. diploma or GED
- Criminal background check
- No felonies
- No DUIs within two years, only one within 5 years
- Medical Exam
- Pass color blindness test

- Vision and hearing acuity
- Approval by physician to perform on the job
- Pass drug test
- U.S. citizen or social security number
- Pass fitness test

## Industry Partners

Twin Cities and Western Railroad, Union Pacific, Red River Valley and Western Railroad, Canadian Pacific Railway, Canadian National, Progressive Rail Inc., Minnesota Commercial Railway, Chicago Southshore and South Bend Railroad, Northern Plains Railroad, and Northern Lines Railway.

## Student Outcomes

1. Graduates of this program will have the ability to properly perform physical tasks required for operating the train.
2. Students will become familiar with interpretation and execution of proper signaling.
3. Students will have knowledge of handling switching and other duties.
4. Graduates of this program will carry out specific instructions relating to the operation, route, and movement of trains.

## Railroad Conductor Technology – Certificate

Courses		Cr
RRCC1110	Orientation	1
RRCC1120	Introduction to Conductor Service	4
RRCC1130	General Code of Operating Rules	4
RRCC1140	Mechanical Operations	2
RRCC1150	Conductor Duties	2
RRCC1160	Utilization of RR Equip. & Safety Standards	2
RRCC2970	Railroad Conductor Internship	1
Total		16
<b>TOTAL Program Requirements</b>		<b>16</b>





General Education	84
MN Transfer Curriculum	86
DCTC Defined Requirement	88
Developmental Education	88

# general education

# GENERAL EDUCATION

## Philosophy of General Education

Dakota County Technical College incorporates General Education into its curriculum because it firmly believes that higher education involves breadth as well as depth of study and because General Education also achieves an important goal of the college's mission. This goal states: This education will empower individuals to obtain and retain employment, enhance their opportunities for career advancement, and furnish a supportive environment in which they can develop the knowledge, skills, and attitudes necessary to succeed in a global economy.

## General Education Outcome Statement

General Education is a requirement of all programs of 45 or more semester credits in length and are an integral part of the formal technical or professional preparation of students. This "general" education provides the kind of intellectual concepts and common knowledge that is expected of an educated person.

## Delivery of General Education Courses

### Traditional Course Offerings:

DCTC offers a variety of transferable general education courses. Please refer to the DCTC schedule or the DCTC web site at [www.dctc.edu](http://www.dctc.edu) for further details.

### Online Course Offerings:

DCTC offers transferable general education courses online. Please refer to the DCTC schedule or the DCTC web site at [www.dctc.edu](http://www.dctc.edu) for further details.

### Flextime Lab:

DCTC offers self-motivated students the opportunity to take courses through the Flextime Lab in the Instructional Technology Center. Currently, students may take COML 1400 Introduction to Computers in the Flextime Lab. Please refer to the DCTC schedule for further details.

### Weekend College Course Offerings:

Weekend College courses are compressed and offered over several weekends. The majority of three-credit general education courses are offered in three to eight weekend segments. For further information on Weekend College, see the DCTC web site at [www.dctc.edu](http://www.dctc.edu).

## Requirements for an A.S. Degree

For students pursuing the Associate in Science degree, there is a minimum of 30 semester credits of General Education courses (along with the program's technical credits) they must complete. See your advisor or program pages in this catalog to confirm specific requirements.

### Required Courses

#### Computer Literacy

COML1400	Introduction to Computers	3
----------	---------------------------	---

#### Communication

ENGL1100	Writing and Research Skills	3
----------	-----------------------------	---

#### Human Diversity

SPEE1020	Interpersonal Communication	3
----------	-----------------------------	---

#### Mathematics

MATS	any Math course numbered over 1000 (except 1205)	3-4
------	---	-----

#### Science

BIOL	any Biology course	3-4
CHEM	any Chemistry course	4
PHYS	any Physics course	4
Total		15-17

### Elective Courses

Students must complete a minimum of 13-15 elective credits from at least two of the following Goal Areas (see page 86):

Goal 2	Critical Thinking	
Goal 5	History and the Social and Behavioral Sciences	
Goal 6	Humanities and Fine Arts	
Goal 8	Global Perspective	
Goal 9	Ethical and Civic Responsibility	
Goal 10	People and the Environment	
Total		13-15

**TOTAL General Education Requirement 30**

**Requirements for an A.A.S. Degree**

For students pursuing the Associate in Applied Science degree, there is a minimum of 20 semester credits of General Education courses (along with the program's technical credits) they must complete. Some programs may require more than 20 credits. See program page for details.

**Required Courses****Computer Literacy**

COML1400	Introduction to Computers	3
----------	---------------------------	---

**Communication**

ENGL1100	Writing and Research Skills	3
----------	-----------------------------	---

**Human Diversity**

SPEE1020	Interpersonal Communication	3
----------	-----------------------------	---

**Math/Science** (choose one course numbered over 1000):

BIOL	any Biology course	3-4
CHEM	any Chemistry course	4
PHYS	any Physics course	4
MATS	any Math course (except 1205)	3-4
<b>Total</b>		<b>12-13</b>

**Elective Courses**

Students must complete a minimum of 7-8 credits. Courses listed above that are not taken as required courses may be taken as General Education electives. Additionally, the courses listed below may be taken as General Education electives. See the college Web site [www.dctc.edu](http://www.dctc.edu) or the course descriptions in this catalog for a complete listing of courses.

BIOL	any Biology course	
COMM	any Communications course	
ECON	any Economics course	
ENGL	any English course 1200 and above	
HIST	any History course	
HUMA	any Humanities course	
INTS	1000, 1150, 1200	
PHIL	any Philosophy course	
POLS	any Political Science course	
PSYC	any Psychology course	
SOCY	any Sociology course	
SPEE	any Speech course	
SPAN	1100, 1200	
<b>Total</b>		<b>7-8</b>
<b>TOTAL General Education Requirement</b>		<b>20</b>

**Requirements for a Diploma**

For students enrolled in most diploma programs over 45 credits in length, there are 9 credits of General Education courses you must complete on the following basis:

**Required Courses****Computer Literacy**

COML1400	Introduction to Computers	3
----------	---------------------------	---

**Communication**

ENGL1100	Writing and Research Skills*	3
----------	------------------------------	---

**Human Diversity**

SPEE1020	Interpersonal Communication	3
----------	-----------------------------	---

<b>Total</b>		<b>9</b>
--------------	--	----------

<b>TOTAL General Education Requirement</b>		<b>9</b>
--	--	----------

**Please note:**

Practical Nursing program requires 20 semester credits of general education courses. See page 51 for details.

- \* The following diploma programs may substitute ENGL1102 for ENGL1100 (confirm with your advisor before taking)

Accounting  
 Applied Visual Arts  
 Auto Body Collision Technology  
 Automotive Technician  
 Electrical Construction  
 Electrical Lineworker  
 Electronic Publishing  
 Graphic Design Technology  
 Heavy Construction Equipment Mechanic  
 Heavy Duty Truck Technology  
 IT & Telecommunications Convergence  
 Landscape/Horticulture  
 Marketing Design Specialist  
 Property Management

# MINNESOTA TRANSFER CURRICULUM

The Minnesota Transfer Curriculum (MnTC) is the format in which general education is accomplished within the public two- and four-year colleges and universities in Minnesota. The MnTC defines a common curriculum format for general education. Completion of a defined MnTC course(s) at one institution enables a student to receive credit for lower-division general education/ MnTC coursework upon admission to other MnSCU colleges and universities and the University of Minnesota.

Dakota County Technical College provides general education in the MnTC format and accepts MnTC courses from other MnSCU colleges and universities and from the University of Minnesota campuses.

Students who complete the entire general education transfer curriculum have shown competency in 10 goal areas. Currently, DCTC offers courses that meet all of the 10 goal areas. Students transferring these courses to other colleges transfer on a course-by-course basis. Courses approved for the Minnesota Transfer Curriculum are identified in DCTC publications by the MnTC goal number(s).

## Minnesota Transfer Curriculum Completion

Completion of the Minnesota Transfer Curriculum (MnTC) may require additional courses beyond those required for the A.S., A.A.S., or diploma. If the intent is to transfer to another college, it is advisable to contact the transfer college for course selection recommendations and transfer admission process information. If a transfer college has not yet been identified, then use the Minnesota Transfer Curriculum courses listed on the guide for course selection.

Successful completion of at least 40 credits within the accepted 10 goal areas, as outlined below, constitutes completion of the Minnesota Transfer Curriculum at Dakota County Technical College. The goal area completion requirement is listed in *italic text* after the goal area descriptive paragraph.

## Communication (Goal 1)

To develop writers and speakers who use the English language effectively and who read, write, speak and listen critically. As a base, all students should complete introductory communication requirements early in their collegiate studies. *MnTC completion requires three courses, one must be ENGL1100, and one SPEE.*

ENGL1100	Writing and Research Skills	3 cr
ENGL1200	Technical Writing	3 cr
SPEE1015	Fundamentals of Public Speaking	3 cr
SPEE1042	Small Group Communication	3 cr
SPEE1050	Nonverbal Communication	2 cr

## Critical Thinking (Goal 2)

Students will be able to gather and use factual information to make logical assumptions, interpretations or connections. Critical thinking will be taught and used throughout the general education and technical curriculum to develop students' awareness of their own thinking and problem-solving procedures. Note: This goal can be met by completing Goal 1 and completing the technical program.

PHIL1200	Critical Thinking	3 cr
----------	-------------------	------

## Natural Sciences (Goal 3)

To improve students' understanding of natural science principles and of the methods of scientific inquiry, i.e., the ways in which scientists investigate natural science phenomena. By studying the problems that engage today's scientists, students learn to appreciate the importance of science in their lives and to understand the value of a scientific perspective. *MnTC Completion requires two courses of two different disciplines; at least one must be a lab course.*

### Lab Sciences

BIOL1400	Ecology Field Studies	4 cr
BIOL1500	General Biology	4 cr
BIOL2000	Anatomy & Physiology I	4 cr
BIOL2010	Anatomy & Physiology II	4 cr
CHEM1500	Introduction to Chemistry	4 cr
PHYS1100	College Physics I	4 cr
PHYS1200	College Physics II	4 cr

### Non-Lab Sciences

BIOL1110	Environmental Science	3 cr
BIOL1120	Minnesota Nature Study	3 cr
BIOL1200	Biology and Society	3 cr





**Mathematical/Logical Reasoning (Goal 4)**

To increase students' knowledge about mathematical and logical modes of thinking. This will enable students to appreciate the breadth of applications of mathematics, evaluate arguments, and detect fallacious reasoning. *MnTC completion requires one course that is at least three credits.*

MATS1200	Concepts of Mathematics	3 cr
MATS1250	Principles of Statistical Analysis	4 cr
MATS1300	College Algebra	4 cr
MATS1350	Math for Liberal Arts	4 cr

**History and the Social and Behavioral Sciences (Goal 5)**

To increase students' knowledge of how historians and social and behavioral scientists discover, describe, and explain the behaviors and interactions among individuals, groups, institutions, events, and ideas. Such knowledge will better equip students to understand themselves and the roles they play in addressing the issues facing humanity. *MnTC completion requires three courses from at least two disciplines.*

ECON1100	Principles of Microeconomics	3 cr
POLS1000	Introduction to Political Science	3 cr
PSYC1100	General Psychology	3 cr
PSYC1200	Abnormal Psychology	3 cr
PSYC1300	Child/Adolescent Psychology	3 cr
PSYC1400	Adult/Geriatric Psychology	2 cr
PSYC1600	Human Sexuality	2 cr
SOCY1010	Marriage and Family	3 cr
SOCY1110	Introduction to Sociology	3 cr
SOCY1150	Race and Gender	2 cr
SOCY1210	Social Issues in a Changing World	3 cr
SOCY1250	Juvenile Delinquency	2 cr
SOCY1300	Introduction to Anthropology	3 cr
HIST1100	History of United States to 1877	4 cr
HIST1200	History of US from 1877 to Present	4 cr
HIST1300	World History	4 cr
HIST1400	American Environmental History	3 cr

**Humanities and Fine Arts (Goal 6)**

To expand students' knowledge of the human condition and human cultures, especially in relation to behavior, ideas and values expressed in works of human imagination and thought. Students will engage in critical analysis, form aesthetic judgments, and develop an appreciation of the arts and humanities. *MnTC completion requires two courses from two different disciplines.*

ARTS1300	History of Architecture	4 cr
ENGL1300	Intro to Creative Writing	3 cr
ENGL1400	American Short Story	3 cr
ENGL1550	Intro to Literature	3 cr
ENGL1600	Film Studies	3 cr
ENGL1650	Greek Mythology	4 cr

ENGL1700	Selected Works in Literature	3 cr
ENGL1750	Fantasy/Science Fiction Literature	3 cr
ENGL1900	Creative Writing Workshop	3 cr
HUMA1100	Introduction to the Humanities	4 cr
ENGL1800	Mystery & Detective Literature	3 cr

**Human Diversity (Goal 7)**

To increase students' understanding of individual and group differences (e.g., race, gender, class) and their knowledge of the traditions and values of various groups in the United States. Students should be able to evaluate the United States' historical and contemporary responses to group differences. *MnTC completion requires one course.*

SOCY1150	Race and Gender	2 cr
SPEE1020	Interpersonal Communication	3 cr
SPEE1030	Intercultural Communication	3 cr

**Global Perspective (Goal 8)**

To increase students' understanding of the growing interdependence of nations and peoples and develop their ability to apply a comparative perspective to cross-cultural social, economic and political experiences. *MnTC completion requires one course.*

SOCY1210	Social Issues in a Changing World	3 cr
SPEE1030	Intercultural Communication	3 cr
HIST1300	World History	4 cr

**Ethical and Civic Responsibility (Goal 9)**

To develop students' capacity to identify, discuss, and reflect upon the ethical dimensions of political, social, and personal life and to understand the ways in which they can exercise responsible and productive citizenship. *MnTC completion requires one course.*

PHIL1100	Ethics	3 cr
----------	--------	------

**People and the Environment (Goal 10)**

To improve students' understanding of today's complex environmental challenges. Students will examine the inter-relatedness of human society and the natural environment. Knowledge of both bio-physical principles and socio-cultural systems is the foundation for integrative and critical thinking about environmental issues. *MnTC completion requires one course.*

BIOL1110	Environmental Science	3 cr
BIOL1200	Biology and Society	3 cr
HIST1400	American Environmental History	3 cr
SOCY1300	Introduction to Anthropology	3 cr

## DCTC DEFINED REQUIREMENT

### Computer Literacy

Students will be able to explain the underlying concepts of computer technology and use software applications as productivity tools. \*\* This emphasis area is not part of the Minnesota Transfer Curriculum.

COML1400 Introduction to Computers 3 cr

## DEVELOPMENTAL EDUCATION

- General Education at the developmental level is designed to prepare students for transfer-level coursework and to enhance success within technical training programs.
- Developmental courses often help students improve test scores in order to qualify for entry into general education or technical coursework.
- Developmental course numbers begin with a zero. They cannot be used to satisfy graduation requirements.

### Communications

ENGL0118	Basic English and Writing Review	3 cr
ENGL0130	English Essentials	3 cr
ENGL0114	College Reading I	3 cr
ENGL0215	College Reading II	3 cr
ENGL0123	Medical Reading and Study Skills	4 cr

### English as a Second Language

ENGL0100	ESL Skills I	4 cr
ENGL0103	ESL Grammar and Spelling I	4 cr
ENGL0106	ESL Reading I	4 cr
ENGL0113	ESL Oral & Written Communication I	4 cr
ENGL0200	ESL Skills II	4 cr
ENGL0203	ESL Grammar and Spelling II	4 cr
ENGL0206	ESL Reading II	4 cr
ENGL0213	ESL Oral & Written Communication II	4 cr

### Mathematical/Logic Reasoning

MATS0200	Basic Mathematics	3 cr
MATS0305	Introduction to Algebra	4 cr
MATS0400	Introduction to Geometry	1 cr
MATS0500	Introduction to Trigonometry	1 cr
MATS0600	Intermediate Algebra	4 cr

## ONLINE LEARNING

*DCTC offers more than 25 general education courses online each semester, and most of them are a part of the Minnesota Transfer Curriculum.*

*Visit <http://dctc.edu/students/academics/courses/online.cfm> to view a list of online courses offered during the term of your choice.*



About the College	90
Admissions	91
Registration	94
Financial Aid	95
Tuition and Fees	100
Student Services	102
Academic Support	104
Transfer	105
Student Life	107
Policies	108
Outreach	115
Administration/Faculty	116

# general information

## ABOUT THE COLLEGE

Dakota County Technical College (DCTC) prepares students for the challenges and opportunities of the 21st Century. DCTC is a publicly supported technical college founded in 1970. The college is an affirmative action equal-opportunity educator and employer, and a member of the Minnesota State Colleges and Universities system.

DCTC offers students a wide variety of educational programs and services including:

- over 125 degree, diploma, and certificate programs
- a Customized Training Center that serves as a link to business and industry
- an active Foundation that raises money to assist students with tuition, child care, and personal needs
- the premier General Motors Training Center for the Upper Midwest
- a state-of-the-art Decision Driving Range
- a TRIO/Student Support Services program that enhances student success for first-generation college students

### Location

DCTC is located in Rosemount, Minnesota in a 500,000-square-foot facility situated on 200 acres of land. Close to the Rosemount campus are the wildlife of the Minnesota Zoo, the shopping and entertainment of the Mall of America, and the business and commerce of downtown St. Paul and Minneapolis.

Off-site campus locations include a higher-education site in Apple Valley (in partnership with Saint Mary's University of Minnesota and Inver Hills Community College) and the IT Training Center in Eagan. The main campus is also the site of the 40-acre Minnesota Vehicle Safety Training and Research Center.



### Students

The college boasts an enrollment of more than 9,500 students per year — approximately 4,582 students in credit-based diploma and degree majors, and 5,070 students served through the Customized Training division.

DCTC's student body is approximately 50% female and 50% male, with the median age being about 30 years. The majority of DCTC students work at least part-time.

### Accreditation

Dakota County Technical College is fully accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.

DCTC also holds occupationally-specific accreditation in a number of its programs. The Practical Nursing major is accredited by the Minnesota Board of Nursing. The Interior Design major has a professional level accreditation by the Council for Interior Design Accreditation (CIDA). The Landscape Horticulture major is nationally accredited by the Associated Landscape Contractors of America (ALCA). The Dental Assistant major is accredited by the Commission on Dental Accreditation of the American Dental Association. The Medical Assistant major is accredited by the Council of Accreditation and Unit Recognition (CAUR) of the American Association of Medical Assistants' Endowment. The Medical Coding Program is approved by the Council on American Health Information Management Association (AHIMA). The Auto Technician, Auto Body Collision Technology, and ASEP programs are approved by the National Automotive Technicians Educator Foundation, Inc. (NATEF).

DCTC meets established standards and is approved for the instruction of veterans, orphans of war veterans, state and federal rehabilitation students, and members of the workforce needing training or retraining. DCTC meets the definition of an institution of higher education, and students are entitled to participate in federal financial assistance programs.

### Vision Statement

Dakota County Technical College (DCTC) will be recognized as a leader in providing quality technical and general education needed for employment in an ever-changing work environment.

### Mission Statement

The mission of Dakota County Technical College is to provide collegiate-level education for employment that will empower individuals to enhance their opportunities for career advancement and success in a global economy.

### Statement of Philosophy

DCTC is a public two-year institution of higher education dedicated to the philosophy that there is dignity in all work.

and value in individual growth and learning. It is the philosophy of the college that all of its students should have access to quality education that prepares them for rewarding careers. The college values its role in contributing to economic development by providing a knowledgeable and skilled workforce. The college views itself as a full partner in the higher education community and recognizes its contribution to lifelong learning.

### Values

The values of DCTC are:

- Excellence—Focusing on quality in programs and services
- Diversity—Demonstrating acceptance, openness, and fairness to all individuals
- Innovation—Encouraging and rewarding new ideas, proactive thinking, and use of evolving technology
- Respect—Fostering trust, courtesy, and open communication
- Integrity—Exhibiting ethical and honest behavior
- Accountability—Maintaining effectiveness and efficiency in programs and services
- Collaboration—Working cooperatively in a supportive environment

### Customized Training

Customized Training creates and provides technologically-advanced, professional training to both large and small businesses. Cost-effective, customer-oriented services, including training needs assessment, customized courses and credit classes, instructional packages, and flexible scheduling are provided by high-quality, experienced trainers in professional, modern training facilities. Dakota County Technical College has been committed to the delivery of customized training to area businesses for more than 15 years.



## ADMISSIONS

### Admissions Requirements

All students pursuing a degree, diploma, or certificate must complete the following admissions requirements:

#### 1. Attend a Tuesday Campus Admission Visit\*

(12:45-2:30 p.m.) for program tours and admissions information or schedule an appointment with an admissions counselor by calling 651-423-8302 or request a waiver of this requirement.

The visit gives those who are exploring options and those beginning the application process the opportunity to gather information on the college, the admissions requirements, the career programs and tour the classrooms, labs and shops. No reservations are required.

\*For those unable to attend during the day, evening campus visits are offered from 5:45-6:45 p.m. (with optional tours afterwards.) For a schedule of evening campus visits, visit <http://dctc.edu/campusvisit> or call 651-423-8302.

#### 2. Submit a DCTC Application.

An application is available in the back of this catalog, from a high school counselor, at DCTC, or online at <http://dctc.edu/onlineapplication>. Upon completion, the application can be submitted online, dropped off in person or mailed to:

Office of Admissions  
Dakota County Technical College  
1300 145th Street East  
Rosemount, MN 55068

#### 3. Pay a \$20 non-refundable application fee.

Online payment is accepted with a credit card. Visit: <http://dctc.edu/admissions>.

#### 4. Complete an immunization form.

(Available at Campus Visit, from Admissions, or online at <http://dctc.edu/admissions>). Applicants to DCTC are required by law to supply this information and make it available for review by the Minnesota Department of Health.

#### 5. Complete the ACCUPLACER Test.

The ACCUPLACER is an assessment of reading comprehension, sentence skills and arithmetic skills. Students entering some programs will also need an elementary algebra assessment. The results provide counselors with information needed for course placement.

Testing is available on a walk-in basis Mon-Fri. Tuesday evening testing is available by appointment only. Call 651-423-8020 or visit <http://dctc.edu/accuplacer> for the testing schedule. Students who have completed an associate's degree (A.A.S. or A.S.), bachelor's degree, or graduate degree may be exempt from the test but need to complete an Exemption Form and provide official transcripts before an exemption decision is made.

6. **Be a high school graduate, possess a GED, or show ability to benefit by achieving qualifying scores on the ACCUPLACER Test.**
7. **Submit transcripts.**  
Those persons graduating from high school within the last five years must submit high school transcripts. GED recipients must provide a copy of the GED certificate. Official college transcripts are required from students with previous degrees or when transferring credits. College transcripts must be official and sent directly from previous college to DCTC or submitted in a sealed envelope.

In addition, applicants to specific programs must meet published, program-specific admissions requirements.

### Undeclared Major

Those students not pursuing a degree, diploma, or certificate do not need to complete the formal admission process if they do not intend to:

1. Receive veterans' benefits
2. Transfer credits toward a degree, diploma, or certificate
3. Receive financial aid

### Selection of Major

It is recommended that students declare a major upon enrollment at the college. Majors may be changed, depending upon factors such as student interest and success. Before completing an application to attend DCTC, new students may meet with a counselor to determine their majors.

### Re-admission

All students in continuous programs who have not been enrolled in the college for one or more terms must comply with the admission requirements which are in effect when returning to school. Contact Admissions for more information.

### Senior Citizens

Minnesota residents 62 or older may register for credit courses on a space-available basis within one week before courses begin. If you take the course for credit, tuition is \$20 per credit (tuition is waived if you choose to audit the course). The following fees are applicable to all senior citizens; technology, MSCSA, health, parking, and non-refundable application fee.

### International Students

Dakota County Technical College seeks a culturally diverse campus and welcomes applications from students from other countries. DCTC staff will evaluate each application and determine whether to issue an I-20 (Certificate of Eligibility for Non-Immigrant Student Status) form after receiving the following documentation:

1. Completed International Application form with non-refundable \$20 application fee
2. TOEFL exam with a minimum score of 500 (173 on computer-based exam)
3. Copy of passport or Visa
4. Official transcript (translated in English)
5. Affidavit of support
6. Immunization form

Students are sent written notification of acceptance and an I-20 after all documents are received and reviewed.

### Admission Deadline

June 1 for Fall semester

November 1 for Spring semester

Students are required to pay the non-resident tuition rate.

**Insurance Plan for International Students** - All international students and visiting scholars engaged in educational activities are required to purchase the Minnesota State Colleges and Universities international student accident and illness insurance plan, unless they can provide written certification that their government or sponsoring agency accepts full responsibility for any medical claims that might occur.

**Resident Tuition Cultural Scholarship** - International students may take the one-credit course Sharing Your Culture, INTS 1040. A description can be found in the back of this catalog. Upon successful completion of this course, students are eligible for a Resident Tuition Cultural Scholarship for subsequent semesters at DCTC.

### Residency

Residency status will be as determined by Minnesota Statute 135A.031, subd.2. Students who demonstrate a domicile in Minnesota may petition the college for reclassification as a resident for the purpose of paying in-state tuition. A complete explanation of state residency requirements is available in the Student Services office.



### Post-Secondary Enrollment Options

The Post-secondary Enrollment Options (PSEO) program was established as a means to “promote rigorous educational pursuits and provide a wider variety of options for students.” (Minnesota Statute 124D.09) Dakota County Technical College provides opportunities for students to participate in the PSEO program and has established the following criteria/requirements for enrollment into the program.

To be eligible, applicants must be in the upper 1/3 of their junior class or the upper 1/2 of their senior class. PSEO applicants from alternative learning centers and/or home schools must achieve qualifying scores on the Computerized Placement Test (40% Reading Comprehension, 40% Sentence Skills, 30% Arithmetic). If a PSEO applicant does not meet the class rank requirements, they must achieve qualifying scores on the Computerized Placement Test and meet with an admissions counselor. The PSEO Admissions Committee will review scores and high school transcript for a final decision.

All admissions requirements must be completed by June 1 for Fall Semester or December 1 for Spring Semester and include the following:

- Attend a Tuesday Campus Admission Visit (12:45-2:30), or schedule an appointment with a DCTC admissions counselor.
- Submit the PSEO application for admission with proper signatures.
- Complete the Computerized Placement Test.
- Complete an Immunization Record Form.
- Submit a High School transcript documenting class rank.
- Submit the PSEO Program Notice of Student Registration form signed by school counselor.

All PSEO students shall be enrolled on the basis of space and/or other appropriate defined local standards and procedures and are expected to perform to the standards to which the institution's non-PSEO students are held accountable. Students are not charged for tuition, books or lab fees but are responsible for paying for non-consumable tools and equipment. PSEO students must maintain a 2.0 college G.P.A. Developmental courses (numbered below 1000) may not be taken under the PSEO program. Students with an Individual Education Plan (IEP) are not eligible for support services under PSEO without a prior arrangement between DCTC and the student's school district. Any questions regarding support services please call the Disability Services office at 651-423-8469.

The books PSEO students receive for their college courses belong to the college. These books must be returned to the Student Services office at the end of each semester.

To discuss PSEO options at DCTC, call Karianne Schmidt at 651-423-8298 or Brian Espy at 651-423-8537.

### G.E.D.

Adult Basic Education is offered at more than 20 locations in Dakota County and Southern Washington County. Free classes for adults include assistance with reading, writing, spelling, math, English as a Second Language, and family learning. Participants may work toward a G.E.D. or a diploma. For more information contact ABE Learning at 651-707-4125, 651-683-8585, or 651-469-7116.

### Tours

Individuals or groups wishing to schedule a tour of DCTC may do so by calling the Student Services office at 651-423-8302. DCTC encourages tours during the months of September through April when most classes are in session.

### Admission Policy

It is the policy of DCTC that every person be given equal opportunity to be admitted without regard to race, color, creed, religion, sex, age, national origin, marital status, public assistance status, sexual orientation, disability, or membership or activity in a local commission as defined by law.

The college will provide clear, accessible information to potential students regarding requirements as well as the appropriate level of academic preparation necessary for success in specific programs of study. Students who are able to benefit from educational offerings will be admitted. Admission to the college does not guarantee admission to a specific program; academic, fiscal, and facilities considerations may limit admission to a particular program. DCTC is committed to open admissions with the following requirements:

- A person should have a high school diploma or GED certificate.
- A person who has neither a high school diploma nor a GED certificate may be admitted if, at the discretion of the college, that person demonstrates potential for being a successful college student.
- Admission to the college does not guarantee admission to college-level courses. Some programs have program-specific admissions requirements and many courses have prerequisites.



Applicants are expected to be able to document admission eligibility; those who are unable to present requested documentation of educational preparation shall be evaluated on an individual basis.

Current high school students may be admitted on the basis of readiness. The college provides opportunities for students to participate in the Post-Secondary Enrollment Options (PSEO) Program. All PSEO students will be enrolled on the basis of space and are expected to perform to the standards to which the college's non-PSEO students are held accountable.

International students will be considered for admission if their scholastic preparation is judged to be equivalent to the admission requirements of the institution to which they are applying. International students who are not native speakers of English shall also be required to demonstrate proficiency in English on a standardized test selected by the admitting institution.

Students on academic suspension or expulsion from a college or university in the Minnesota State Colleges and Universities system shall not be admitted to DCTC during the term of that suspension or expulsion unless they demonstrate potential for being successful in the particular program to which they apply.

Students who change majors must meet admissions requirements at the time they request the change.

All students enrolled in a continuous program who have been away from the college for one or more semesters must comply with the admissions and program requirements in effect when they return to the college.

Dakota County Technical College has established an appeals process for individuals who are denied admission to the college or to a specific program on the basis of published requirements.



## REGISTRATION

### Registration Process – Current Students

Students who are currently enrolled, admitted to the college and have declared a major are eligible for priority registration. Priority registration is completed using the online registration system.

Each student should meet with their advisor to determine their class schedule for the term. After this is complete, the advisor will give the student a registration access code to be utilized during the online registration process. Each student will also need their student ID number (as listed on student ID card) and PIN (Personal Identification Number). Students that have forgotten their PIN should see the registration staff in the Student Services office to have the PIN reset.

Students should make payment arrangements with the Tuition or Financial Aid office or pay their tuition online at <http://dctc.edu/students/tuition/index.cfm>. Those interested in setting up a payment plan should contact the Tuition office.

### Registration Process – New Students

After new students are admitted to the College, they will be invited to attend an course advising/registration session. During this session students will be given helpful information that will assist them in successfully navigating through their college registration experience. Following the presentation, students will meet with an advisor to select courses for the term. Students will then register online with the guidance of the registration staff.

Students should make payment arrangements with the Tuition or Financial Aid office or pay their tuition online at <http://dctc.edu/students/tuition/index.cfm>. Those interested in setting up a payment plan should contact the Tuition office.

### Mail or Fax Registration

Mail and fax registration requests will be accepted with payment during the open registration period as published in the course schedule. Requests received prior to this date will be held in the order in which they were received and will be processed after open registration begins. Requests received without payment may be returned unprocessed. Payment can be made with cash, check, VISA or MasterCard, or online at <http://dctc.edu/students/tuition/index.cfm>.

### Change of Registration (Drop, Add, Withdrawal)

Students are responsible for their registration, drops, adds and withdrawals from courses. Students are also responsible for the tuition and fees assessed as a result of their registration-related transactions.

Courses can be dropped and added online and in person within the published periods. Students may withdraw from a full term course the second through the 15th week of the course. Student enrolled in courses that end before the 15th



week of the term must withdraw before 80% of the course is completed. A grade of "W" will be recorded on their permanent record for courses from which a student withdraws. Students who fail to comply with this regulation will be assigned a grade of "F" for the course. Please note that all drop, add and withdrawal requests must be officially made, using the online registration system or in hard copy form in the Registration office. Non-attendance does not constitute a drop or withdrawal.

Students who withdraw from ALL of their courses may be eligible for a refund based on the college refund schedule. This schedule is available online and in the student handbook.

### Grades

Grade reports are available using the online registration system on Dakota County Technical College's Web site. Visit [webproc.mnscu.edu/eservices/login.html?campusid=211](http://webproc.mnscu.edu/eservices/login.html?campusid=211). Grade reports are only mailed upon written request. Please see the records staff in the Student Services office for details.

### Student Records and Transcripts

DCTC's Registrar's office is the official recorder of student academic progress and records.

All request for transcript must be made in writing and received via fax, mail or in person. A written request from the student must include the following information.

1. Student's first and last name.
2. Social security or student ID number.
3. Approximate dates of attendance.
4. Daytime phone number.
5. Student's signature and date.
6. Complete address to which the transcript should be mailed.

A fee of \$5 will be charged for each transcript requested. Payment is accepted via cash or check.

## WEB LINK

*For more information  
on registration, visit:*

<http://dctc.edu/students/registrationrecords.cfm>

## FINANCIAL AID

### What is Student Financial Aid?

Student financial aid is monetary assistance made available to students who qualify. Approximately 80% of the students attending Dakota County Technical College (DCTC) receive some type of financial aid. Financial aid is awarded on the basis of need. Need is determined by a family's financial strength. Items such as income, number in the family, other family members in college, ownership of property or a business, and a number of other criteria are taken into consideration. Strict congressionally mandated formulas are used to determine need to ensure fair and equal treatment of everyone applying for financial aid. At DCTC there are four kinds of financial aid: scholarships, grants, work-study, and loans. Scholarships and grants are funds that do not have to be paid back. Work-study funds are earned by students working part-time on campus or at a non-profit organization off campus. Loans are funds that the student borrows from lending institutions and repays with interest. The purpose of the financial aid programs is to provide financial assistance to students who, without such aid, would find it difficult to attend college.

### How Do I Apply for Financial Aid?

Several types of financial aid are available to students at DCTC, but students must apply in order to receive aid. To apply, all students must fill out the Free Application for Federal Student Aid (FAFSA), complete the admissions process, and register for classes at DCTC. The FAFSA is available on the Web at <http://fafsa.ed.gov>. Some financial aid programs require an additional application. Students who want to be considered for a DCTC or DCTC Foundation scholarship must complete a separate scholarship application. DCTC staff are available to assist with the application process. Additional information about the application process is available at <http://dctc.edu>.

The financial aid year includes fall semester, spring semester and summer session. Students must re-apply each year they attend college. The FAFSA determines eligibility for the following programs:

**Federal Pell Grant:** This is a Federal grant, which does not have to be paid back.

**Minnesota State Grant Program:** This is a state grant that does not have to be paid back. It is available to Minnesota residents only.

**Federal Supplemental Educational Opportunity Grant (FSEOG):** This is a federal grant that does not have to be paid back.

**Work-Study:** This program allows students to work while they go to school. Positions are available on campus and at certain non-profit agencies.

**Stafford Student Loan:** This loan allows students to borrow money for education related expenses. The Stafford Loan

must be paid back. DCTC strongly encourages students to limit the amount they borrow. As with other types of financial aid, all students must complete the FAFSA before applying for the Stafford Loan. All students must complete a DCTC loan counseling session before applying for a student loan. This can be done on the Web by using the loan links at <http://dctc.edu/students/resources/financialAid/loans>. Additionally, students must complete an exit counseling session before leaving DCTC.

**SELF, PLUS, and Alternative Loans:** These are additional loans for students and parents of students. Information on these loan programs is available in the Office of Scholarships and Financial Aid.

**Child Care Assistance:** A limited amount of funds are available on a first-come, first-serve basis through the Post-Secondary Child Care Grant Program for students who have children needing child care.

#### **Financial Aid Deferral Policy**

The Office of Scholarships and Financial Aid can defer tuition payments when the student meets one of the following conditions:

1. The student's financial aid file is complete prior to the date of registration.
2. An agency authorization is on file in the Office of Scholarships and Financial Aid and Tuition office.
3. The college has received valid results from the FAFSA process, however all necessary paperwork to process the award is not on file in the Office of Scholarships and Financial Aid.
4. Students who are not eligible for grant aid as a result of completing the FAFSA may apply for a loan. The Office of Scholarships and Financial Aid may grant a deferment of payment to allow the student time for the loan to arrive.

#### **Rights of a Financial Aid Recipient**

1. Students have the right to know that their financial aid awards are based on evaluated financial need.
2. Student may receive their aid as long as their responsibilities are met and they are eligible.
3. Students have the right to accept, reject, or seek adjustments to their financial aid awards.
4. Students have the right to be informed of how much aid they will receive and when the payments will be disbursed.
5. Students who have been declared ineligible because of failure to maintain satisfactory academic progress have a right to know how eligibility can be restored.
6. Students have the right to data privacy.

7. Students have the opportunity to review their financial aid record.
8. Students have the right to seek financial aid advising.

#### **Responsibilities of a Financial Aid Recipient**

1. Students must re-apply for financial assistance each academic year.
2. Students must provide accurate and factual information to the Office of Scholarships and Financial Aid.
3. Students must be accepted and formally enrolled in an approved degree, diploma, or certificate program major to receive funds.
4. Students must maintain satisfactory academic progress in compliance with the Financial Aid Satisfactory Academic Progress Policy.
5. Students must submit information in a timely manner.
6. Students must be aware of the Return of Title IV Funds Policy.

#### **Check Release Date**

Checks are released on the 14th class day of each semester. Check release schedules will be posted in the Office of Scholarships and Financial Aid and at the Tuition office. Grant checks are disbursed on time if the student file is complete.

Late applications will delay the availability of funds. Loan disbursements depend on the application date and the lender. Although students receive a disclosure statement from the lender, or other students have received their checks, individual checks may not be ready. Checks will be disbursed as soon as possible.

#### **Disbursement of Funds In Excess of Tuition and Fees**

Financial Aid funds in excess of Tuition and Fees will be disbursed to students by check. The Tuition office will mail all checks to the student's address on record at the college. It is the student's responsibility to ensure that the address on record with the college is correct.

Students may update address information by completing a change of data form at the Student Services office or online using the student portal.

## **WEB LINK**

*Apply for financial aid.  
Download the application at:*

<http://fafsa.ed.gov>

### Financial Aid Satisfactory Academic Progress Policy

Dakota County Technical College and the Minnesota State Colleges and Universities Board Policy 2.9, in compliance with Federal and State regulation, require that all students maintain satisfactory academic progress toward the completion of a degree, diploma, or certificate in order to receive financial aid. Programs covered by this policy include Federal and State work-study, loans, grants and some scholarships. Students are first and foremost responsible for their academic progress and for seeking assistance when experiencing academic difficulty.

NOTE: The Financial Aid Satisfactory Academic Progress (SAP) Policy differs significantly from the Dakota County Technical College Academic Policy for Satisfactory Academic Progress. It is possible to have eligibility for financial aid suspended and not be suspended from the college.

DCTC reserves the right to withhold aid from any student, at any time, who is not performing satisfactorily at minimal standards due to an attendance pattern and thus abuses the receipt of financial assistance. For example, financial aid could be withheld from a student who withdraws from all classes two consecutive terms, or a student who has previously attended two or more institutions and who has not progressed satisfactorily, or a student who does not appear to be pursuing degree/diploma/certificate completion, etc.

#### I. FINANCIAL AID SATISFACTORY ACADEMIC PROGRESS POLICY

The college is required to develop a satisfactory academic progress (SAP) policy that shall apply to all students receiving financial aid under federal Title IV financial aid programs or under programs of aid authorized under Minnesota Statutes 136 A.

The qualitative and quantitative standards contained in the college's policy must be cumulative and include all periods of enrollment, whether or not a student received financial aid. The SAP policy standards shall be the same as or stricter than the college's academic standards for a student enrolled in the same educational program who is not receiving financial aid.

#### II. QUALITATIVE MEASURE

Financial aid recipients are required to maintain a 2.0 cumulative grade point average. (Note: A 2.0 GPA is required to graduate).

#### III. QUANTITATIVE MEASURE

##### A. Required Completion Percentage

The college uses cumulative credits completed, divided by credits attempted, to measure completion percentage.

To remain eligible for financial aid, a student is required to progress toward the completion of an academic program by successfully completing 67% of all credits attempted at Dakota County Technical College. Courses for which a student receives a letter grade of A, B, C, D and P are included in the calculation of cumulative credit completion percentage as courses successfully completed.

Courses for which a student receives a letter grade of I, IP, N, NC, W, and F will be treated as credits attempted but not

successfully completed. Blank (Z) grades will be treated as credits attempted but not successfully completed. Audited courses (AU) are not included in the calculation.

##### B. Maximum Time Frame

The maximum allowable time frame for a student to complete an academic program is 150% of the published credit length of the program of study. For example, if the program of study is 72 credits in length, you would be eligible to receive financial aid for up to 108 attempted credits ( $72 \times 1.5 = 108$ ). All cumulative credits attempted are counted, including accepted transfer credits, and consortium credits, regardless of whether financial aid was received for the credits, or the course work was successfully completed. All credits attempted at Dakota County Technical College will be counted; even though a period of time (years) may have elapsed between enrollments and regardless of whether the student received financial aid for the terms and credits measured.

NOTE: If at any point it is determined that a student will not be able to finish the required courses to graduate from their program within the 150% time frame, financial aid eligibility will be terminated immediately.

#### IV. EVALUATION PERIOD

Financial Aid Satisfactory Academic Progress will be evaluated three times each year after Fall, Spring, and Summer Semester grades are recorded.

#### V. FAILURE TO MEET STANDARDS

##### A. Maximum Time Frame

Students who have reached or exceeded the maximum number of credits needed to complete their program of record will be suspended from financial aid eligibility. Changing majors, withdrawing from courses and/or repeating courses can contribute to suspension of financial aid based on the standards for Maximum Time Frame.

##### B. Qualitative (GPA) or Quantitative (67% completion)

Any student who fails to meet the qualitative or quantitative measures at the time of evaluation will be placed on financial aid probation immediately. Students will be eligible for financial aid during this probationary term.

Any student who fails to meet the qualitative or quantitative measures at the end of the probationary period will have financial aid eligibility suspended immediately.

##### C. Suspension of Students for Extraordinary Circumstances

Any student may be immediately suspended from financial aid eligibility in the event of extraordinary circumstances, including, but not limited to, previously suspended (and reinstated) students whose academic performance falls below acceptable standards during a subsequent term of enrollment; students who register for courses, receive financial aid, and do not attend any classes; and students whose attendance patterns appear to abuse the financial aid programs.

## VI. NOTIFICATION

When students are placed in a probationary status for, or suspended from, financial aid, the Director of Scholarships and Financial Aid will notify the student in writing.

## VII. APPEALS

Any student who has been suspended from financial aid has the right to appeal their status based on unusual or extenuating circumstances that are beyond the control of the student and were not present at the time of initial enrollment.

### *Examples of acceptable reasons may be:*

- A. Documented death of a close relative.
- B. Documented personal illness, hospitalization or injury.
- C. Military leave.

### *Examples of unacceptable reasons for appeal may be:*

- A. Pre-existing condition affecting student performance.
- B. Poor personal decisions concerning attendance, time or money management, relationships, or poor study habits.

All appeals must be submitted in writing on a Financial Aid Appeal Form available from the Office of Scholarships and Financial Aid with supporting documentation attached, to the Director of Scholarships and Financial Aid. The Director of Scholarships and Financial Aid will approve or deny appeals as they are submitted. Results of an appeal will be sent to the student in writing. Any student whose appeal is denied by the Director of Scholarships and Financial Aid has the right to appeal the denial to the Appeals Committee. The Appeals Committee will use the same criteria in rendering its decision.

## VIII. REINSTATEMENT OF FINANCIAL AID

To reinstate financial aid a student must complete the Financial Aid SAP appeal process. Students may also have their financial aid eligibility reinstated by meeting the financial aid satisfactory academic progress cumulative qualitative and quantitative standards. Neither paying for classes out of pocket, nor sitting out a period of time is sufficient in and of itself to re-establish a student's financial aid eligibility.



## IX. ADDITIONAL ELEMENTS

**A. Treatment of grades:** Courses for which a student receives a letter grade of A, B, C, D, S, or P are included in the calculation of cumulative credit completion percentage as courses successfully completed. Courses for which a student receives a letter grade of I, IP, N, NC, W, F, or Z will be treated as credits attempted but not successfully completed.

**B. Academic Amnesty:** Is not available to financial aid recipients. All attempted credits at DCTC are counted toward Financial Aid SAP.

**C. Audited Courses:** Audited courses will not be funded by financial aid and are not included in any financial aid satisfactory academic progress measurements.

**D. Consortium Credits:** Credits for which financial aid is received under a consortium agreement will be included in cumulative GPA, completion percentage, and maximum time frame calculations.

**E. Remedial/Developmental Credits:** Are included in the cumulative GPA and completion percentage measurement of SAP. Remedial/developmental credits will increase the length of the program of record when calculating maximum time frame.

**F. Repeated Credits:** Students are allowed to repeat a course as often as allowed by the academic policies of the college. All attempted repeated credits will be counted toward the completion percentage. Upon submission of the repeat form to the Registrar, only the highest repeated grade will be counted toward the cumulative GPA measurement.

**G. Transfer Credits:** Transfer credits accepted by the institution and applied toward a student's degree, diploma, or certificate requirements to graduate will apply toward the maximum time frame calculation. If at the point of admission a transfer student's prior academic record does not meet the college's minimum cumulative qualitative or quantitative SAP standards, the college may immediately place the student in a probationary status for financial aid eligibility.

**H. Withdrawals:** Credits for which a grade of "W" is received are considered attempted credits but not successfully completed credits. A grade of "W" does not impact GPA but does negatively impact the cumulative completion percentage and counts toward the maximum time frame.

### **Federal Return of Title IV Funds Process Introduction**

Dakota County Technical College is not required to, and does not, record student attendance. Federal regulations mandate that the college have a procedure in place to ensure that students have attended, at a minimum, one class session in each course in which that student has registered, if that course was used to determine enrollment status for Federal Pell Grant. (Pages 3-40 through 3-42 - 2004-05 Federal Student Aid Handbook)

### Procedure

On the sixth class day of the semester, after the add/drop period has ended, faculty members must submit to the Office of Scholarships and Financial Aid, the names of students that have not attended a class session. Classes the student has not attended are flagged as ineligible for financial aid in the ISRS system and are not included in the award calculation for disbursement of funds. If a faculty member does not include a student in the report to the Office of Scholarships and Financial Aid of non-attendees, it is inferred that the student has attended at least one class session.

If a student officially withdraws from all courses (total withdrawal), it is determined whether a Return of Title IV Funds calculation is required. If required, a calculation is completed and the student is notified of any financial liability. Institutional repayments are made to the appropriate financial aid program and overpayments are recorded on NSLDS. Students that fail to make satisfactory arrangements to repay an overpayment, or fail to comply with a previous arrangement, are referred to the United States Department of Education for collection after 45 days of noncompliance.

Students who have unofficially withdrawn are identified at the end of each term. A report of students who have earned zero credits for the term is generated and a letter is sent to the student notifying the student of potential financial liability if the student cannot provide proof of attendance past the 60% point of the term. If the student can document attendance beyond the 60% point, no calculation is required, as aid is 100% earned per federal regulation. If attendance cannot be documented or certified by the faculty, the Office of Scholarships and Financial Aid will complete a Return of Title IV Funds calculation using a 50% rate as prescribed by federal regulation. The student is notified of any financial liability resulting from this calculation. Institutional repayments are made to the appropriate financial aid program and overpayments are recorded on NSLDS. Students that fail to make satisfactory arrangements to repay the overpayments or fail to comply with a previous arrangement are referred to the United States Department of Education for collection after 45 days of noncompliance.

### The Ability to Benefit Plan

To comply with the Higher Education Amendments of 1986, colleges participating in Pell Grant and campus-based financial aid programs must document ability to benefit for students who do not have a high school diploma or GED.

A student who is admitted on the basis of ability to benefit must pass a nationally recognized or industry-developed test, which documents the applicant's aptitude to successfully complete the major to which the student has applied.

If there are any questions concerning this process, contact the Office of Scholarships and Financial Aid at 651-423-8299.

### Veteran and Military Benefits

Veterans and military personnel planning to use their education benefits should contact the Office of Scholarships

and Financial Aid. All students must apply through this office for certification of eligibility by the college.

All students with questions regarding veteran or military benefits should contact the college certifying official, Kerry Lurken, at 651-423-8278 or e-mail [Kerry.Lurken@dctc.edu](mailto:Kerry.Lurken@dctc.edu)

### Office Hours

The Office of Scholarships and Financial Aid is open August through May from 7:30 a.m. to 5:00 p.m. Monday through Thursday and from 7:30 a.m. to 4:00 p.m. Friday. The office is open from 7:30 a.m. to 4:00 p.m. Monday through Friday during June and July. Call 651-423-8299 or email [Finaid@dctc.edu](mailto:Finaid@dctc.edu) with questions.

### Obtaining Financial Aid Applications

The Free Application for Federal Student Aid (FAFSA) is available on the Web at <http://fafsa.ed.gov>, at DCTC's Office of Scholarships and Financial Aid, and at high school counseling offices.

### DCTC Foundation

The DCTC Foundation was established in 1983 as a 501c (3) non-profit organization to provide an avenue to receive gifts and grants for the benefit of DCTC and its students. The mission of the Foundation is to support the college's mission, education for employment, by providing resource support for students, the college, and the programs. The Foundation is governed by nine Board of Director members.

Scholarships are awarded each year and are based on certain criteria. Scholarship funds are provided to first- and second-year students, recent high school graduates, and adult learners.



## TUITION AND FEES

### Tuition

Tuition rates are set by the Minnesota State Colleges and Universities Board and are subject to change without notice. Tuition is based upon the number of credits the student takes. Books and supplies are additional and vary for each student each semester, depending on major and course selection. Final payment of all tuition and fees is required each semester to confirm registration for courses. Tuition was \$158.31 per credit for the 2007-2008 school year.

### Reciprocity

Reciprocal tuition agreements exist between Minnesota/Wisconsin, Minnesota/North Dakota, Minnesota/South Dakota, and Minnesota/Manitoba. Students from Wisconsin, North Dakota, South Dakota, and Manitoba are charged the Minnesota resident rate for tuition after the appropriate paperwork has been filed. DCTC will also accept students from Kansas, Missouri, Michigan, and Nebraska under the Midwest Student Exchange Program. Tuition is 150% of the resident rate. Those interested should note on their application their desire to enroll under the MSEP program. Reciprocity forms are available at <http://www.ohe.state.mn.us>. For more information, call the Admissions office at 651-423-8302.

### Fees

The following fees were current at the time of printing for the 2007-2008 academic year but are subject to change.

**Health Fee:** For many years the college has provided quality health services for students. To continue funding this service, a health fee will be assessed to students at \$1.00 per semester credit.

**Parking/Security Fee:** The Minnesota Legislature requires each Minnesota State College and University to raise sufficient funds for maintenance of parking lots and entrances to the campuses. The college has attempted to keep the parking fee at a minimum cost to students. Security personnel are on duty Monday through Friday from 7:00 a.m. until 10:30 p.m. Security is available to provide escort service to the student's car from 5:00 p.m. until 10:30 p.m., Monday through Thursday. The parking/security fee has been set at \$2.50 per semester credit, up to a maximum of \$75.00 per academic year.

**Technology Fee:** The technology fee helps defray the high cost of keeping pace with current information technology. The Student Technology Program is a collaborative program designed to provide DCTC students access to technical support. On-campus access will be provided to the Internet, electronic information resources, Macintosh and Windows applications, the Library, and the Information Technology Center. This fee was set at \$10.00 per semester credit by the Student Senate.

**Student Activity Fee:** The purpose of the Student Activity Fee is to provide and promote programs to assist in the development of educational, social, cultural, vocational, athletic, and leadership skills of all students. The fee is designed to encourage broad student participation and to include all members of the student body. The amount of the fee was established at \$5.50 per credit by the Student Senate and voted on by its elected officers and representatives. In addition, \$.31 per credit fee is charged for membership to the Minnesota State College Student Association (MSCSA), the statewide student government representative for all two-year college students.

### Refunds

The Minnesota State Colleges and Universities Board of Trustees has adopted the following refund policy:

**Total Withdrawal From College:** Students who drop ALL of their credits by formal notification to the Registration office are allowed a refund of their tuition and fees on the basis of the schedule on the following page of this catalog.

DCTC has established a period from one to five business days after the start of the term as a no-obligation drop period. Students are financially obligated for any classes dropped after this period, or one business day after the first class session, whichever is later. Non-attendance does not constitute a drop or withdrawal.

Tuition or fees for dropped classes within the no obligation period may not be refunded if the student has an outstanding balance. Refund of such fees is at the discretion of the President.

If a student is financially obligated for a dropped class, the college may apply the amount of the tuition and/or fees for the dropped class to the cost of an added class for the current term.



DCTC establishes a due date for final payment of tuition and fees each term. Tuition payments must be paid in full by this due date unless a student has a financial aid deferment, a third party deferment or has made prior arrangements to establish a payment plan through the Tuition office. If any of these criteria are not met, DCTC may drop all classes for the student at a designated date during the semester. Students remain financially responsible for all registered tuition and fees. All unpaid tuition and fees will be collected by Minnesota Collections Enterprise, a collection agency.

Students who register after the established tuition due date must pay at least \$300 or 15% of the total cost of tuition and fees at the time of registration if they do not have a financial aid or third party deferment. The students is then assumed to be on the established payment plan for the semester.

DCTC permits students to establish a payment plan. This allows students to pay tuition and fees in scheduled intervals. DCTC requires a down payment, assesses a payment plan fee, and late fee to cover the cost of processing delayed payments consistent with this policy. Additionally, a hold will be placed on the student's record, preventing future registration or transcript distribution until all outstanding balances are paid in full.

<b>Refund %</b>	<b>Period for Total Withdrawal from College for Fall, Spring, and other terms at least 10 weeks in length</b>
100%	1st through 5th business day of term
75%	6th through 10th business day of the term
50%	11th through 15th business day of the term
25%	16th through 20th business day of the term
0%	After 20th business day

<b>Refund %</b>	<b>Period for Total Withdrawal from College for Summer and other terms at least 3 weeks but less than 10 weeks in length</b>
100%	1st through 5th business day of the term
50%	6th through 10th business day of the term
0%	After the 10th business day of the term

For courses meeting less than three weeks, there will be no refund after the course has started.

## WEB LINK

*Pay your tuition online at:*

<http://dctc.edu/students/tuition/index.cfm>

**Reduction of Credits:** Students who reduce their credit load on or before the fifth day in a semester are allowed a 100% refund of tuition and refundable laboratory supply fees by formal notification to the Student Services office. No refund shall be provided to a student after the drop/add period. Students receiving any type of financial aid should check with a financial aid advisor to determine how a change in credit load will affect financial aid eligibility.

**Waivers:** The President may waive any amount of tuition or fees due to the college for the following reasons: employee benefit provided by a bargaining agreement, death of a student, medical reasons, college error, employment-related condition, significant personal circumstances, student leader stipends, course conditions\*, natural disasters or other situations beyond the control of the campus. \*A course condition exists when the location or timing of the course results in the student not being able to use the services intended by a fee. The college cannot waive the MSCSA student association fee.

### Withdrawal from a Course

A student may withdraw from a full-term course the second week through the 15th week of the semester by completing the course withdrawal form in the Student Services office. A signed withdrawal form is required. Students enrolled in courses that end before the 15th week of the semester must withdraw before 80% of the class sessions have elapsed. Students should confer with their instructor or advisor as part of the official withdrawal procedure. Grades of W will be recorded on the permanent record. A withdrawal within the first five days of a semester is classified as a drop and the course(s) is/are not recorded on the permanent record. Failure to comply with this regulation will result in the recording of an F grade for the course. Non-attendance does not constitute a withdrawal.

### Withdrawal from College

A student who wishes to totally withdraw from college should discuss his/her situation with a counselor. A signed withdrawal form is required. Failure to comply with this regulation will result in the recording of F grades for all courses in which the student was enrolled. This may deprive the student of refund privileges and subject him/her to academic probation/suspension. A student who officially withdraws from college after the first week and before the end of the 15th week of the semester will receive a grade of W for each course he/she was enrolled in that semester. Nonattendance does not constitute a withdrawal.

### Dropping and Adding Courses

During the first five days of the term, students can drop and/or add courses to their schedules. It is required that students confer with an advisor as part of the drop/add process. Students should refer to the college calendar or consult registration staff for exact dates. Nonattendance does not constitute a drop. See Refund Policy in this catalog or in the student handbook.

## STUDENT SERVICES

DCTC is committed to providing its students with the opportunity to develop technical skills that lead to good careers. The excellent faculty and superb technical facilities contribute to the learning environment. The Student Services staff provide a variety of services to complement and enhance each student's success.

### Admission/Records/Registration

The Student Services office assists students with the admission process and registration for courses. All student records are maintained through this office and transcripts are available upon written request.

### Retail Services

**Bookstore:** Students may purchase books and supplies in the DCTC Bookstore. Textbooks are usually available to purchase three weeks before the beginning of the term. Bookstore hours are posted in the store, in the course schedule, and online at <http://www.dctcbookstore.com>. Textbooks and course materials can be purchased in the store or ordered for delivery from the Web site. Textbook return policies are posted online, throughout the store, and on the back of purchase receipts. Bookstore wholesale buyback is year-round during regular bookstore hours, except the first two weeks of the new term. Retail buyback is held the final two weeks of the term. The faculty have selected books and supplies that are compatible with the course curriculum. The bookstore also sells DCTC clothing, gifts, computer supplies, and other items that students need for their course. For questions call 651-423-8486.

**Café:** The café is open daily when the college is in full session and other times as posted. The café offers hot breakfast and hot entrees. The café also has salads, soups, coffee, made-to-order deli sandwiches, grill sandwiches, pastries, candy, snacks, soda, and juice. The café also offers in-house catering for events and meetings. The regular hours are 6:30 a.m. to 3:00 p.m. Monday-Friday. For questions call 651-423-8466.

### Career Services

Career Services is here to help students and alumni develop, evaluate, and implement their career plans. Career Services strives to provide students with the knowledge, skills, and resources needed to accomplish their career development and job search goals; to educate students on career and transfer options; and to encourage student initiative.

Career Services offers assistance in developing job search skills such as resume and cover letter composition, networking, and interviewing. Full and part-time job listings are posted on our career Web site at <http://dctcjobs.com>. Current students and alumni may go directly to this Web site to register with Career Services and begin using the system.

Career Services also offers career assessments and up-to-date information designed to help all individuals explore optimum

career choices. Our individual appointments allow you to meet with a nationally certified career development facilitator who will review your past training and work history and discuss future career options. Career assessment tools such as the Myers-Briggs Type Indicator and the Career Liffott Interest Inventory are available for a small fee. For more information, contact Career Services at 651-423-8450.

### Services for English Language Learners (ELL)

DCTC is committed to celebrating diversity among students and to fostering an environment that will assist each individual in achieving academic success. Services for ELL students include academic planning, career advising, and assistance with admissions, registration, and financial aid. ELL courses are available to develop listening, speaking, reading, and writing skills. New students are encouraged to call the Multicultural Recruiter/Advisor, Xuong Tran at 651-423-8221 or the Academic Advisor, Brian Espy, at 651-423-8537.

### Health and Safety Services

**Safety:** Safety is a high priority at DCTC. Every attempt is made to comply with safety standards. Safety instruction is included in program curriculum. Please report any concerns to the Health Services office.

Safety glasses and protective equipment must be worn in designated campus areas. Minnesota State law provides that every person shall wear industrial quality eye protection in designated areas. Some students may be required to purchase their own safety glasses, which are available at the campus bookstore. Contact lenses may not be worn in designated lab areas without the addition of safety glasses. Students who do not comply with safety requirements are subject to disciplinary action or termination.

**Hepatitis:** Hepatitis is a serious disease caused by a virus that attacks the liver. There are three different types of Hepatitis, identified as A, B, and C, each having a different level of seriousness and symptoms.

Students should be aware of the dangers of the disease and are encouraged to visit the Health Services office for more information about the disease and how to prevent it.

**Insurance:** All students are encouraged to carry health insurance while attending DCTC. Application forms and a summary of benefits for optional health insurance are available in the Health Services office.

### Housing

The Student Services office maintains a housing list for students based on information primarily provided by the general public. DCTC does not provide any additional housing services other than the housing list. DCTC is not responsible for matters of leases, contracts, condition of facility, or any other arrangements between parties.



### Instructional Technology Center

The Instructional Technology Center (ITC) provides computer hardware and software in both Windows and Macintosh platforms. The resources include most of the major software applications used in instructional programs. The ITC offers both black and white and color laser printers. All computers are equipped with Internet software that can be used to do research, establish an e-mail account, and access resources on the college Web site. Lab assistants are available to answer basic questions and assist with technical questions. The hours for this lab are posted at the entrance of the ITC.

### Library

Dakota County Technical College's Library features books, periodicals, audiovisual materials, two viewing rooms, quiet study spaces, and computer workstations to support student learning and instruction. The library catalog, details about the library's services, and many other information resources are available on the library Web site at <http://dctclibrary.dctc.edu>.

The online catalog, MnPALS, provides access to books and other materials in the DCTC Library and at other MnSCU institutions. Items not available at our library may be requested through interlibrary loan.

Books may be checked out for three weeks, magazines and journals for one week, and some audiovisual materials for three days. A valid, activated DCTC ID card is required to check out materials from the library, place holds on materials, submit interlibrary loan requests, renew checked-out items, and access certain electronic resources from off campus.

The library staff is happy to answer reference questions and assist users. The reference librarian can be reached at [Barbara.Carroll@dctc.edu](mailto:Barbara.Carroll@dctc.edu) or 651-423-8345. The head librarian can be reached at [Michael.Kirby@dctc.edu](mailto:Michael.Kirby@dctc.edu) or 651-423-8406.

### Multicultural Advisor

Students at Dakota County Technical College are ethnically and culturally diverse and represent cultures and languages from across the globe. The multicultural recruiter/advisor along with other staff members at DCTC have first hand knowledge and experience and are advocates for students' success. Students can obtain general information on college admission, career services, and financial aid and can meet individually to discuss issues of special concerns pertaining to their personal, social and or academic needs.

### Parking

Students who drive an automobile or other motorized vehicle which is parked on campus must have a valid Dakota County Technical College parking sticker for the current academic school year displayed on the front windshield. The parking stickers are issued through the Student Services office upon proof of payment of tuition and fees. Restricted parking areas for persons with handicaps, and campus visitors are identified by signs. Vehicles without parking stickers or those parked in restricted areas without special permits are subject to ticketing and/or towing at the owner's risk and expense.

### Student Handbook

Each student is provided a copy of the student handbook at new student registration. The handbook is updated each year and contains the college calendar for the year, academic policies and procedures, registration information, activities information, a section on student conduct, and a staff directory. Each student is responsible for knowing and adhering to the contents of the student handbook. Contents of the student handbook are also available on the college Web site.

### Student ID

The student ID provides a means of identification and is issued to all currently enrolled students. The card contains the student's name, identification number, and photo. Your first ID will be issued to you free of charge. There is a \$10 replacement fee for lost, stolen, or damaged cards. No one may pick up a card for another student. The card is partially sponsored by the Student Senate.

## WEB LINK

*Search thousands of book titles  
on DCTC's Library Web site, visit:  
<http://dctc.edu/students/tuition/index.cfm>*



## ACADEMIC SUPPORT

### Learning Center

The Learning Center provides a range of services in order to support students in technical and occupational training programs. The Learning Center staff provide tutoring, skill development, and other support to students as they progress through certificate, diploma, and degree programs. The following types of assistance are available through the center: study help, stress management, time management, test preparation, group study sessions, alternative learning adaptations, and environmental modifications.

### Writing Center

The Writing Center provides quality writing assistance and tutoring to enable students to become independent and confident writers. Tutors work with students and faculty at any stage of the writing process on any writing assignment or project at DCTC. In your meeting with a tutor, the tutor will ask questions and make suggestions that will provide you with more control over your own writing. Visit the Writing Center in room 2-141 or at <http://dctc.edu/writingcenter>.

### Mathematics Center

DCTC provides a Mathematics Center for students who have math questions or who are experiencing difficulty with their math courses. Students enrolled in developmental, applied, or college level math courses can stop by the center to get assistance with math concepts or math problems. Knowledgeable math tutors are available to help.

### Counseling

Students needing support to help cope with any problems—emotional, financial, academic, or chemical—are encouraged to contact a counselor for assistance. Referral/resource assistance is available at DCTC through the counselor in the Learning Center.

### Services for Students with Disabilities

DCTC provides support services for qualified students with disabilities. Students with disabilities may obtain assistance during any phase of the educational process including admissions, registration, advising, instruction, and placement. Students who wish to discuss or arrange accommodations may contact Anne Swanberg, Disability Services Advisor, at 651-423-8469 or stop by the Learning Center, room 2-141.

The faculty and staff at DCTC are committed to providing students with disabilities the appropriate accommodations to ensure access to programs, services, and activities as required by the Americans with Disabilities Act (ADA) and section 504. In accordance with ADA and section 504, the following are available to qualified students with disabilities: support, counseling, and information services; academic assistance including assistive devices; course selection and program advising; and tutoring, testing accommodations. Upon request

an advocate can be assigned to assist with accommodation requests, intervention, and grievance procedures.

**Procedures for Obtaining Initial Accommodations:** Students have the responsibility to report their needs to the faculty or the Disability Services Advisor. When a student requests an accommodation, the student will be directed to contact the Disability Services Advisor and provide current (within three years) documentation of the disability. A student with a disability has the same obligation as any other student to meet and maintain the college's academic standards. All requests are confidential.

**Deadline for Requesting Accommodations:** It is the student's responsibility to request accommodations or auxiliary aids at least two weeks before classes or activities begin. One exception is a request for reader services, or books on tape, which must be made at least six weeks prior to when the materials are needed.

Untimely requests may result in delay, substitution, or denial of an accommodation. If a request is submitted late, every reasonable effort to accommodate the request will be made.

### TRIO/Student Support Services

Dakota County Technical College's TRIO/Student Support Services (TRIO/SSS) program is designed to help students stay in school, increase graduation rates at DCTC, and assist students who transfer to four-year institutions. In order to reach its goals, the program focuses on academic skills, academic advising, career planning, personal/social development, and leadership development. There are supplemental grant funds available for some participants. TRIO/SSS serves students who are low-income, first-generation college students, or have disabilities. For more information, contact the TRIO staff in the Learning Center.

TRIO/Student Support Services is an educational opportunity program funded through a grant by the U.S. Department of Education.



# TRANSFER

## Transferring Credits into DCTC

A student wishing to transfer credits into Dakota County Technical College must complete the regular admissions process, designate a major field of study and have official transcript(s) from previous college(s) sent directly to DCTC's office of Admissions.

Official transcript(s) must be received in a sealed envelope. If hand carried, transcript(s) must be delivered unopened with the official seal intact. Student copies and faxed transcripts are not considered official.

Only those courses that are applicable to a student's chosen degree, certificate, or major will be considered for transfer.

Transfer credits need to have a grade of C- or higher and be from a college with a regional association of colleges and schools (North Central, Middle States, etc) in order to be considered for transfer.

Transfer credits do not affect the student's grade point average (GPA). The number of credits accepted will be recorded on your DCTC transcript and the specific DCTC course equivalence will be recorded on your DARS report.

A student who has been dismissed from another institution for academic or disciplinary reasons will be given consideration for admission only after review. If a student has been suspended from another college, he/she will be eligible to enter DCTC after waiting one semester.

**International credits:** A comprehensive course by course analysis by an organization that is a member of the National Association of Credential Evaluation Service (NACES) is required before DCTC can evaluate transfer of credit for international credits. Visit: <http://dctc.edu/prospStudents/transfer> for a complete listing of organizations.

## Transfer of MnTC Courses

Individual courses from other MnSCU colleges and from the University of Minnesota transfer to DCTC into the Minnesota Transfer Curriculum. Such courses transfer according to the MnTC goal areas designated for them by the sending institutions. Completion of the entire goal at another MnSCU institution completes the goal at DCTC.

## Transfer of Technical credit

Transfer of technical credits will be considered for courses that have been completed within five years prior to application for admission to DCTC. Students with technical courses which were completed more than five years prior to application may be able to use the credit by examination process to demonstrate course content mastery and receive credit. Please see your program advisor to review past technical credits.

## Transfer of all other courses

Courses approved for transfer must be comparable in nature, content, and level and match at least 75% of the content and goals of DCTC courses.

## Unofficial review before applying

For an unofficial review of general education courses, please contact Colleen Moser at 651-423-8277 or [Colleen.Moser@dctc.edu](mailto:Colleen.Moser@dctc.edu). Official transcripts are not necessary for an unofficial review but will be required for final verification and transcription of transfer credits. Please contact an advisor in Student Services to review past technical credits.

## Transferring credits out of DCTC

Planning to transfer DCTC credits to another college? Minnesota's public colleges and universities are working to make transfer easier. Students can help if they plan ahead, ask questions, and use pathways created by transfer agreements. Students currently enrolled at DCTC should:

1. Discuss plans with Colleen Moser in the Student Services office.
2. Review any transfer agreements (formal written agreements between DCTC and other institutions.) Through these agreements a significant number of credits from DCTC Associate degrees are accepted by many four-year colleges and universities. These transfer credits make pursuing a baccalaureate degree affordable, accessible and convenient for DCTC graduates. To view a list of the transfer agreements, visit <http://dctc.edu/prospStudents/transfer/guide.cfm>.
3. Call or visit the intended transfer college to obtain:
  - a college catalog and transfer brochure.
  - information on admission criteria and materials required for admission (e.g., portfolio, transcripts, test scores). Note that some majors have limited enrollments or prerequisite courses.
  - information on financial aid, how to apply, and by what date.
4. Review these materials and make an appointment to talk with a transfer specialist in the intended college or major.
5. Visit <http://mncas.org> to view course by course articulations for selected colleges.
6. Visit <http://mntransfer.org>, the MnSCU transfer Web site. If you have any questions regarding the transfer agreements, please contact your advisor or Colleen Moser at 651-423-8277 or [Colleen.Moser@dctc.edu](mailto:Colleen.Moser@dctc.edu).

### Rights of a Transfer Student

#### A transfer student has a right to:

- a clear, understandable statement of an institution's transfer policy.
- a fair credit review and an explanation of why credits were or were not accepted.
- a copy of the formal appeals process.

#### Usual appeals steps are as follows:

1. The student files a petition by letter. Supplemental information should be provided (a syllabus, course description, or reading list).
2. The registrar reviews the petition.
3. The student receives, in writing, the outcome of the petition.
4. The student can appeal the decision to the Vice President of Academic Affairs and Institutional Planning.
5. The student receives, in writing, the outcome of the appeal.
6. The student may appeal the college's transfer appeal decision at the system level to the Senior Vice Chancellor of Academic and Student Affairs. The decision of the Senior Vice Chancellor shall be binding on all system college and university parties.



### Bachelor Degrees at Dakota County Technical College

Dakota County Technical College is hosting two bachelor degree programs from Southwest Minnesota State University: Business, and Early Childhood Education. After completing their A.S. or A.A.S. degree at DCTC, students enroll at SMSU through online portals. Classes will be delivered either face to face, online/hybrid, or by interactive television. Students will attend classes at DCTC's main campus in Rosemount. They will also be able to use computer labs on campus to complete the work in online/hybrid classes. The delivery of the classes is designed with the working adult in mind. Students will not need to go to the SMSU campus in Marshall, MN, unless they want to participate in graduation activities. For more information or to enroll contact Nicole Meulemans at 651-423-8403 or [Nicole.Meulemans@dctc.edu](mailto:Nicole.Meulemans@dctc.edu).

### Tech Prep College Credit Agreements

Tech Prep is designed to prepare students for high-tech and high-paying careers. Rigorous courses include developing technical skills and knowledge development, as well as thorough application of academic skills. Tech Prep College Credit or Articulation agreements allow students to transition from secondary to post-secondary, avoiding duplication of instruction and allowing them to fulfill some of their college credit requirements without leaving their high school.

Students must meet competencies and earn at least a B in articulated courses to be eligible, and they must enroll at DCTC within two years of high school graduation. Credit is granted when the course is complete and the student presents the certificate to the college Registrar. DCTC has been aggressive in developing articulation agreements with high schools in Dakota County and throughout the southern half of Minnesota and Western Wisconsin. DCTC offers opportunities for agreements for courses in several programs: Applied Visual Arts, Architecture, Auto Body, Automotive, ASE, Child Development, Computer Networking, Electrical Construction, Exercise and Sport Science, Graphic Design, Heavy Construction Equipment, Heavy Duty Truck, Interior Design, Marketing and Sales, Nursing, Office Careers, Information Technology, and Welding. Specific courses that may articulate to high school courses are designated by an **\*\*Articulated\*\*** in the course description portion of this college catalog.

### WEB LINK

*Visit our athletics Web site for up-to-date schedules, team rosters, and stats:*

<http://goblueknights.com>

# STUDENT LIFE

## Student Life Program

The Student Life Program at DCTC provides opportunities for students to participate in co- and extra-curricular activities. A goal of the program is to maximize student's experience and involvement in the educational process at DCTC. The college believes a dynamic Student Life program creates a distinctive and excellent learning environment that promotes the college. For more information on the DCTC Student Life Program, visit the Student Life Center or call 651-423-8330.

## Student Senate

Student Senate is the voice of the student body. The senate strives to represent student opinion to the college faculty, staff, and administration as well as the college community and the state legislature. Student Senate deals with all aspects of college life, including: academics, student life, judicial affairs, health and human services, and civic engagement.

The Student Senate approves the rates of all mandatory fees and endorses or recommends tuition rates. These fees include the student activity, parking/security, health services, and campus technology. The Student Senate monitors the use and allocation of the student activity fee through the Student Life (Budget) Committee. The Student Senate works close with and supports all campus life activities.

## Blue Knights Athletics

DCTC is a member of the National Junior College Athletic Association, the Minnesota Community College Conference (Division III), and the Iowa Community College Conference (Division I) and offers varsity teams in men's soccer, women's soccer, softball and baseball. Our mission is to sponsor a quality athletic program that provides educational and athletic opportunities for young men and women to grow and develop, and to serve the interests of the college by complementing and enhancing its diversity and quality of life. Students interested in participating in athletics can contact the Student Life office at 651-423-8330.

## Wellness Center

The Wellness Center is provided free to students with a valid TechCard. The Center provides cardio equipment (treadmills, stationary bikes, crosstrainers, a stepmill), weight machines and free weights. Qualified staff are available to give first-time users of the Wellness Center an introduction to the equipment. Physical Education courses and extra curricular fitness classes are offered to further expand the fitness opportunities at the college. The Wellness Center is located on the lower level of the college, room 1-705. Call 651-423-8549 for more information and facility hours.

## Minnesota Skills USA

Minnesota Skills USA is the national organization for students in trade, industrial, technical, and health occupations

programs in public high schools, vocational schools, technical colleges, and community colleges.

Minnesota Skills USA offers leadership, citizenship, and character development programs to complement the vocational student's skill training. Its programs help students to better prepare themselves for the labor market. Minnesota Skills USA emphasizes respect for the dignity of work and high standards in trade ethics, workmanship, scholarship, and safety. Club activities are possible at the local, state, and national levels. Examples of activities include community projects, Delegate Assembly, and State/National Skill Contests in our college program areas.

## Minnesota Nursery and Landscape Association (MNLA)

### Professional Landcare Network (PLANET)

The Landscape Horticulture program is active in both PLANET and MNLA. PLANET is a national trade organization that accredits landscape programs in post-secondary institutions. The Landscape Horticulture Club at Dakota County Technical College, as an accredited program, annually participates in the national PLANET Student Career Days. Club members also join the MNLA, our state trade organization, and participate in various workshops and conventions that they sponsor. DCTC is also an educational affiliate of the Association of Professional Landscape Designers (APLD) and encourages design majors to become active members. Through these and other activities, the club provides opportunities for interaction with industry professionals and opportunities for the student's professional growth and leadership. For more information, visit <http://landscapehorticulture.org>.

## American Society of Interior Designers (ASID)

## Illuminating Engineering Society of N. America (IESNA)

## International Interior Design Association (IIDA)

## International Furnishings & Design Association (IFDA)

## National Kitchen and Bath Association (NKBA)

## Network of Executive Women in Hospitality (NEWH)

Students in the Interior Design major at DCTC may participate as student members in five professional organizations. These organizations are the American Society of Interior Designers (ASID), which has a student chapter at the college, the Illuminating Engineering Society of North America (IESNA), the International Interior Design Association (IIDA), the International Furnishings and Design Association (IFDA), the National Kitchen and Bath Association (NKBA), where students may join the local regional professional chapters, and the Network of Executive Women in Hospitality (NEWH). Participation in these organizations increases the student's professional knowledge and awareness of the interior design field and provides an opportunity to meet with professionals in the community. Students attend conferences, go on tours, hear speakers and presentations, and become involved in a variety of ways that create interaction with professionals.

### **National Federation of Licensed Practical Nurses, Inc. (NFLPN)**

The National Federation of Licensed Practical Nurses, Inc. (NFLPN) is the professional organization for licensed practical nurses and practical nursing students in the United States. The mission of the National Federation of Licensed Practical Nurses, Inc., is to foster high standards of nursing care and promote continued competence through education/certification and lifelong learning, with a focus on public protection. The National Federation of Licensed Practical Nurses, Inc., is committed to: Quality and professionalism in the delivery of nursing care working with other organizations and groups in a cooperative progressive spirit to build strong professional and public relationships. Information about NFLPN will be provided for students enrolled in Foundations of Nursing Practice I.

### **Phi Theta Kappa (PTK) Honor Society**

Phi Theta Kappa (PTK) is the national honor society of two-year colleges. The purpose of Phi Theta Kappa is to recognize and encourage scholarship among two-year college students. To achieve this purpose Phi Theta Kappa provides opportunity for the development of leadership and service, for an intellectual climate for exchange of ideas and ideals, for lively fellowship for scholars, and for stimulation of interest in continuing academic excellence. Students who have completed 12 credits toward an Associate in Applied Science degree and have earned a 3.5 G.P.A. are invited to join Phi Theta Kappa. Contact Diana Sullivan at 651-423-8483 or Diana.Sullivan@dctc.mnscu.edu or Jaime Pieper at 651-423-8543 or Jaime.Pieper@dctc.edu

### **Visual Communications Club**

Students in the Visual Communications majors (Graphic Design Technology, Applied Visual Arts, and Photographic Technology) are invited to participate in the Visual Communications Club. The club's primary mission is to promote and support the success, continued education, and personal/professional achievements of its members through the establishment of resources and technical support from all available sources within the visual communications industries.

### **American Dental Assistants Association (ADAA)**

This organization offers membership at a minimal cost.\* Membership gives the student an opportunity to purchase professional liability insurance, and to receive a professional magazine and newsletter periodically. Educational workshops are offered throughout the school year. Juliette Southard/Oral-B scholarships are available from the ADAA.

\* Once a student becomes an ADAA member, the student automatically belongs to the state Dental Assistants Association.

## **POLICIES**

### **Student Concerns**

A student who has a concern about a college policy, procedure, or other practice related to an instructional major, employee, student, or other issue should contact their program advisor.

### **Satisfactory Academic Progress Policy**

Dakota County Technical College requires that all students make satisfactory progress toward a degree, diploma, or certificate to remain in good academic standing. Dakota County Technical College has established and will apply the following standards of academic progress to all students.

Students bear the primary responsibility for their own academic progress and for seeking assistance when experiencing academic difficulty. Students are encouraged to keep a file of their grades and transcripts. Academic advisors are available to review their students' academic progress.

Dakota County Technical College reserves the right to withhold enrollment from any student, at any time, who is not performing satisfactorily at minimal standards. For example, enrollment could be withheld from a student who withdraws from all classes two consecutive terms, or a student who has previously attended two or more institutions and who has not progressed satisfactorily, or a student who does not appear to be pursuing degree/diploma/certificate completion.

- I. **Requirements:** The requirements for this policy are based on students successfully meeting both a qualitative and a quantitative measure each term. Satisfactory progress will be measured after a student has attempted 12 cumulative credits.

**Qualitative Measure:** All students are required to maintain a minimum cumulative 2.0 G.P.A.

**Quantitative Measure:** All students are required to complete a minimum of 67% of cumulative attempted credits.

Students are considered to be making unsatisfactory academic progress whenever they fail to meet the standard of a 2.0 G.P.A. or fail to complete 67% of their attempted credits.

NOTE: Developmental coursework (below 1000 level) will be included under this policy with a limit of 32 semester credits normally being allowed.

- II. **Implementation:** Academic progress will be monitored as follows: The Registrar will evaluate all students who have attempted 12 or more cumulative credits at the completion of each term.

**Probation Letter:** Any student who fails to meet the minimum satisfactory academic progress requirements for that term will receive a probation letter from the Registrar and will be placed on probation for one term, commencing immediately.

During the term of probation, a student who receives a cumulative 2.0 G.P.A. and completes at least 67% of all attempted credits may continue at the college for the subsequent term but will remain on probation that term. This allows students making substantial improvement to continue with their educational objectives.

Students experiencing academic difficulties are encouraged to use the resources available in the college Learning Center. Academic assistance includes reading support, communications support, study skills support, Limited English proficiency support, math support, tutoring, and special accommodations.

To arrange for assistance with academic or personal learning, students should stop room 2-140.

**Suspension Letter:** A student on probation who fails to meet the minimum satisfactory academic progress requirements for a second consecutive term will receive a suspension letter from the Registrar and will be subject to suspension, one term in duration, commencing immediately. The student will be dropped from all courses for that term.

Suspended students who wish to remain enrolled at the college must complete an academic continuation agreement and submit it by the deadline in order to be reinstated and continue in their classes for that term.

**III. Appeals:** This process is currently under revision. See Student Handbook for details.

**IV. Reinstatement:** A student who has been suspended from enrollment may continue at the college after an appeal has been approved or return to the college after the period of suspension has passed. In both cases, the student remains on probation. A suspended student whose appeal to remain in school has been denied and who has sat out the required term may return to the college under probationary status.

#### **Academic Forgiveness**

Academic Forgiveness provides an opportunity for former DCTC students to resume their academic career. Students may have their previous academic performance exempted from grade point average and course completion percentage calculations. The option to petition for Academic Forgiveness is available only to students who have not registered for courses at the college for a minimum of five consecutive years. The student may submit a petition requesting Academic Forgiveness to the Registrar upon re-enrollment and successful completion of 12 credits of 1000 level or higher courses. Successful completion is defined as earning a grade of C or better and completing a minimum of 67% of credits attempted. A student may submit a petition for Academic Forgiveness only once.

#### **The President's List**

Every term the president of the college recognizes students who have completed a minimum of six credits within that term and achieved a grade point average of 3.5 or more. Summer session equals one term. The grade point average must have been calculated with final grades of A through F. Qualifying students will receive a certificate signed by the college president.



**Definition of Awards**

**Certificates:** are awarded for successful completion of a specialized program of study and vary in length from nine to 30 semester credits. At least one-third of the credits shall be delivered by DCTC.

**Diplomas:** are awarded for successful completion of a program intended to provide students with employment skills. Diplomas vary from 30 to 72 semester credits. At least one-third of the credits shall be delivered by DCTC.

**Associate in Applied Science Degrees:** are awarded for successful completion of a program of 60 to 85 semester credits. At least 20 semester credits shall be delivered by DCTC. An A.A.S. degree is primarily intended to prepare students for employment. An A.A.S. program includes 25-50% of the total semester credits in general education. General education courses shall be selected from at least three of the 10 goal areas of the Minnesota Transfer Curriculum. At least 30 semester credits shall be program-related occupation or technical credits.

**Associate in Science Degrees:** are awarded for successful completion of a program of 60 to 85 semester credits. At least 20 semester credits shall be delivered by DCTC. An A.S. degree may be designed to transfer to a related baccalaureate major. An A.S. program includes 25-50% of the total semester credits in general education. General education courses shall be selected from at least six of the 10 goal areas of the Minnesota Transfer Curriculum. At least 30 semester credits shall be program-related occupation or technical credits.

**Credits**

Students completing 15 to 18 credits per semester will finish most programs in an average length of time. Students taking 12 or more credits are considered full-time students. Check with the Office of Scholarships and Financial Aid or current definitions as they apply to specific grants and loans.

**Credit by Examination**

Credit by departmental examination (test out) is a provision which exists for many courses with the approval of the instructor or Dean. The examination may take the form of a written test, an oral examination, or some other demonstration of competency. Students who have formally declared their majors at DCTC are eligible to test out.

A nonrefundable fee of \$50 per credit attempted is charged for lecture courses. A nonrefundable fee of \$100 per credit attempted is assessed for laboratory courses. The credit by examination fee is subject to change.

If a student has registered for a course, then chooses to test out, the student must drop the course within the first five days of the semester to be eligible for a refund. Credit by exam cannot be used for courses previously attempted at DCTC.

To complete courses through credit by examination, students must pick up a Credit by Examination form in the Student Services office and coordinate the process with the appropriate instructor. Credit by exam is at the instructor's discretion.

A student will be permitted to attempt to test out only once for each course. In sequential courses, no credit by examination will be granted when a student has earned credit in a more advanced course. Students must score at a C level or better to pass a credit by exam. A Pass or No Credit grade will be recorded on the transcript.

**Advanced Standing**

Previous college courses, certification, licensure, and training may be considered for credit in the major. The responsibility for seeking credit rests with the student and can be initiated by completing the course SMGT2950 Prior Experiential Learning Portfolio Development (one elective credit).

**Attendance**

Students are expected to attend all sessions of each class in which they are enrolled. Should an illness or emergency result in an absence, students must contact their instructors to make up all work missed.

**College-Initiated Withdrawal**

A student may be required to drop a course or withdrawal from the college at any time that it is determined to be in the best interest of the student or college.





### Graduation and Residency

Students must complete an Application for Graduation one semester prior to the semester in which they plan to complete the requirements. See an advisor for assistance. Diplomas will be dated for the term in which all requirements were completed or application was made, whichever is later.

An Associate in Science, Associate in Applied Science degree, Diploma, or Certificate will be awarded to students who:

1. Earn the number of credits required of the major with a minimum cumulative G.P.A. of 2.0.
2. Complete a minimum number of credits in residence at Dakota County Technical College.

**Certificates:** At least one-third of the credits shall be delivered by DCTC.

**Diplomas:** At least one-third of the credits shall be delivered by DCTC.

**Associate in Applied Science Degrees:** At least 20 semester credits shall be delivered by DCTC. At least 30 semester credits shall be program-related occupation or technical credits.

**Associate in Science Degrees:** At least 20 semester credits shall be delivered by DCTC. At least 30 semester credits shall be program-related occupation or technical credits.

3. Comply with all applicable rules and regulations of DCTC (i.e., outstanding tuition paid, library materials returned, equipment returned, etc.)

Students entering DCTC will have four years in which to complete their work under the terms of the catalog in effect at the time of their enrollment.

Students taking more than four years of continuous enrollment to complete graduation requirements at Dakota County Technical College may follow any catalog under which they were enrolled during the four-year period preceding their date of graduation. Students who stop out for more than one semester, not including a summer term stop out, are obligated to the program requirements in place for the college catalog year of the term of re-enrollment. Students who are not continuously enrolled and return to the college must meet with an advisor to plan their completion.

Formal graduation ceremonies are held near the end of spring semester. Official transcripts and diplomas are sent in mid-summer to students who meet all final criteria for their program.

### Grade and Grade Points

DCTC uses a 4.0 grading scale. Please see the Student Handbook for details.

### Grading Options

1. **P/NC Grading (Pass/No Credit):** Students may elect to take a course on a P/NC (pass/no credit) grading basis by filing the Request for Alternate Grading form signed by the faculty member with the Student Services office before the 10th class day of the semester. Because of the nature and intent of some majors, there are specific courses that should not be taken on the P/NC system. It is important that the student consult a counselor or an advisor before deciding on this grading option.

There are also special topic courses, workshops, and developmental courses that are offered only on a P/NC basis. This will be indicated in the catalog, course syllabus, or semester schedule.

2. **AU Grading (Audit):** A student who wishes to audit or attend a credit-bearing course without seeking credit must register for the course and pay full tuition and fees. A student must declare the intent to audit a course by submitting the Request for Alternate Grading form signed by the faculty member and submitted to the Student Services office within the first 10 days of the semester or by notifying the faculty member at the first class session for evening, workshop, or off-campus courses. A student may not receive credit for auditing a course except by re-enrollment for credit and successful completion of the course in a subsequent semester.

### Grade Point Average

Grades are submitted by instructors and processed by the Student Services office each semester. Term grade point averages and cumulative grade point averages are calculated and updated for students each semester. Grade point average is calculated by adding all grade points and dividing by the sum of all credits earned A-F.



**Grade Progress Reports**

Student progress reports are available online to each student within three weeks of the end of each semester. Reports can be accessed on DCTC's registration Web site. Students needing assistance should contact the Registration office at 651-423-8038.

**Incomplete Grades**

A grade of Incomplete may be given only at the student's request. A student may request a grade of "I" for Incomplete when doing satisfactory work in a course but unable to complete all coursework requirements during the semester. This request must be made on the Incomplete Grade Request form, supported and signed by the faculty member, and submitted to the Student Services office by the last day of the semester. If work for the course is not completed during the extension period, the Incomplete will become an F and be recorded on the transcript.

**Completion Rate**

Term and cumulative completion rates are calculated and recorded on the transcript. Student completion rate is determined by dividing the total number of successfully completed credits by the total attempted credits.

**Repeat Courses**

Students may repeat courses in which they received grades of D, F, W, or No Credit. The first grade will also appear on the transcript, but only the higher grade will be used in calculating the grade point average. A course may be repeated only once. Students may not repeat the course more than one time or repeat with a grade higher than a D without the approval of the Dean of their division. It is recommended that students consult with the Financial Aid office for eligibility prior to repeating a course. Students must inform the Registration office if they have successfully repeated a course. A manual re-calculation of G.P.A. will be necessary.

**Non-Discrimination Policy**

Dakota County Technical College admits students without regard to race, creed, color, gender, sexual preference, national origin, age, marital status, status with regard to public assistance, religion, disability, or membership or activity in a local commission as defined by law to all the rights, privileges, programs, and activities generally made available to students at the college. It does not discriminate on the basis of race, gender, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law in the administration of its educational policies, admission policies, scholarship and loan programs, athletics, or other school-administrated programs.

**Disability Non-Discrimination Policy**

It is the policy of Dakota County Technical College to encourage the participation of any qualified individual in any program, service, or activity sponsored by the college, including qualified individuals with disabilities. It shall be a violation of this policy for a qualified person with a disability, on the basis of the disability, to be excluded from these benefits. The college will make reasonable accommodations for the documented physical or mental limitations of an otherwise qualified person with a disability unless such accommodations would impose an undue hardship or fundamental alteration to the operation of its programs.

If you would like additional information regarding rights and remedies available under the ADA or wish to request accommodations for a disability or file a grievance based on non-compliance with the provisions of the ADA, please contact Anne Swanberg, Disability Advisor, at 651-423-8469 (voice) or 651-423-8621 (TTY).

**Harassment and Violence Policy**

It is the policy of Dakota County Technical College to maintain a learning and working environment that is free from racial discrimination/harassment, sex discrimination/harassment and violence, and sexual orientation discrimination/harassment. The college prohibits any form of racial or sexual discrimination, harassment, or violence.

It shall be a violation of this policy for any student, instructor, administrator, or other personnel of the college to harass a student, instructor, administrator, or other college personnel through conduct or communication of a sexual nature or regarding race as defined by this policy. (For the purposes of this policy, college personnel include college employees, agents, volunteers, contractors, or persons subject to the supervision and control of the college.) This policy also includes any extension of the college environment, (i.e., off-site environments, college-sponsored events, customers, and/or vendors).

Any person who believes he or she has been the victim of racial or sexual harassment or violence by a student, instructor, administrator, or other college personnel, or any person with knowledge or belief of conduct which may

**WEB LINK**

*DCTC's policies can be viewed*

*in full detail by visiting:*

<http://dctc.edu/aboutus/policies.cfm>

constitute racial or sexual harassment or violence toward a student, instructor, administrator, or other college personnel should report the alleged act(s) immediately to an appropriate college official designated by this policy. The college encourages the reporting party or complainant to use the report form made available for this purpose, but oral reports shall be considered complaints as well. For help or to file a complaint, contact Sue Raddatz, Human Resources Director, in the Human Resources office. A complete copy of the harassment/violence policy is available in the student handbook and on the Web site at <http://dctc.edu>.

### **Crime Awareness and Campus Security**

DCTC recognizes providing the safest environment possible is an integral element of the college's mission and annually publishes a Campus Security Report that is available to everyone. This report provides statements of policy for a broad range of safety and security programs including crime prevention and reporting, personal safety, enforcement authority and response, and a three-year statistical review of designated crimes on campus. A printed copy of this report may be obtained, at no charge, from the Student Services office or by calling 651-423-8301.

### **Health and Safety**

#### **Crime Awareness and Campus Security Act**

DCTC has an annual security report that is made available to the public and students as required by the Federal Crime Awareness and Campus Security Act. Annually updated and distributed, this report contains specified crime statistics and other information related to campus safety issues. Copies of this report are available through Student Services.

#### **Possession or Carrying of Firearms**

Students are prohibited from possessing or carrying a firearm while on DCTC property, regardless of whether the student has a permit to carry a firearm, except as otherwise provided Minnesota State Colleges and Universities Policy 5.21 Possession or Carry of Firearms. This policy does not prohibit the lawful possession or carry of firearms in a parking area or parking facility. Violations of this policy are misconduct subject to discipline, up to and including expulsion or termination.

#### **Bloodborne Pathogens and Communicable Diseases**

DCTC complies with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030.

DCTC respects the rights of individuals with a communicable disease to education, to privacy, and to be free from discrimination. DCTC also acknowledges the rights of others in the system to be educated in a safe environment and the need to educate administrators, faculty, and students about preventing and reducing the risk of transmission of communicable diseases.

Students with communicable diseases will not be excluded from attending school in their regular classrooms so long as their attendance does not create a substantial risk of the transmission of illness to other students or employees.

Sharps containers are located in the Health Services office and the first and second floor restroom near room 1-700, 2-720, 1-500, and 2-500.

Copies of the complete policy may be obtained from the Health Services office.

### **Drug-Free Campus Policy**

In compliance with the Drug-Free Schools and Communities Act Amendments of 1989 (Public Law 101-226), Dakota County Technical College has adopted and implemented a program to prevent the illicit use of drugs and the abuse of alcohol by students and employees.

Dakota County Technical College prohibits students from possessing, using, and/or distributing illegal drugs and using alcohol on the college grounds or in college vehicles. Possession, use, and distribution of illegal drugs and the illegal use and distribution of alcohol are also prohibited at all college-sponsored activities which occur on or off campus.

DCTC recognizes that there are many severe health and psychological risks associated with the use of illegal drugs and abuse of alcohol. These risks have been outlined by many health care agencies including the office of the Surgeon General. In addition to these risks, the use of illegal drugs and abuse of alcohol contribute to a negative environment which does not promote the pursuit of a technical education. Therefore, the college will continue to implement services and policies that will insure a drug-free environment for students and employees.

### **Restrictions on Smoking and Tobacco Use**

It is the policy of Dakota County Technical College that no person may smoke or use a tobacco product in any building which is owned or leased by the college or in any vehicle which is owned or leased by the college.



### Academic Freedom

Individual students and student organizations shall be free to examine and to discuss all questions of interest to them and to express opinions publicly and privately. They shall be free to support causes by orderly means that do not disrupt the regular and essential operation of the college.

In the classroom, students shall be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study in which they are enrolled.

### Policies, Petitions, and Grievances

There are a number of policies governing students, their rights and responsibilities, and the procedure for processing a grievance. These policies are printed in the student handbook, which is available in the Student Services office and on the college Web site.

### Student Records Policy and Procedures

In compliance with Section 99.6 of the regulations implementing the Family Educational Rights and Privacy Act of 1974, Dakota County Technical College maintains records about students in various places within the institution. Under federal and state law, students have certain rights concerning the records that the college maintains. This notice is to make students aware of those rights. Students with questions about their rights should contact the Registrar in the Student Services office. Full detail of this policy is available in the student handbook.

### Directory Information/Data Privacy

Notice is hereby given: That Dakota County Technical College, pursuant to the U.S. General Education Provisions Act and Minnesota Government Data Practices Act, declares the following as "Directory Information" as provided in said Act, and that information relating to students may be made public if said information is in any of the following categories:

- Student's name
- Student's address
- Student's photographs, including ID photograph
- Student's telephone numbers
- Date of birth
- E-mail addresses
- Major field of study
- Dates of attendance
- Participation in officially recognized activities
- Degrees and awards received
- Honors

Directory information does not include identifying data which references religion, race, color, nationality, or disability. Any student or eligible student in the college may notify the college of his/her desire that none of the above information be released without consent by contacting the Student Services office and by completing the required form.

### Information Collected

Minnesota Statute Sec 13.02 SUBD 2 (Tennessen Warning) stipulates that Dakota County Technical College must inform individuals who ask for personal data of the following facts:

1. The information requested is to be used for the purpose of admission to courses and majors and for demographic research.
2. Students are not legally required to provide requested data.
3. The known consequence of refusing to supply the requested information would consist of a refusal by Dakota County Technical College to accept a student's registration. All requested data is essential to Dakota County Technical College's research, reporting, and registration processes.



# OUTREACH

## **Customized Training**

The Customized Training office serves those who are in need of short-term training or retraining for their present job or a new job.

Course content is related to the current needs of business, industry, and the employee. Classroom and laboratory experiences are related to the workplace and are designed to give the student "how to" skills that are of immediate benefit. Call 651-423-8472 for more information.

### **Customized Training courses feature:**

- Industry experts
- Cutting-edge training
- Hands-on experience
- Practical focus
- Varied subjects
- Career enhancement/advancement
- Personal growth
- Skill development
- Convenient times (days, evenings, weekends)

Dakota County Technical College has been committed to the delivery of customized training to area businesses for many years. Customized training was created to provide technologically advanced and professionally sound training to both large and small businesses.



Customized Training offers one-stop shopping for business and industry. The following divisions offer expert advice to business and industry professionals:

## **Business and Professional Development**

Increase ROI  
Enhance Customer Satisfaction  
Strengthen Relationships  
Improve Performance  
Achieve Immediate Outcomes

## **Information Technology**

Microsoft  
Cisco  
Network Security  
Visual Basic  
JAVA

## **Manufacturing**

Electricity  
Lean Manufacturing  
Programmable Logic Controllers  
Motor Controls  
Nanotechnology

## **Public Safety**

Law Enforcement Training  
VIP Protection  
Corporate Security  
Private Investigation  
Self Defense

## **Transportation**

Truck Driver Training  
Defensive Driving and Accident Avoidance  
Motorcycle Safety  
Emergency Response

Check out <http://customizedtraining.com> or call 651-423-8472 for more information on Customized Training.

## ADMINISTRATION

---

**Thomas, Ronald E., 1999**

*President*

B.S., Northeast Missouri State

M.S., Southern Illinois University, Edwardsville

Ph.D., Southern Illinois University, Carbondale

**Anderson, Randy, 2005**

*Vice President of Finance, Operations,*

*Student Services, and Marketing*

B.S., St. Cloud State University

M.B.A., St. Cloud State University

**Erickson, Ron 2003**

*Vice President of*

*Academic Affairs and Institutional Planning*

B.A., Gustavus Adolphus

M.A., University of South Florida

Ph.D., University of Minnesota

**LaComb, Sharon, 1986**

*Vice President of Institutional Advancement*

B.A., College of St. Catherine

**Carrigan, Kelly, 1996**

*Dean of General Education and Academic Support*

B.A., University of Minnesota, Morris

M.A., Bowling Green State University

**Cox, Sherralyn, 2007**

*Dean of Design, Health and Human Service Careers*

B.S., University of Louisville

M.S., Western Kentucky University

Ph.D., University of Kentucky

**Hebert, Gary, 1979**

*Dean of Business, Technology, and Customized Training*

B.A., University of Wisconsin, Eau Claire

M.S., University of Wisconsin, Stout

**Opp, Mike, 2002**

*Dean of Transportation and Industry*

B.S.E., University of South Dakota

M.S., Northern State University

E.d.S., University of South Dakota

**Mollenlopf-Pigsley, Christine, 2004**

*Associate Dean of the Business Entrepreneurship Institute and Customized Training*

B.S., Michigan State University

**Raddatz, Sue, 1990**

*Director of Human Resources*

A.A., Bethany Lutheran College

## FACULTY

---

**Addy, Steve, 1999**

Electrical Lineworker

Credentialed

**Arneson, Brenda, 2003**

Nursing Assistant

A.A.S., Excelsior College, New York

**Bailey, Nancy, 1987**

Counselor

B.S., Iowa State University

M.S., Mankato State University

**Behnke, Jill, 1985**

Child Development

B.S., University of Wisconsin-Stout

M.S., University of Wisconsin-Stout

**Belanger, Mary, 2001**

Graphic Design Technology

B.S., Bemidji State University

**Bezanson, Steven, 2005**

Biomedical Technology

B.S., National College of Business

**Blume, Ronald, 1980**

Electrical Lineworker

Credentialed

**Braa, Dawn, 2004**

Child Development

B.S., Minnesota State University

Mankato

**Brooks, Matthew, 1997**

Landscape Technology

B.A., University of Illinois at Urbana/

Champaign

M.L.A., University of Minnesota

**Buck, Michael, 2006**

Electrical Construction and Maintenance

A.S., Dunwoody College

**Buttz, Carol, 2004**

Practical Nursing

B.S., College of St. Francis

**Campbell, Joe, 2007**

English

B.A., University of Minnesota

M.A., California State University,

Los Angeles

M.F.A., Colorado State University

**Carson, Jean, 2001**

Health Careers

B.S., Bethel College

**Chambers, Leo, 1988**

Accounting

M.B.A., Mankato State University

**Claybrook, Beverly, 1995**

Architectural Technology

B.A., State University of New York

M.A., University of Minnesota

## FACULTY

**Copeland, Jeffery, 2003**

Automotive Technology  
A.A.S., Des Moines Area  
Community College

**Early, Cordelia, 2007**

Interior Design  
B.S., University of Minnesota  
B.S., University of Wisconsin

**Eells, Joe, 2002**

Psychology  
B.S., University of Wisconsin, Stout  
M.S., University of Wisconsin, Stout

**Eilers, William, 2001**

Photographic Technology  
B.S., University of Wisconsin  
M.A., University of Minnesota

**Engberg, Robert, 1997**

Automotive Technology  
B.A., University of Minnesota, Morris

**Erickson, Darryl, 2002**

Computer Careers  
B.A., St. Cloud State University

**Farniok, Anne, 2007**

Interior Design  
B.S., University of Minnesota

**Frich, Steven, 2007**

Computer Networking  
B.S., Northwestern College

**Geisler, Paul, 2003**

Concrete Masonry  
Certificate, Milwaukee Technical College  
Certificate, Fennimore Technical College

**Grant, Mark, 2000**

Speech Communication  
B.S., Mankato State University  
M.A., Mankato State University

**Gruenes, Ronald, 2003**

Electrical Construction and Maintenance  
Diploma, St. Cloud Technical College

**Gunderson, Scott, 2000**

Supervisory Management  
B.S., LaSalle University

**Hansberger, Bruce, 2002**

Electrical Construction and Maintenance  
B.A., University of Minnesota

**Hickman, Mark, 1988**

Automotive Technology  
B.S., University of Minnesota

**Huus, Katharine, 2000**

Interior Design  
B.S., San Jose State University

**Johanson, Susan, 1990**

Office Careers  
B.S., University of Minnesota  
M.A., Saint Mary's University

**Kirby, Michael, 2004**

College Librarian  
B.A., Macalester College  
M.S., University of California

**Kleinboehl, Jeffrey, 1979**

Landscape Horticulture  
Diploma, Dakota County  
Technical College

**Kodner, Charlotte, 1978**

Office Careers  
B.A., University of Wisconsin, Eau Claire  
M.Ed., University of Minnesota

**Kohanek, Mitchell, 1991**

Wood Finishing Technology  
B.S., Mankato State University

**Krueger, Betty, 1999**

Computer Careers  
B.S., Iowa State University  
M.E., The College of St. Scholastica

**Kujala, Patricia, 1998**

Practical Nursing  
B.S.N., Metropolitan State University

**Larson, Connie, 1995**

Graphic Design Technology  
B.A., University of Minnesota  
B.A., Alverno College  
M.E., University of Minnesota

**Larson, Gayle, 1990**

English  
B.A., Metro State University  
M.A., Saint Mary's University

**Lee, Rosealee, 2006**

Supervisory Management  
Credentialed

**Loes, Doris, CPA, 1979**

Accounting  
B.A., Metro State University  
M.B.A., University of St. Thomas

**Logan, Scott, 1992**

Auto Body Repair  
Diploma, Dakota County  
Technical College

**Long, Michael, 1981**

Heavy Construction Equip. Mechanic  
Credentialed

**McCluskey, Timothy, 1989**

Automotive Technology  
Diploma, St. Paul Technical College

**Milne, Margaret, 2002**

English  
B.S., University of New York  
M.F.A., Minnesota State University,  
Mankato  
M.A.E., University of South Dakota

**Moe, Cassandra, 2003**

Biology  
B.S., University of Minnesota  
Ph.D., University of Maryland

**Nadeau, Patrice, 1994**

Medical Assistant  
B.S., University of Minnesota  
M.S., University of North Dakota

**Newberry, Deb, 2004**

Nanoscience Technology  
B.S., University of North Dakota  
M.S., University of North Dakota

**Niebur, Kathy, 2002**

Flextime Lab  
B.S., San Diego State University

## FACULTY

**Norton, Ed, 1989**

General Motors Training Center  
Diploma, Anoka Technical College

**Olson, Roger, 1989**

Automotive Technology  
Diploma, Dunwoody Institute

**Osland, Gregory, 1980**

Heavy Duty Truck Technology  
B.E.S., St. Cloud State University

**Otteson, Richard, 1981**

Heavy Duty Truck Technology  
B.E.S., St. Cloud State University

**Otto, Martin, 1997**

Property Management  
B.A., Mankato State University

**Pieper, Jaime, 1994**

Dental Assistant  
Diploma, Bemidji Technical Institute  
B.A., Metro State University

**Reese, Judith, 1979**

English  
B.S., University of Minnesota  
M.A., University of Minnesota

**Robinson-West, Jennifer, 1979**

Vocational Advisor  
B.A., Hunter College of the City of  
New York

**Rollag, Jerry, 2001**

Welding Technology  
Credentialed

**Rose, Claudia, 1996**

Communications  
B.S., University of North Dakota

**Ruzicka, Daniel, 2002**

Heavy Construction Equip. Mechanic  
Diploma, Dakota County  
Technical College

**Skoro, Peter, 1995**

Graphic Design Technology  
B.F.A., Minneapolis College of Art  
and Design  
M.E., The College of St. Scholastica

**Spano, Donald, 2005**

Railroad Conductor  
B.A., University of St. Thomas

**Stone, Larry, 2003**

Mathematics  
B.S., University of Lowell  
M.S., University of Minnesota

**Statz, Carie, 2002**

Marketing and Sales  
B.A., University of Wisconsin, LaCrosse  
M.A., University of Wisconsin, Milwaukee

**Strenger, Denise, 2002**

Sociology  
B.A., University of St. Thomas  
M.S., California State University,  
Los Angeles

**Suddendorf, Judy, 1998**

Computer Careers  
B.A., University of Northern Iowa  
M.A.E., University of Northern Iowa

**Sullivan, Diana, 1994**

Dental Assistant  
B.A., Metro State University  
M.S., Cardinal Stritch College

**Tangen, Darrell, 1988**

Photographic Technology  
A.A.S., Anoka-Ramsey  
Community College  
B.S., University of Minnesota  
M.A., St. Mary's University

**Torrence, Harold, 2006**

Supervisory Management  
B.A., Unitec  
M.A., Hamline University

**Tuttle, Barbara, 2005**

Reference Librarian  
B.A., New York University  
M.A., New York University  
M.S., Columbia University

**Verhoye, Anna, 2001**

Speech Communications  
B.A., San Diego State University  
M.A., San Diego State University

**Voss, Bob, 2002**

Business Entrepreneur  
B.A., Gustavus Adolphus College

**West, Jr., Charles, 1979**

Architectural Technology  
Diploma, Anoka Technical College

**Wood, Thomas, CLU, 1982**

Accounting  
B.A., University of Minnesota  
M.Ed., University of Minnesota

**Woodward, Sara, 2002**

Exercise and Sport Science  
B.S., University of Minnesota  
M.S., University of Minnesota

**Zimmerman, DiAnn, 2001**

Practical Nursing  
B.S.N., Mary College  
M.S.N., University of Mary



*United Parcel Service is a proud supporter of technical education at DCTC*



Course descriptions are organized alphabetically by program area.

Each description includes the course number, title, number of credits, description of course, required prerequisites, and the semester that the course is usually offered.\*

\* Some courses may be scheduled for additional semesters. Courses that do not have a semester listed vary each term. For the most current semester schedule, visit [www.dctc.edu](http://www.dctc.edu).

DCTC courses that may articulate to high school courses are designated with **\*\*Articulated\*\*** at the end of the course description. For additional information, see Tech Prep Agreements on page 105.



# course descriptions

## ACCOUNTING

**ACCT1000 Principles of Accounting I 4 cr**  
This course covers the fundamental accounting concepts and principles that are used in a business environment. It serves as the introductory course to financial accounting as it relates to accrual accounting. Prerequisites: None. Offered: Fall, Spring. \*\*Articulated\*\*

**ACCT1003 Principles of Accounting II 4 cr**  
This course provides instruction for the analysis and recording of transactions relating to partnerships and corporations in both merchandising and manufacturing environments. Prerequisites: ACCT1000. Offered: Fall, Spring.

**ACCT1005 Principles of Bookkeeping 2 cr**  
This course is an introduction to basic accounting procedures, including analyzing business transactions, recording transactions in the general journal, preparing financial statements, handling cash and completing the accounting cycle for non-accounting majors. Prerequisites: None. Offered: Spring.

**ACCT1100 Business Law and Ethics 3 cr**  
This course is an introductory course in the principles of law as they apply to citizens and business. Prerequisites: None. Offered: Fall. \*\*Articulated\*\*

**ACCT1106 Accounting Mathematics 3 cr**  
This course includes a review of the basics of arithmetic and algebra. The focus is on business and financial operations concepts with a strong emphasis on problem solving. Students learn the touch system on the numeric keyboard for calculators and computer keyboards. Prerequisites: None. Offered: Fall, Spring.

**ACCT1226 Payroll Accounting 3 cr**  
This course covers the various state and federal laws pertaining to the computation and payment of salaries and wages. Topics include preparation of employment records, payroll registers, employee earnings records, and state and federal reports. A special business project will be required. Prerequisites: ACCT1000

**ACCT1236 Business Payroll 2 cr**  
This course covers the various state and federal laws pertaining to the computation and payment of salaries and wages. Topics include preparation of employment records, payroll registers, employee earnings records, and state and federal reports. Prerequisites: ACCT1000

**ACCT1306 Spreadsheets 3 cr**  
This course covers the use of a computer spreadsheet program for accounting applications. Topics include managing multiple-sheet spreadsheets, creating and using charts and graphs, creating complex formulas and creating and printing reports. Prerequisites: COML1400. Offered: Fall, Spring.

**ACCT1406 Income Tax 4 cr**  
This course provides a practical explanation of the Internal Revenue Code as it applies to individuals and businesses. Tax forms are an integral part of this course. Prerequisites: None. Offered: Fall, Spring.

**ACCT2000 Intermediate Accounting I 4 cr**  
This course is a comprehensive study of accounting theory and concepts with an analysis of the influence on financial accounting by various boards, association, and governmental agencies. Topics include the income statement, balance sheet, cash, marketable securities, notes and accounts receivable, plant and intangible assets and bonds and leases. Prerequisites: ACCT1003. Offered: Fall, Spring.

**ACCT2003 Intermediate Accounting II 4 cr**  
This course is a continuation of the comprehensive study of accounting theory and concepts. Topics include long-term

investments, current and contingent liabilities, pension plans, owner's equity, accounting for income taxes, earnings per share and financial statement analysis. Prerequisites: ACCT2000. Offered: Fall, Spring.

**ACCT2100 Cost Accounting I 4 cr**  
This course covers accounting for materials, labor and factory overhead in a manufacturing entity. Other topics include the job order cost system, the process cost system and accounting for scrap, spoiled goods, by-products and joint products. Prerequisites: ACCT1003. Offered: Fall, Spring.

**ACCT2103 Cost Accounting II 4 cr**  
Topics include cost-volume-profit relationships, differential costs and revenues, budgeting, standard costing, and cost analysis. Also included are quantitative techniques used for inventory control. Prerequisites: ACCT2100. Offered: Fall, Spring.

**ACCT2200 Accounting Computer Applications I 3 cr**  
This course is an introduction to computerized accounting applications. Topics include general ledger, payroll, accounts receivable, and accounts payable. Prerequisites: ACCT1000 and COML1400. Offered: Fall, Spring.

**ACCT2203 Accounting Computer Applications II 3 cr**  
This course involves the use of a commercial accounting software package to complete an accounting simulation. Topics include depreciation and fixed assets. Prerequisites: ACCT2200. Offered: Fall, Spring.

**ACCT2206 Fund/Nonprofit Accounting 3 cr**  
This course covers the application of generally accepted accounting principles for state and local governmental units. Topics include accounting for states, municipalities and not-for-profit organizations with some federal government accounting. Prerequisites: ACCT1003.

**ACCT2306 Auditing 3 cr**  
This course is the fundamental course in external auditing. The course will be a practical application of external auditing as it applies to public accounting. Prerequisites: ACCT1000. Offered: Spring.

**ACCT2400 Personal Financial Management 2 cr**  
This course covers the major aspects of personal finance including budgeting, credit, insurance, tax planning, investing and retirement and estate planning. Prerequisites: None. Offered: Fall, Spring.

## ARCHITECTURAL TECHNOLOGY

**ARCT1101 Architectural Studio 1A 4 cr**  
Students will study the fundamentals of residential design and construction. Learning will occur in the context of preparing two residential projects. The projects will focus on manual architectural drafting standards and typical residential building technology. The second project will integrate residential design elements and building code requirements. Prerequisites: None.

**ARCT1102 Architectural Studio 1B 4 cr**  
Students will study multi-family light commercial design and building technology. Learning will occur in the context of preparing a CAD drafted set of commercial construction documents. The project focus will be to integrate exterior design development, unit plan development and site plan development. Prerequisites: None.

**ARCT1103 Building Technology I 3 cr**  
This course will introduce the beginning architectural technology student to the characteristics and properties of common building materials: wood, masonry, concrete and metals. Fundamentals of current building technology principles will be learned in association with studio projects. Students will research building technology principles from library resources, manufacturer's catalogs and

professionally prepared construction documents. Prerequisites: Concurrent enrollment in ARCT1100. Offered: Fall.

**ARCT1107 CAD I 3 cr**

This course will introduce the beginning architectural technology student to computer-aided design programs currently being used in professional design offices. Fundamental concepts, commands, and tools of a CAD environment will be taught with a hands-on approach to learning. Students will complete self-paced drafting exercises. Prerequisites: A working knowledge of Windows Operating System or instructor approval. Offered: Fall \*\*Articulated\*\*.

**ARCT1200 Architectural Studio II 8 cr**

Students prepare design construction documents for a small-scale commercial building in a simulated professional design office. Students learn to integrate building codes, ADA, and structural systems into their designs. Prerequisites: ARCT1100, and concurrent enrollment in ARCT1203. Offered: Spring.

**ARCT1203 Building Technology II 3 cr**

Various commercial building codes will be presented and analyzed. The student will do a building codes research project. The completed research will be documented and integrated into design projects. Prerequisites: ARCT1100 and ARCT1103, and concurrent enrollment in ARCT1200. Offered: Spring.

**ARCT1207 CAD II 3 cr**

This course builds on the student's knowledge of AutoCAD. The student will use intermediate AutoCAD techniques to develop construction drawings to supplement the work in ARCT 1200. Prerequisites: ARCT1107. Offered: Spring.

**ARCT1300 Introduction to SketchUp Modeling Software 3 cr**

This course will introduce the motivated student to three-dimensional modeling software currently being used in professional design offices. Fundamental concepts, commands, and tools of the SketchUp will be taught in an enhanced online learning environment. There will be two on site formal lectures introducing basic concepts and ten online sessions. Students will submit required projects, questions and comments, to D2L server. Students will complete self-paced tutorials available at the following web address: [www.sketchup.com](http://www.sketchup.com) Prerequisites: The student will have a working knowledge of Mac OS and/or Windows XP. It is recommended the student have a background in either drafting, art or computer graphics.

**ARCT1400 Residential Planning and Design 4 cr**

This course will introduce the interested student to the fundamentals of residential design. The course curriculum is intended to guide the learner toward a basic understanding of Plot Plan layout, Floor Plan development and current Architectural styles. Prerequisites: None.

**ARCT1425 Architectural Drawings and Methods 4 cr**

This course will introduce the interested student to the fundamentals of Architectural drawings. the course curriculum is intended to guide the learner toward a basic understanding of Sketching to Scale, Orthographic Images and required project Drawings for the purposes of design and construction. Prerequisites: None.

**ARCT1450 Wood Frame Building Technologies 4 cr**

This course will introduce the interested student to the fundamentals of Wood Frame construction. The course curriculum is intended to guide the learner toward a basic understanding of Foundation Construction, Wood Frame assemblies and conventional building systems. Prerequisites: None.

**ARCT1475 Residential Construction and Costs 4 cr**

This course will introduce the interested students to the construction process for residential structures. The course curriculum is intended to guide the learner toward a basic understanding of contracting, cost estimating and building official inspections. Prerequisites: None.

**ARCT2100 Architectural Studio III 8 cr**

Students prepare architectural drawings for a small-scale commercial building. This course builds on the students' architectural technology skills as they prepare projects for their portfolios. Prerequisites: ARCT1200, and concurrent enrollment in ARCT2103. Offered: Fall.

**ARCT2103 Building Technology III 3 cr**

This course will introduce the student to acoustics, electrical/lighting, plumbing, HVAC, insulation and vapor barriers, and fire protection. The student will integrate research on various building systems into design projects. Prerequisites: ARCT1203, and concurrent enrollment in ARCT2100. Offered: Fall.

**ARCT2107 CAD III 3 cr**

This course builds on the student's knowledge of AutoCAD. The student will use advanced AutoCAD techniques to develop construction drawings to supplement the work in ARCT 2100. Prerequisites: ARCT1207 or equivalent. Offered: Fall.

**ARCT2200 Architectural Studio IV 5 cr**

This course provides an opportunity for the student to demonstrate previously learned architectural technology skills by independently preparing computer-aided design working drawings of a commercial project elevation detail sheet. Students will incorporate the completed drawings into their portfolios for internship interviews with future employers. Prerequisites: ARCT2100. Offered: Spring.

## ARTS

**ARTS1000 Visual Communications 3 cr**

We live in a world that often places us in a position of visual overload. The ease with which materials can be produced and shared with global audiences means that in our daily lives we are often overwhelmed by visual information. It is important that we learn to read, interpret and use images for communication purposes. It is also imperative that we explore how to place visual work in a context that allows us to understand the social, political and cultural implications of various visual productions. This course is an introduction about the theories and hands-on aspects of visual communications. We will explore both the production and consumption of visual images. Prerequisites: None.

**ARTS1100 History of Photography 3 cr**

This course will allow students to explore photography and its affects on culture by examining the origins of the medium. While it may seem that photography belongs only to the twentieth century, students will learn that the origins of the first camera date back hundreds of years. Early photographers were often "frustrated painters," and affected strongly by art and art history movements. This class then will begin with a review of the camera's beginnings and of the artistic cultural milieu that helped to bring the medium into adulthood in the twentieth century. Prerequisites: None.

**ARTS1200 The Creative Process 3 cr**

Much of the thinking learned in school and in the work environment place an emphasis on learning how to understand claims, follow or create a logical argument, figure out the answer, eliminate the incorrect paths and focus on the correct one. There is, however, another kind of thinking, centered on exploring ideas, generating possibilities, looking for many right answers rather than just the "correct" one. Both of these kinds of thinking are vital to success in the work place, yet the creative approach tends to be ignored until after the formal education is complete. In this course we will explore the creative thought process and develop systems to encourage and develop new idea generation. Prerequisites: None.

**ARTS1300 History of Architecture 4 cr**  
This course will cover architecture from prehistory up to today, looking at examples throughout history and examining the issues that help shape them. The course will not only look at who designed the buildings, but who built them, who used them, and why. Beginning with the earliest manmade shelters and ending with issues influencing architecture today, the course will introduce students to different ways of seeing buildings and architecture as cultural artifacts emblematic of culture. Meets MnTC Goal 6 Prerequisites: None.

## AUTO BODY COLLISION TECHNOLOGY

**ABCT1111 Collision Repair Welding I 2 cr**  
This course covers welding safety, familiarization with oxyacetylene equipment and MIG welder operations. Prerequisites: None. Offered: Fall.

**ABCT1120 Sheet Metal Repair 5 cr**  
This course covers the tools and processes used for repairing minor damage on sheet metal panels. Safe and proper use of body fillers are included in this course. A Prerequisites: ABCT1100 and ABCT1111. Offered: Fall \*\*Articulated\*\*.

**ABCT1130 Refinishing Preparation I 2 cr**  
This course covers surface preparation procedures for spot and overall refinishing. Prerequisites: ABCT1120 and ABCT1142. Offered: Fall \*\*Articulated\*\*.

**ABCT1142 Glass, Trim, and Hardware 4 cr**  
This course covers the procedures for the removal and replacement of automotive glass and many components of a vehicle. Prerequisites: None. Offered: Fall.

**ABCT1150 Reconditioning and Detailing 2 cr**  
This course covers various methods of vehicle cleanup and reconditioning. Prerequisites: None. Offered: Fall \*\*Articulated\*\*.

**ABCT1212 Collision Repair Welding II 2 cr**  
This course covers advanced welding methods used in collision repair. It also includes the I-Car Welding Qualification Test. Prerequisites: ABCT1111. Offered: Spring. \*\*Articulated\*\*

**ABCT1214 Refinishing Preparation II 3 cr**  
This course covers procedures for preparation and application of undercoat systems. Panel preparation techniques are also covered. Prerequisites: ABCT1120, ABCT1130, ABCT1142. Offered: Spring.

**ABCT1216 Refinishing Application 5 cr**  
This course covers the application of primers, sealers and topcoats. Single stage, basecoat/clearcoat and tri-coat paint systems will be applied. Color theory and matching are also covered. Prerequisites: ABCT1130, ABCT1142, ABCT1150, ABCT1214. Offered: Spring.

**ABCT1230 Auto Body Plastic Repair 2 cr**  
This course covers the different methods of repairing automotive plastics. Prerequisites: ABCT1130, ABCT1142, ABCT1216. Offered: Spring.

**ABCT2100 Body Electrical 2 cr**  
This course covers operation, servicing of chassis wiring, lights, instrument, and accessories. It also includes how to read wiring diagrams and diagnose electrical problems related to collision repair. Prerequisites: None. Offered: Spring.

**ABCT2102 Shop Management and Estimating 2 cr**  
This course will focus on management duties related to personnel, shop flow and monetary tasks. This course will contain and require handwritten and computer driven estimation procedures and understanding of estimating terminology. Prerequisites: None. Offered: Fall.

**ABCT2106 Collision Damage Repair/Replacement 6 cr**  
This course will cover replacement of new and used panels using the proper sectioning techniques. Content will be based on proper methods that are approved and tested to meet O.E.M. and I-CAR standards for proper structural integrity of the repair and the vehicle. Prerequisites: ABCT1111, 1120, 1130, 1142, 1150, 1212, 1214, 1216, 1230. Offered: Fall.

**ABCT2108 Unibody/Frame/Wheel Alignment I 4 cr**  
This course will cover equipment, methods and techniques used for successfully identifying anchoring and pulling frame type and unibody type vehicles. Prerequisites: ABCT1111, 1120, 1130, 1142, 1150, 1212, 1214, 1216, 1230. Offered: Fall.

**ABCT2212 Unibody/Frame/Wheel Alignment II 6 cr**  
This course is a continuation of ABCT 2106, and ABCT 2108. It covers some of the same tasks and allows the student to build his or her skills and complete tasks that were not done in the previous courses. Prerequisites: ABCT1111, 1120, 1130, 1142, 1150, 1212, 1214, 1216, 1230. Offered: Spring.

**ABCT2230 Body Mechanical and Air Conditioning 3 cr**  
This course contains subject matter related to mechanical repairs as a result of a collision. The course will include engine and drivetrain removal, some brake repair, air conditioning repair, and restraint system repair and replacement. Prerequisites: None. Offered: Fall.

## AUTOMOTIVE RESTORATION

**ARES1000 Intro to Auto Restoration Welding/Sheet Metal 6 cr**  
This course covers basic tools and techniques for the restoration of older vehicles. Topics will include: welding, rust repair, metal straightening, plastic filler application and corrosion protection. Prerequisites: None. Offered: Fall, Spring, Summer.

## AUTOMOTIVE TECHNICIAN

**AUTM2000 Basic Electrical and Battery 3 cr**  
This course teaches basic fundamentals of electricity and electronics, sources of electricity, circuits, magnetism, resistance, coils, capacitance, instruments, diode and solid-state devices. Topics are presented in a manner that relates the subject to the occupation. Prerequisites: None. Offered: Fall, Spring.

**AUTM2001 Know Your Car 1 cr**  
This course covers correct procedures for servicing vehicles, safety procedures and use of service manuals and bulletins. The course is designed for those who want to know more about their vehicles and be able to perform minor service. Prerequisites: None. Offered: Fall, Spring.

**AUTM2010 Suspension, Steering and Alignment 4 cr**  
This course teaches suspension systems using leaf springs, coil springs, McPherson struts and torsion bars. Steering systems using manual and power rack and pinion and recirculating ball steering gears are included, as are alignment angles and their relationship to vehicle handling. Prerequisites: None. Offered: Fall, Spring.

**AUTM2020 Brakes 4 cr**

This course includes basic principles of brakes, hydraulic system basics, disc and drum brakes, parking brakes, anti-lock brakes and power assist units. Emphasis will be placed on operation, diagnosis and repair of various types of braking systems. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**AUTM2031 Differential and Four Wheel Drive 3 cr**

This course will cover the operation and proper repair procedures for current differentials used on late-model vehicles. It also covers the operation and proper repair procedures for current transfer cases and hubs in four-wheel-drive vehicles. Prerequisites: None. Offered: Fall, Spring.

**AUTM2120 Engine Overhaul Theory, Diagnosis, and Repair 8 cr**

This course covers engine operation theory, diagnosis and repair procedures using various types of tools and test equipment and reference materials available in Alldata, Mitchell and your textbook. Prerequisites: None. Offered: Fall, Spring.

**AUTM2136 Heating, Ventilation and Air Conditioning 3 cr**

This course covers the principles of air conditioning and types, diagnosis, testing, and repair of air conditioning systems. The course includes practical work on air conditioning systems such as evacuating, replacement of components, charging, recycling and performance testing. Prerequisites: None. Offered: Fall, Spring.

**AUTM2140 General Automotive Service 3 cr**

This course covers the correct procedures for servicing vehicles, shop safety, and use of service manuals and bulletins. Automotive tools, equipment, minor service, work habits and use of the library will be emphasized. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**AUTM2200 Manual Transmission/Transaxle and Clutches 4 cr**

This course teaches the operation and proper repair procedures of manual transmissions/transaxles and clutches used in today's vehicles. Prerequisites: None. Offered: Fall, Spring.

**AUTM2210 Basic Automatic Transmission/Transaxle 5 cr**

This course includes basic theory of torque converters, planetary gears, clutches, bands and hydraulics. The class stresses how automatic transmissions and transaxles work and how to repair them. Prerequisites: None. Offered: Fall, Spring.

**AUTM2220 Advanced Automatic Transmission/Transaxle 5 cr**

This course teaches automatic transmission and transaxle diagnosis and service. Emphasis is on troubleshooting and repair procedures. Prerequisites: AUTM2210. Offered: Fall, Spring.

**AUTM2300 Driveability and Emissions 5 cr**

This course will introduce the student to the high-tech field of drivability, emissions diagnosis and repair. Some of the topics that will be covered are ignition system operation and repair (including tune-up), fuel system service and repair and emission system theory operation and repair. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**AUTM2310 Body and Engine Electrical Systems 4 cr**

This course includes instruction in the operation and servicing techniques required to repair electrically operated equipment used on today's automobiles. Examples of areas to be covered will include, but not be limited to, power windows, power locks, air-bag systems and charging and starting systems. Prerequisites: None. \*\*Articulated\*\*.

**AUTM2320 Automobile Computers and Fuel Injection 5 cr**

This course will cover the theory and operating principles of automotive computers and throttle body and multi-port injection systems. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**BIOLOGY****BIOL1110 Environmental Science 3 cr**

This course emphasizes the fundamental concepts in ecology as they pertain to the impact of humans on the environment. It addresses such issues as the stresses placed on the biosphere by the exploitation of natural resources and energy, the creation of pollution and the disposal of waste. Prerequisites: None. Offered: Fall, Spring, Summer.

**BIOL1120 Minnesota Nature Study 3 cr**

This lab course covers the natural habitats of Minnesota and the plants and animals that live in them. It includes such topics as our physical environment, ecology, and animal traits and behaviors such as mimicry or migration. Human interactions with these habitats and interdependence between states and countries with regard to wildlife are stressed. Prerequisites: None. Offered: Fall.

**BIOL1200 Biology and Society 3 cr**

This is an interdisciplinary course that explores the interaction between biology and related complex human issues. Along with gaining an understand of biology's more technical aspects, students in this course will also explore the historical, political, and environmental perspectives needed to understand the impacts that important biology issues have on society. Breakthroughs in genetics, stem-cell propagation, cloning, and human genome project give rise to numerous ethical questions. The emergence of viral pathogens such as HIV and Ebola, the increasing prevalence of drug resistant bacteria, and the specter of anthrax and smallpox being utilized as agents of terrorism, raise daunting social and scientific questions. Addressing such issues requires both an understanding of biology and its context within our society. Prerequisites: None. Offered: Spring.

**BIOL1400 Ecology Field Studies 4 cr**

An inquiry-based course that covers the fundamental principles of ecology, conservation, and sustainability. Students will have the opportunity to learn through laboratory, field work, and lecture activities. Topics include biodiversity, a survey of biomes, populations, interrelationships in biological communities, ecological succession, energy flow, nutrient cycling, physiological ecology, and human impacts on ecosystems. Prerequisites: None.

**BIOL1500 General Biology 4 cr**

The course surveys the basic principles of biology. Units included are in cell biology, inheritance, evolution and ecology. Prerequisites: Recommended ACCUPLACER reading comprehension score of 77.5 or higher. Offered: Fall, Spring.

**BIOL1600 Microbiology 4 cr**

An introduction to Microbiology with a focus on microbe classification and biology, disease transmission, and pathogenesis, the immune response, and isolation and identification laboratory practices. Emphasis will be on microorganisms that cause local and systemic disease in humans with consideration of treatment options as well as infection control and prevention strategies. This course is intended for nursing students and other students pursuing careers in allied health fields. Prerequisites: BIOL2000 and BIOL2010.

**BIOL2000 Anatomy & Physiology I 4 cr**

This two semester sequence provides the student with the basic knowledge in anatomy and physiology of the human body. The emphasis will be on the relationship between body structure and function. Each functional system is considered in terms of its cell, tissue and organ types. Fundamental information in the areas of chemistry and physics as related to the structure and function of the body is also included. Structural systems covered, including the integumentary skeletal, muscular and nervous. Dissection of muscle, brain, and bone specimen is required. Prerequisites: A "C" or better in BIOL1500 or equivalent or instructor permission. Offered: Fall.

**BIOL2010 Anatomy and Physiology II 4 cr**  
This two-semester sequence provides the student with the basic knowledge in anatomy and physiology of the human body. The emphasis will be on the relationship between body structure and function. Each functional system is considered in terms of its cell, tissue and organ types. Fundamental information in the areas of chemistry and physics as related to the structure and function of the body is also included. Systems covered include digestive, urinary, reproductive, lymphatic and cardiovascular. Dissection of a fetal pig is required. Prerequisites: BIOL2000 or equivalent. Offered: Spring.

## BIOMEDICAL EQUIPMENT TECHNOLOGY

**BMET1110 Introduction to Biomedical Technology 3 cr**  
This course provides students with an industry overview/perspective in the biomedical technology field. In this course students will learn the relationships between equipment and patient care. Prerequisites: None. Offered: Varies.

**BMET1112 DC Electricity 3 cr**  
This course is designed to investigate the direct current and voltage behavior of series and parallel circuits using Ohm's and Watt's laws. Natural and direct current electromagnetism will also be presented. Students will perform lab projects on all subject matter by use of an interactive lab network computer. Prerequisites: None. Offered: Fall.

**BMET1116 Solid State Electronics 5 cr**  
This course will introduce students to a wide range of active solid state devices such as transistors, unijunction transistors, and silicon-controlled rectifiers. It also teaches how these devices are used in practical circuits such as amplifiers, speed controls, switching circuits, and timing circuits. The student will compute component and circuit parameters. These will then be compared with measured data. Circuits will be designed and evaluated by breadboarding and/or computer simulation software. Prerequisites: None.

**BMET1121 Administrative Functions 3 cr**  
This course introduces students to the basic operation of hospitals; the requirements of regulatory agencies; biomedical department policies and procedures and the managing of information, work orders and vendors. Prerequisites: None. Offered: Varies.

**BMET1123 A. C. Electricity 3 cr**  
This course introduces the principles of alternating current. Circuits will consist of resistive, capacitive and inductive devices. Ohm's and Watt's laws, along with Norton's and Thevenin's theorems will be used to simplify complex combinations of RCL circuits. Test equipment introduced includes the VOM (volt-ohm-meter), DMM (digital-multimeter), signal generator and oscilloscope. The course concludes with resonating circuits. Prerequisites: BMET1112 or equivalent. Offered: Fall.

**BMET1136 Managing Customer Satisfaction in the Health Care 1 cr**  
This course will consist of class lecture and practical exercises. The student will learn to differentiate between internal and external customers in the Health Care Environment. They will be able to identify good customer service when they see it. They will understand the three areas of focus for customer service improvement. Customer service issues specific to the Health Care field and technical service will be covered. Prerequisites: None.

**BMET1221 Biomedical Instrumentation I 4 cr**  
This course studies the various technologies used in the medical care field. Areas of study will cover the use of various test equipment, performing preventive maintenance and the use of testing equipment for maintaining proper operation. Students will also learn

to read schematics and following instructions in service manuals for performing test and maintenance. Prerequisites: BMET1112, BMET1123, and BMET1110. Offered: Varies.

**BMET1231 Biomedical Instrumentation II 4 cr**  
This course provides a foundation in the theory and operation of medical laboratory equipment, fiber optics, computers, radiology, nuclear medicine and ultrasound. Prerequisites: BMET1220. Offered: Varies.

**BMET1241 Mechanical Systems 3 cr**  
This course is designed to teach the fundamentals of hydraulics and pneumatics and basic mechanical applications. The curriculum incorporated in the system includes instruction in the mathematics component of hydraulics and pneumatics, and provides experiences in problem solving, data management, and self-directed learning. Prerequisites: None.

**BMET1530 Digital and Micro Processor 3 cr**  
This course covers the basic and advanced digital logic used in integrated circuits and their application. Logic diagrams and analysis will be covered. Microprocessor control and feedback systems using sensor feedback will be studied. Training will be accomplished using the LabVolt system and handouts selected by the instructor. Prerequisites: BMET1112, BMET1123, BMET1116 or equivalent.

## BUSINESS ENTREPRENEUR

**ENTR1150 The Successful Entrepreneur 2 cr**  
Students taking this course will learn what it takes to own, operate, and manage a small business successfully. The student will learn the personal traits and characteristics necessary to succeed in the fast-paced small business environment. This course will examine the various skills and habits necessary for making a business a success. Various case studies will be examined as to why some businesses fail while others succeed. The student will identify their individual strengths and weakness and will learn what area they need to work on to insure success in their small business venture. The student will be exposed to many types of small businesses and other types of entrepreneurial ventures, and will generate personal preferences for the type of small business they would like to own. Prerequisites: None. Offered: Fall, Spring.

**ENTR1400 Advertising Strategies 1 cr**  
Students will look at a variety of advertising media available for the small business and for the business with a small advertising budget. Students will begin to develop advertising materials that will be used in their business plan. Prerequisites: None.

**ENTR1430 Marketing Strategies for Small Business 2 cr**  
Students will be given a complete overview of all aspects of marketing for a small business. Specific topics will include research, determining the target market, developing a marketing strategy, direct mail tactics, public relations tactics, advertising tactics, direct response tactics, and Internet marketing tactics. The student will be exposed to various case studies and will use these to develop a marketing strategy for a specific product or service. Prerequisites: None. Offered: Fall, Spring.

**ENTR1440 Successful Marketing Strategies for Small Business 4 cr**  
Students will be given a complete overview of all aspects of marketing for a small business. Specific topics will include research, determining the target market, developing a marketing strategy, identifying over 30 marketing tactics, and positioning. The student will be exposed to various case studies and will use these to develop a marketing strategy for a specific product or service. The student will also create a complete market plan and present that plan to the class. Prerequisites: None.

**ENTR1600 Professional Presentations 1 cr**

Business owners need to present their ideas to someone else. This may be a Banker, Board of Directors, a Customer, a Prospective Customer/Client, potential employees or possible business partners and investors. In this course, students will learn to design a professional business presentation. Students will learn to use portfolios, presentation books, overhead transparencies, slides, and computer presentations. Prerequisites: None.

**ENTR1650 Selling Strategies for the Entrepreneur 3 cr**

The success of an entrepreneurial venture is directly related to entrepreneur's ability to constantly and consistently sell. The student will learn the three vital aspects of small business selling including, one on one selling, presentation selling, and creating win/win negotiations. Even if the student has never sold before, they will become proficient at all aspects of the sales, presentation, and the negotiation process. The student will have the opportunity to practice multiple aspects of selling in a safe classroom environment. In addition, the student will develop specific sales strategies for their individual business and be able to "try" these strategies with other members of the class. Prerequisites: None. Offered: Fall, Spring.

**ENTR1850 Strategic Planning 1 cr**

Students will develop methods that will help them evaluate their business' current position, determine where they would like to be in the future and develop a plan that will help them obtain those future goals and objectives. Prerequisites: None.

**ENTR1860 Business Plan Development 3 cr**

This course will give the student all the necessary tools to create a business plan that gets results. The student will, during the course of the semester, create his or her own business plan, which is the main objective of the course. The business plan process will be broken down into five areas: vision, customers product/service, numbers, and team. Numerous business plans will be examined and good points and bad points will be examined in each. Students will also be given the opportunity to present their plans to the group in a safe setting and have them critiqued for clarity and effectiveness. Prerequisites: None. Offered: Fall, Spring.

**ENTR1900 Capitalizing a Small Business 2 cr**

This course will provide the student with the information and tools necessary to fund a small business. The student will be exposed to various methods of raising both start-up and operating capital. These methods include bank loans, SBA loans, venture financing, and grant opportunities. The student will practice presenting his or her company in preparation for presenting to bankers and investors. Prerequisites: ENTR1860 or may take courses concurrently. Offered: Spring, Summer.

**ENTR1925 Innovative Problem Solving 1 cr**

Students will develop methods and techniques that will enable them to effectively assess and work towards solutions to everyday challenges of owning and operating a business and being effective in their personal lives. Prerequisites: None.

**ENTR1945 Business Finance and Cash Flow Analysis 1 cr**

In this course, students will learn the techniques and formulas that will enable a business owner to determine his/her company's profitability, and how to make projections of future profitability based upon its present financial conditions. Prerequisites: None.

**ENTR1965 Building a Successful Internet Business 1 cr**

Students will focus on the types of businesses that can benefit from a presence on the Internet. They will develop strategies to maximize their company's effectiveness on the Internet. Prerequisites: None.

**CHEMISTRY****CHEM1500 Introduction to Chemistry 4 cr**

This course is a broad introduction to chemistry, its principles and applications. It is intended for the non-science major. Topics include the scientific method, atomic structure, periodic table, general properties of matter, the development of the model of the atom, basics of chemical bonding, chemical equations and their uses, acids and bases and oxidation reduction. Prerequisites: None. Offered: Varies.

**CHILD DEVELOPMENT****CDEV1200 Professional Relations in Early Childhood Careers 3 cr**

This course explores career opportunities for working with children in a variety of child development programs. This course also examines job requirements, duties, regulations, issues, skills, and personal characteristics for becoming successful professionals in early childhood settings. Prerequisites: None. Offered: Fall, Spring  
\*\*Articulated\*\*.

**CDEV1201 Professional Relations in Special Education 3 cr**

This course will explore career opportunities for working with children in a variety of school settings. This course examines the philosophical, historical and legal foundations of special education, characteristics of learners, assessment, diagnosis and evaluation of students, current instructional content and practice, supporting the teaching and learning environment, managing student behavior and social interaction skills, communication and collaborative partnerships, professionalism and ethical practices. Prerequisites: None. Offered: Varies.

**CDEV1210 Foundations of Child Development I 3 cr**

This course provides an overview of typical and atypical child development across cultures from prenatal through school age, including physical, social, emotional, language, cognitive, aesthetic and identity/individual development. It integrates developmental theory with appropriate practices in a variety of early childhood care and education settings. Prerequisites: None. Offered: Fall, Spring  
\*\*Articulated\*\*.

**CDEV1220 Child Safety, Health, and Nutrition 4 cr**

This course will guide the student in obtaining skills needed to establish and maintain a physically and psychologically safe and healthy learning environment for young children. Topics include preventing illness and accidents, handling emergencies, providing health, safety and nutrition educational experiences, meeting children's basic nutritional needs, drug/chemical abuse, child abuse and current health-related issues. (NOTE: This course does not include CPR or First Aid certification.) Prerequisites: None. Offered: Fall  
\*\*Articulated\*\*.

**CDEV1230 Guidance and the Early Childhood Environment 4 cr**

This course provides an exploration of the physical and social environments that promote learning and development for young children. It includes an introduction to basic child guidance techniques for individual and group situations with emphasis on problem prevention and positive guidance strategies, recognition, communication, limit setting, problem solving and behavior modification. Students apply their knowledge of the environment's role in an actual work setting. Prerequisites: None. Offered: Fall, Spring  
\*\*Articulated\*\*.

**CDEV1320 Foundations of Child Development II 4 cr**

This course provides the opportunity to examine child development theory and practice in greater depth. Students will integrate knowledge of developmental needs, developmentally appropriate environments and appropriate observation and recording methods. Prerequisites: CDEV1210. Offered: Fall, Spring.

**CDEV1340 Planning and Implementing Curriculum 3 cr**  
This course examines the role of the teacher in early childhood settings. It applies the knowledge of child development as it relates to individual children, communities, curriculum and communication activities. Prerequisites: CDEV1210. Offered: Fall, Spring.

**CDEV2320 Profiles of the Exceptional Child 3 cr**  
This course examines the development of children with special needs and prepares caregivers to integrate children with special needs into child development settings. Prerequisites: CDEV1210. Offered: Spring.

**CDEV2330 Advanced Child Guidance 3 cr**  
This course provides students with the opportunity to further examine guidance techniques and intervention strategies that are effective in dealing with children displaying a wide range of behaviors. Emphasis will be placed on the prevention and resolving of problem behaviors, use of behavior modification techniques, working with parents and designing behavior plans. Prerequisites: CDEV1210, CDEV1230. Offered: Spring.

**CDEV2500 Shadow Study 1 cr**  
This course provides students an opportunity to shadow a master teacher in a child development setting. Course goals are based on individual need. Emphasis may include observation of various child development settings, adult-child interaction or the role of a caregiver. Prerequisites: Instructor's permission. Offered: Fall, Spring.

**CDEV2540 Sensory/Motor Learning Experiences 3 cr**  
This course provides an overview of sensory/motor learning experiences in either home- or center-based settings. Students integrate knowledge of child development, learning environments, and teaching methods to promote sensory, fine motor, gross motor, perceptual-motor, and self-care skill development. Prerequisites: CDEV1210 or instructor's permission. Offered: Varies.

**CDEV2550 Cognitive/Multimedia Learning Experiences 3 cr**  
This course provides an overview of cognitive and multimedia learning experiences in either home- or center-based settings. Students integrate knowledge of child development, learning environments, and teaching methods to promote curiosity, attention, perception, memory, problem solving, logical thinking and media literacy. Prerequisites: CDEV1210 or instructor's permission. Offered: Varies.

**CDEV2560 Language and Literature Learning Experiences 3 cr**  
This course provides an overview of language, literacy and literature learning experiences in either home- or center-based settings. Students integrate knowledge of child development, learning environments, and teaching methods to promote whole language, conversation, literature, literacy and bi-lingualism. Prerequisites: CDEV1210 or instructor's permission. Offered: Fall.

**CDEV2570 Multicultural Learning Experiences 3 cr**  
This course provides an overview of multicultural learning experiences in either home- or center-based settings. Students integrate knowledge of child development, learning environments, and teaching methods to promote social-emotional development, self-esteem, and prosocial skills in a diverse society. Prerequisites: CDEV1210 or instructor's permission. Offered: Varies.

**CDEV2574 Contemporary Issues in Child Care 3 cr**  
This course gives students an opportunity to examine ways in which current societal and community issues impact the development of children and the well being of families. Cultural diversity and dynamics, bias and community resources including social services, are explored. Prerequisites: None. Offered: Varies.

**CDEV2580 Creative Development Learning Experiences 3 cr**  
This course provides an overview of creative/aesthetic learning experiences in either home- or center-based settings. Students integrate knowledge of child development, learning environments and teaching methods to promote children's artistic, musical,

movement and dramatic abilities. Prerequisites: CDEV1210 or instructor's permission. Offered: Spring.

**CDEV2590 Social/Emotional Learning Experiences 3 cr**  
This course provides an overview of social, emotional, and moral learning experiences in either home- or center-based settings. Students integrate knowledge of child development, learning environments, and teaching methods to promote emotional development, self-concept, self-esteem, social skills, diversity awareness, social studies, perspective taking, moral responsibility, altruism, and values. Prerequisites: CDEV1210 or instructor's permission. Offered: Varies.

**CDEV2600 Professional Leadership 3 cr**  
This course prepares students to take an active/advocate role in the child development profession by examining the history, current trends and future of childcare and early childhood education. Prerequisites: None. Offered: Spring.

**CDEV2640 Program Planning 3 cr**  
This course provides an advanced-level exploration of program management skills for caregivers of young children. Emphasis is on organizing, implementing and evaluating a quality, comprehensive childcare program plan. Prerequisites: Technical college diploma in Child Care. Offered: Fall.

**CDEV2700 Project Exceptional I 1 cr**  
This course is Part I of Project Exceptional Minnesota's original curriculum. The course will examine the inclusion of children with special needs into quality child care environments. Students will gain knowledge of historical and family perspectives to help provide respectful and sensitive care to children with special needs. Prerequisites: None. Offered: Fall, Spring.

**CDEV2701 Project Exceptional II 2 cr**  
This course is Part II of Project Exceptional Minnesota's original curriculum. The course will explore components of successful parent-provider relationships. It will look at fostering nurturing care for children at risk for behavior challenges or developmental delays. This course will also examine how to identify and refer a child with developmental concerns. Prerequisites: None. Offered: Fall, Spring.

**CDEV2702 Project Exceptional: Examining Behavior Challenges in Children w/ Special Needs 2 cr**  
This course will examine the educator's role, environment, observation, children's temperament and strategies. The course will focus on children who have or are at risk for challenging behavior. Prerequisites: None. Offered: Fall, Spring.

**CDEV2703 Project Exceptional: First Signs, Red Flags and Referrals for Autism 1 cr**  
First Signs is a national training model that disseminates key information about developmental red flags as they relate to Autism and key referral information for educators to share with parents. Part of MN. Project EXCEPTIONAL that includes a unit on sharing concerns with families as part of the First Signs Training Workshop. Prerequisites: None.

**CDEV2704 Transforming the Difficult Child: The Nurtured Heart Approach 1 cr**  
This course examines The Nurtured Heart Approach, based on the work of Howard Glasser. This unique approach is designed to help anyone working with children who have challenging behaviors. It combines four basic strategies for helping caregivers transform the way we see children who have high energy and high intensity from a challenge to a gift. Prerequisites: None.

**CDEV2710 Infant Toddler Social Emotional Growth and Development 1 cr**  
This module will explore infant and toddler social-emotional development for in-home and center-based settings. Students will



integrate knowledge of temperaments and ages and stages of development so caregivers can create nurturing relationships, use positive child guidance techniques and develop positive social skills for infants and toddlers. Prerequisites: CDEV1210. Offered: Fall.

**CDEV2711 Infant Toddler Routines and Environments 1 cr**

This module will explore ways to create developmentally appropriate environments and caregiving routines. Students will integrate knowledge of developmentally appropriate caregiving and teaching strategies in order to create a safe, healthy learning environment for infants and toddlers. Prerequisites: CDEV1210. Offered: Fall.

**CDEV2712 Infant Toddler Language and Cognitive Development 1 cr**

This module will examine infant toddler language and cognitive development for in-home and center-based settings. Students will integrate knowledge of observation methods and ages and stages of development in order to facilitate infant-toddler language and cognitive growth and development. Prerequisites: CDEV1210 or instructor permission. Offered: Spring.

**CDEV2713 Culture, Family, and Providers 1 cr**

This module will examine ways to be culturally sensitive and build partnerships with parents. Students will integrate knowledge of culturally sensitive/responsive caregiving techniques and curriculum approaches in order to enhance the learning environment of infants and toddlers from diverse backgrounds. Prerequisites: CDEV1210, Foundations of Child Development or instructor permission.

**CDEV2715 Sign Language in Early Childhood 1 cr**

This course is designed to equip students with the tools they need to introduce signing in childcare environments with preverbal children. Students will examine research, review benefits of signing with hearing infants, practice modeling signs, identify strategies for parental involvement with sign, and discover how to create learning opportunities in daily activities. Prerequisites: None.

**CDEV2720 Supporting the School-Age Learner in Math 1 cr**

This course combines an understanding of how children learn math and how to promote that learning by supporting the instruction in a primary/elementary classroom. Prerequisites: None.

**CDEV2721 Supporting the School-age Learner in Writing 1 cr**

This course combines the understanding of how children learn writing and how to promote that learning by supporting instruction in a school aged classroom. Prerequisites: None.

**CDEV2722 Supporting the School-age Learner in Reading 1 cr**

This course combines an understanding of how children learn reading and how to promote that learning by supporting the instruction in a primary/elementary classroom setting. Prerequisites: None.

**CDEV2723 Choices: Keys to Quality for School-Age Programs 1 cr**

In this course you will learn how to structure your environment, not the children. You will learn why we should give school age children choices. What can we do about setting limits and the consequences we give? Through many different activities participants will enjoy learning how to define, establish, and implement choices in their childcare setting. You will also examine how to involve children in making healthy choices and establishing choices that are developmentally appropriate will also be explored. Prerequisites: None.

**CDEV2724 Child Guidance for School-Agers: Nurture & Growth 1 cr**

This course emphasizes the basics in communication, relationships, guidance strategies and understanding child/youth development as the foundation to successful behavior guidance. Participants will improve communication skills, better understand human

relationships and their own beliefs, as well as identify strategies for handling conflicts in settings. Prerequisites: None.

**CDEV2730 Learning To Use the Ounce Scale 1 cr**

The Ounce Scale is an early childhood assessment tool used to support observation skills in early childhood settings. It is specifically designated to better understand children from birth to 42 months. It provides a system for understanding children, planning curriculum, communicating with parents and assessing child development. Prerequisites: None.

## COMMUNICATIONS

**COMM1221 American Sign Language - Level I 3 cr**

This course is an introduction to American Sign Language (ASL), visual/gestural Language used by deaf people in the United States and parts of Canada. Communicative functions, vocabulary, grammar and cultural aspects of the deaf community are included. Prerequisites: None.

**COMM1223 American Sign Language - Level II 3 cr**

This course is designed for students who have some knowledge of ASL or have completed level 1 (American Sign Language) in the past. It features an introduction to the next level of ASL including classifiers, idioms, numbers, fingerspelling, fingerspelled loan signs, and commands. The course will include gestural communication techniques, visual discrimination and sentences. Receptive and expressive sign vocabulary building will be featured through class activities leading to basic and intermediate conversational skills in ASL. Information about the deaf community and its culture will be featured. Prerequisites: COMM1221.

## COMPUTER LITERACY

**COML1400 Introduction to Computers 3 cr**

This online-enhanced course covers the basics of using Personal Computers (PC's) and the Microsoft Office Professional suite of programs, including Word, Excel, Access and PowerPoint to create documents, spreadsheets, databases and presentations. Students will also be introduced to the Internet, e-mail and the history of computers. This course meets the Dakota County Technical College's computer literacy requirement. Prerequisites: Recommend a typing speed of 25 words per minute is recommended but not required or COML0900. Offered: Fall, Spring, Summer \*\*Articulated\*\*.

## CONCRETE AND MASONRY

**CONC1600 Shop Theory 2 cr**

Students examine the IBC/IRC as it applies to residential and commercial practices. OSHA regulations covering construction and job-site safety are covered. Prerequisites: None. Offered: Fall.

**CONC1601 Shop I: Site Preparation for Construction 6 cr**

In this course students will evaluate and manage site preparation for foundations and flat concrete work. Excavation and fill requirements, managing construction site ground conditions, sub-contractor considerations, and building layout will be included. Prerequisites: None. Offered: Fall.

**CONC1602 Shop II: Brick and Block Construction 4 cr**

This course will develop skill in concrete block construction. The course will utilize practice applications and actual construction projects. Cold weather shelter construction and block laying will be included. Prerequisites: None. Offered: Fall.

**CONC1604 Foundations, Concrete and Safety for Masons 4 cr**

This is an intro-level course constructing footings and foundations. Techniques, procedures and practices for concrete block, poured walls, and flatwork are studied. Building forms for flatwork and walls are also studied. Prerequisites: None.

**CONC1605 Math for Masons 2 cr**

The students use basic mathematics as it relates to the building construction industry. Students perform fundamental construction applications. Prerequisites: None. Offered: Fall.

**CONC1606 Properties and Testing of Mortar and Concrete 3 cr**

This course will provide students with an understanding of the effects of concrete materials on concrete construction. Aggregate properties, cement properties, supplemental materials, and admixtures will be discussed. Concrete mix proportioning and hardened concrete properties will be included in this course. Prerequisites: None. Offered: Spring.

**CONC1610 Concrete Problems: Diagnosis, Prevention and Resolution 2 cr**

This course is focused on quality in concrete construction by teaching awareness of potential problems. Instruction will teach diagnosis and resolution of problems in fresh and hardened concrete. Customer job relations is integrated into the problem resolution instruction. Prerequisites: None. Offered: Spring.

**CONC1613 Shop III: Advanced Brick and Block Construction 4 cr**

This shop class would incorporate actual projects at various job sites to gain skills in flat and or poured concrete applications. Applications would include residential, agricultural, renovation, and commercial construction. Prerequisites: None.

**CONC1614 Shop IV: Integrated Concrete Systems 4 cr**

This course is hands-on remodeling and new construction projects. The work will be done on-site and will integrate applications learned from previous courses for site preparation, concrete block, and poured concrete. The focus will be to build proficiency in concrete working skills and will include form work on the job. Prerequisites: None. Offered: Spring.

**CONC1615 Blueprint Reading Estimating 2 cr**

This course is designed to teach an understanding of building principles and how the specifications and requirements are presented through blueprints. Basic blueprint reading is addressed. Prerequisites: None. Offered: Spring.

## DENTAL ASSISTANT

---

**DENT1100 Dental Science 4 cr**

This course provides an overview of basic normal body structure and function including an understanding of the common disease process. Special attention will be given to a comprehensive overview of the oral anatomical structures, functions, and development of the oral cavity, as well as the identification of structures of the head and neck and their functions. Prerequisites: Admission to Dental Assisting Program. Offered: Fall \*\*Articulated\*\*.

**DENT1110 Pre-Clinical Dental Assisting 3 cr**

This course will introduce the student to the health and safety considerations for basic infection control and dental emergencies. Topics will include occupational exposure risks, personal protection, exposure control, hazard communication standards, and medical waste disposal, as defined by government guidelines and regulations including OSHA standards. Special attention will be given on how to reduce the risk of transmission of disease commonly found in the dental office between dental assistants and patients, including various sterilization and disinfection techniques. This course will also discuss the prevention and treatment of medical emergencies

commonly found in the dental office. The student will have a basic understanding of the classification, administration, use, and effects of drugs commonly used in a dental office. Prerequisites: Admission to Dental Assisting Program. Offered: Fall \*\*Articulated\*\*.

**DENT1120 Dental Health 2 cr**

This course is designed to provide the student with the knowledge necessary to instruct a patient in proper oral hygiene and explain the benefits of fluoride. It also will provide the students with basic nutritional concepts and their practical applications. Prerequisites: Admission to Dental Assisting Program. Offered: Fall.

**DENT1130 Chairside Assisting I 3 cr**

This course introduces the student to the fundamentals of working in a dental office setting as a chairside assistant. It introduces concepts and techniques of basic equipment, supplies, four-handed dentistry, oral evacuation, and instrument identification and proper use. This course also provides an introduction to the psychology of patient management skills necessary for effective interaction with patients. Prerequisites: Admission to Dental Assisting Program. Offered: Fall \*\*Articulated\*\*.

**DENT1140 Dental Materials 3 cr**

This course provides the student with the knowledge and practical application of dental materials commonly found in the dental office. Emphasis will be on chemical and physical properties, uses, types, and applications. Students will be able to identify uses for specific dental products and be aware of specific care and storage properties of various materials. Prerequisites: Admission to Dental Assisting Program. Offered: Fall.

**DENT1250 Radiology 5 cr**

This course requires instructor approval if not taken in the semester sequence. This course assists the student with an understanding of how radiation is produced, principles of protection for the patient and the operator, and techniques for processing radiographs as well as identifying processing errors. This course covers the techniques used in exposing intraoral radiographs as well as technical errors and corrections. Students will learn to mount and evaluate films for their diagnostic value. The student will be exposed to the extraoral accessory films utilized in the dental office and the procedural techniques for exposing them. Prerequisites: Admission to Dental Assisting Program or instructor permission. Offered: Spring.

**DENT1260 Expanded Functions 5 cr**

This course prepares the assistant to perform all functions legally performed by a registered dental assistant (RDA) according to the Minnesota Dental Practice Act. This course covers the following expanded functions: alginate impressions for opposing models and study casts with bite registration, mechanical polishing of the clinical crowns, application of topical fluoride, rubber dam applications and removal, application of topical medications, orthodontic skills of preselecting orthodontic bands, removing and replacing ligature ties, and placement and removal of elastic separators. Also included are suture removal, placement and removal of periodontal dressings, adaptation of temporary crowns, cement removal, pit and fissure sealants, enamel etching, removal of bonding material, and nitrous oxide monitoring. Prerequisites: Admission to Dental Assisting Program or instructor approval. Offered: Spring.

**DENT1270 Chairside Assisting II 3 cr**

This course furthers knowledge of chairside assisting duties by presenting concepts of charting, tray set-ups, and the restorative process to help further the development of basic skills of four-handed dentistry. This course also introduces basic concepts of the different specialties in dentistry. The student will be taught to identify the instruments, materials, and procedures needed to gain skills in assisting the dentist with each specialty. Prerequisites: Admission to Dental Assisting Program. Offered: Spring.

**DENT1280 Dental Practice Management 2 cr**  
This course is an overview of duties performed by a dental assistant with emphasis on patient registration, medical history forms, telephone skills, appointments, recordkeeping, and correspondence. It also will provide the student with knowledge of professional ethics and dental laws with emphasis on the Minnesota Dental Practice Act. Students will write the Minnesota Dental Jurisprudence Exam. Prerequisites: Admission to Dental Assisting Program or instructor permission. Offered: Spring.

## ECONOMICS

**ECON1100 Microeconomics 3 cr**  
This course is an introduction: price mechanisms, supply and demand, resource allocation, analysis of market structures, distribution of income, and business decisions regard to cost analysis. Prerequisites: None. Offered: Spring.

## ELECTRICAL CONSTRUCTION & MAINTENANCE TECHNOLOGY

**ELEC1110 D. C. Electricity Theory and Lab 3 cr**  
This course covers investigation of direct current and its behavior in series, parallel, and series/parallel circuits; measuring devices and components; and electromagnetism. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**ELEC1120 A. C. Electricity Theory and Lab 3 cr**  
This course covers investigation of alternating current and its behavior in resistive and reactive series, parallel, and series/parallel circuits; use of test instrumentation; electromagnetic induction; and resonance. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**ELEC1130 National Electrical Code I 3 cr**  
This course covers the requirements of the National Electrical Code. Prerequisites: None. Offered: Fall.

**ELEC1140 Blueprint Reading for Technicians 3 cr**  
This course investigates blueprint reading for electricians. This course consist of basic sketching and drawing techniques, applications of plans, scales and scaling applications, symbology, and print reading. Prerequisites: None.

**ELEC1210 Analog/Digital Electronics Theory 2 cr**  
This course covers the theory of semiconductors, power supplies, amplifiers, digital circuits, microprocessor applications, sensors, and signal coupling materials/devices. Prerequisites: ELEC1110, ELEC1120, MATS1205. Offered: Fall, Spring.

**ELEC1220 Analog/Digital Electronics Lab 4 cr**  
This course covers connecting, testing, and analyzing semiconductors, power supplies, amplifiers, digital circuits, microprocessor applications, sensors, and signal coupling materials/devices. Prerequisites: None. Offered: Fall, Spring.

**ELEC1230 Construction Skills and Intro to Wiring Theory 3 cr**  
This course covers material and design of residential wiring, wiring methods, selection of proper fastening devices, sizing of wire and boxes, branch circuit requirements and use of blueprints. Prerequisites: ELEC1110, ELEC1120, MATS1205. Offered: Fall, Spring.

**ELEC1240 Construction Skills and Introduction to Wiring Lab 6 cr**  
This course covers lab experiences in material and design of residential wiring, wiring methods, selection of proper fastening devices, sizing of wire and boxes, branch circuit requirements, and use

of blueprints. Prerequisites: ELEC1110, ELEC1120, ELEC1130. Offered: Fall, Spring. \*\*Articulated\*\*

**ELEC2110 Electrical Apparatus Theory 3 cr**  
This course covers the principles of direct current motors, single- and three-phase motors and transformers, and proper use of meters and test equipment. Prerequisites: ELEC1110, ELEC1120, MATS1205. Offered: Fall, Spring.

**ELEC2120 Electrical Apparatus Lab 6 cr**  
This course covers analysis and troubleshooting of direct current motors, single- and three-phase motors, transformers, and proper use of meters and test equipment. Prerequisites: ELEC1110, ELEC1120, MATS1205. Offered: Fall, Spring.

**ELEC2131 Programmable Logic Controllers Theory 2 cr**  
This course covers theory of logic applications; connecting, programming, and operating programmable logic controllers; and AC and DC electronic drives. Prerequisites: ELEC1110, ELEC1120, ELEC1211, ELEC1221.

**ELEC2141 Programmable Logic Controllers Lab 4 cr**  
This course covers analysis and troubleshooting of logic applications; connecting, programming and operating programmable logic controllers; AC and DC electronic drives; and motor controls. Prerequisites: ELEC1110, ELEC1120, ELEC1211, ELEC1221.

**ELEC2210 National Electrical Code II 3 cr**  
This course covers continued requirements of the National Electrical Code. Prerequisites: ELEC1130. Offered: Fall, Spring.

**ELEC2220 Electrical/Electronic Controls and Systems Theory 2 cr**  
This course covers analysis and troubleshooting of logic controllers, AC and DC electronic drives, energy management systems, heating and cooling systems, fire alarm and security systems, and integrated voice/video/data and infrared systems. Prerequisites: ELEC2130, ELEC2140. Offered: Fall, Spring.

**ELEC2230 Electrical/Electronic Controls and Systems Lab 4 cr**  
This course covers analysis and troubleshooting of programmable logic controllers, AC and DC electronic drives, energy management systems, heating and cooling systems, fire alarm and security systems, and integrated voice/video/data and infrared systems. Prerequisites: ELEC2130, ELEC2140. Offered: Fall, Spring.

**ELEC2241 Industrial & Maintenance Wiring Theory & Lab 3 cr**  
This course covers the use of materials and design of industrial wiring, industrial tools and equipment, service equipment, and maintenance technology. Prerequisites: ELEC1230, ELEC1240.

**ELEC2251 Commercial & Maintenance Wiring Theory & Lab 3 cr**  
This course covers the use of materials and design of commercial wiring, commercial tools and equipment, service equipment, and maintenance technology. Prerequisites: ELEC1230, ELEC1240.

**ELEC2260 Heating, Ventilation, and Air Conditioning Wiring 3 cr**  
This course covers the use of materials and design of materials and equipment for heating, ventilating, and air conditioning residential, commercial and industrial buildings. Prerequisites: ELEC1230, ELEC1240.

## ELECTRICAL LINEWORKER

**ELLW0098 Introduction to Climbing 1 cr**  
This course covers the introduction to the equipment used for climbing. The use of this equipment will be applied to the act of learning to climb safely and correctly. Prerequisites: None. Offered: Summer.

**ELLW1110 Distribution I 4 cr**  
This course covers the task of learning to climb safely along with the use of digger/derrick units. It includes an introduction of the materials and their applications, along with an introduction to the application of rigging to the industry. The safety aspect of the industry is stressed in these applications. Prerequisites: ELLW1098. Offered: Summer.

**ELLW1120 Utility Equipment and Tools 2 cr**  
This course offers an introduction to the tools used in the line industry. Personal tools, climbing tools, and the introduction to the safe operation of carrier-mounted devices are included. The digger/derrick and the personnel-carrying aerial devices will be covered. Prerequisites: ELLW1098. Offered: Summer.

**ELLW1130 Basic Electricity 2 cr**  
This course covers the introduction to electrical circuits and magnetic circuits, both AC and DC. The student will use mathematics to calculate voltage, resistance, and current in each type of circuit. This course is an introduction to the use of formulas needed to do the calculations that the lineworker may encounter in this field. The introduction to the magnetic circuits will be the basis for transformer application. The safety aspects of calculating voltages and currents will be used to identify the exposure in such applications that could be a safety hazard. Prerequisites: None. Offered: Fall.

**ELLW1140 Distribution IIA 4 cr**  
This course covers the construction aspects in the building of single-phase lines and the use of plan profiles, specification drawings, material lists, and their application to the field. It includes the equipment that will be used for this construction. Hot line work with sticks will also be introduced at this time. The hanging of guys, the stringing of conductors, anchor installations, industry framing practices, and safety in all line building, equipment operations, and material handling will be observed and practiced. Prerequisites: ELLW1110, ELLW1120, and concurrent enrollment in ELLW1141. Offered: Fall.

**ELLW1141 Distribution IIB 4 cr**  
This course covers more of the material that is in ELLW1140 Distribution IIA. Prerequisites: ELLW1110, ELLW1120, and concurrent enrollment in ELLW1140. Offered: Fall.

**ELLW1150 Construction Planning and Practices 2 cr**  
This course covers the use of different drawings, maps, and construction materials used in the lineworker's field. This includes the list of materials and specifications. Use of the transit will be introduced and applied to the lab field where lines will be staked for future building as a project. Placement of anchors and the installation of line equipment will also be used in the advanced part of the class. Prerequisites: ELLW1110. Offered: Fall.

**ELLW1160 Transformers I 4 cr**  
This course covers the theory and applications of transformer principles of magnetic and electrical circuits for primary and secondary connections. Understanding of polarities is examined and applied. Use of the different types and possibilities of connections will also be covered, with the needed information for choosing the loading, transformer types and sizes, and the fusing of the same. Prerequisites: ELLW1130 and concurrent enrollment in ELLW1161. Offered: Fall.

**ELLW1162 Transformers II 4 cr**  
This course covers the actual mounting and connecting of the transformers to the primary and secondary systems, including the use and installation of over-current and over-voltage protection. The use of closed and open banks will be applied, as well as the paralleling of same. Safety of both the primary and secondary applications will be covered and used in all applications. Prerequisites: Concurrent enrollment in ELLW1160. Offered: Spring.

**ELLW1170 Line Construction and Maintenance A 4 cr**  
This course covers the conversion of single-phase to multi-phase applications. The use of three-phase hot stick line applications will be applied to the changing of poles, deadends, crossarms, and running angles. The maintenance of three-phase systems will be applied. The use of insulated fiberglass boards and ladders, nylon hot line hoists, and block and tackle will be applied. Safety applications will be emphasized at all times throughout this course. Prerequisites: Concurrent enrollment in ELLW1172. Offered: Spring.

**ELLW1172 Line Construction and Maintenance B 4 cr**  
This course covers the continuation of line construction and maintenance. The application of ties, standard and preformed with sticks and live line applications, is covered. The use of protective coverup materials for lineman and support structures is covered. The transferring and handling of energized conductors using temporary supports, etc. are also covered. Prerequisites: Concurrent enrollment in ELLW1170. Offered: Spring.

**ELLW1180 Underground Cable and Fault Locating 2 cr**  
This course covers the practices and techniques used in cable and fault locating. The student will understand and demonstrate all safety practices in the application and operation involved with the equipment used in this course. Prerequisites: None. Offered: Spring.

**ELLW1185 Electrical Industry Search Skills 1 cr**  
This course covers a comprehensive view of the aspects incurred in job search activity. It will cover locating job openings, hidden markets, assessing employment strengths, writing resumes, writing cover letters, completing applications, preparing for interview questions, and using the computer highway for job searching. Prerequisites: None. Offered: Spring.

## ENGLISH

**ENGL0100 ESL Skills I 4 cr**  
This is an intensive course in English for student's for whom English is a second language. There will be daily reading, writing, listening, and speaking activities. Vocabulary and grammar skills will develop through the context of patterned dialogs. Prerequisites: Qualifying scores on the ACCUPLACER ESL assessment. Offered: Fall.

**ENGL0103 ESL Grammar and Spelling I 4 cr**  
This course is part one of a study of English grammar and spelling for intermediate English language learners. In the grammar classes, formal and informal usage will be used. Prerequisites: Qualifying scores on the ACCUPLACER ESL assessment. Offered: Fall.

**ENGL0106 ESL Reading I 4 cr**  
This course covers the basics of reading English for intermediate-level English language learners. Prerequisites: Qualifying scores on the ACCUPLACER ESL assessment. Offered: Fall.

**ENGL0113 ESL Oral and Written Communications I 4 cr**  
In this intermediate level class, students will focus on both oral and written communication. In the oral section of the course students will work on listening comprehension and speaking. It is intended to help students increase proficiencies in listening comprehension, pronunciation, and fluency. The written section of the course will emphasize both the writing process and the product. Students will use their experiences as subjects for writing. They will take notes, paraphrase, write from notes, edit, work on vocabulary, and write short paragraphs and letters. Prerequisites: Qualifying scores on the ACCUPLACER ESL assessment.

**ENGL0114 College Reading I 3 cr**  
The course is designed to develop the effective reading and clear thinking skills that are required to be successful in college today. Prerequisites: None. Offered: Fall.

**ENGL0118 Basic English and Writing Review 3 cr**

This course is designed to prepare students for Basic Communications. Students will learn the parts of speech, word usage, grammar, capitalization, and punctuation. They will use these skills in short writing assignments. Prerequisites: None. Offered: Fall, Spring, Summer.

**ENGL0123 Medical Reading and Study Skills 4 cr**

This course is designed to help students who are in or planning to enter health care programs strengthen basic reading comprehension and vocabulary skills. Students will work on developing efficient study skills. Learning experiences will include use of excerpts from health care textbooks to practice skills. Prerequisites: None. Offered: Fall, Spring.

**ENGL0130 English Essentials 3 cr**

A basic writing course that introduces students to the principles of composition. It includes such areas as organizational development, expository, and persuasive paragraphs and short essays. All relevant modes of communication, essential in the workplace are addressed, including memos, letters, reports, faxes and Internet endeavors. The course fosters the development of important cognitive abilities such as analysis, synthesis, interpretation and evaluation. Prerequisites: Appropriate assessment score or instructor's approval. Offered: Fall, Spring, Summer.

**ENGL0200 ESL Skills II 4 cr**

This is an intensive course in English for students for whom English is a second language. It is for intermediate and advanced ESL students. It reviews, reinforces and extends the student's English Language skills. There will be reading, writing, listening and speaking activities. Vocabulary development is an important part of this course. Prerequisites: ENGL0100 or instructor's permission. Offered: Spring.

**ENGL0203 ESL Grammar II 4 cr**

This course is part two of a study of English grammar and spelling for intermediate English language learners. Formal and informal usage will be studied. Prerequisites: ENGL0103 or instructor's permission. Offered: Spring.

**ENGL0206 ESL Reading II 4 cr**

This course continues the study of the basics of reading English for English language learners. The instruction goes from the high-intermediate to the low-advanced level. Prerequisites: ENGL0106 or the equivalent. Offered: Spring.

**ENGL0213 ESL Oral and Written Communication II 4 cr**

In this intermediate level class, students will continue to focus on both oral and written communication. In the oral section of the course students will work on listening comprehension and speaking. It is intended to help students increase proficiencies in listening comprehension, pronunciation and fluency. The written section of the course will emphasize both the writing process and the product. Students will use their experiences as subjects for writing. They will take notes, paraphrase, write from notes, edit, work on vocabulary and write short paragraphs and letters. Prerequisites: None.

**ENGL0215 College Reading II 3 cr**

This course is designed to develop effective reading and clear thinking skills that are required to be successful in college today. Prerequisites: None. Offered: Spring.

**ENGL1100 Writing and Research Skills 3 cr**

This course emphasizes the process of writing expository and persuasive essays using effective writing skills and a variety of research techniques. Also included in the course content are critical reading and logical reasoning. Prerequisites: Must have qualifying score on the ACCUPLACER test OR successfully complete ENGL0130 OR receive instructor's approval. Offered: Fall, Spring, Summer.

**ENGL1102 Technical Written Communications 3 cr**

This course provides students with the skills needed to effectively communicate in writing in the technical work place. Students will be

required to use critical analysis and logical reasoning skills in the preparation of course assignments. Applications focus on specific report formats. The course is for students in technical diploma programs. Prerequisites: Enrollment by advisor or counselor approval. Offered: Fall, Spring, Summer.

**ENGL1200 Technical Writing 3 cr**

This course is designed to enhance students' abilities to write technical documents. The content covered will include proposals, research reports, technical manuals, feasibility studies, and process reports. Prerequisites: ENGL1100. Offered: Spring, Summer.

**ENGL1300 Introduction to Creative Writing 3 cr**

This course introduces students to the fundamentals of creative writing. The elements of fiction, poetry, nonfiction, and screenwriting are covered. Emphasis will be placed on both the writing process and the end product. Prerequisites: Must have qualifying score on the ACCUPLACER test OR successfully complete ENGL0130 OR receive instructor's approval. Offered: Spring, Summer.

**ENGL1400 American Short Story 3 cr**

This course emphasizes the review and analysis of examples of the short story format. These stories will be by various American writers from the period 1789 to the present. Also included in the course content are critical reading and logical reasoning. Prerequisites: Recommended ACCUPLACER score of 62 or higher. Offered: Spring.

**ENGL1550 Introduction to Literature 3 cr**

This course introduces the study of literature as a mode of discourse for defining, exploring, and expressing human experience. There is an emphasis on learning the skills of reading and writing about literature. This course will cover fiction, drama, and poetry, with attention also paid to literary non-fiction. Thus the class will introduce students to such basic concepts as (for fiction) plot structure, point of view, characterization, imagery and symbolism, setting, tone, irony, and style; (for drama) protagonist/antagonist, plot dramatic structure, tragedy and comedy; (for poetry) persona, denotation/connotation, figurative language, metrics and major verse forms. Prerequisites: None. Offered: Spring.

**ENGL1625 Film Studies 4 cr**

This course emphasizes the review and analysis of films. This will include how movies reflect and shape the hopes, dreams, and aspirations of the society that produces them. These films will be from various genres and span the entire time frame that movies have been a popular phenomenon. Also included in this course is logical reasoning. Prerequisites: None.

**ENGL1650 Greek Mythology 4 cr**

This course emphasizes the review and analysis of various Greek myths. This will include how these myths have reflected and shaped art and history. Also included in the course are critical reading and logical reasoning. Prerequisites: None.

**ENGL1750 Fantasy and Science Fiction Literature 3 cr**

This course emphasizes review, analysis and discussions of the genres of fantasy and science fiction. Evaluations and points of view for these genres are also considered. The works are viewed as reflections of real contemporary issues in environmental, technological, cultural, religious, economic and political spheres, and the role of the world citizen dealing with these issues is discussed. Prerequisites: Recommended ACCUPLACER score of 62 or higher.

**ENGL1800 Mystery and Detective Literature 3 cr**

This course introduces the study of mystery and detective literature. There is an emphasis on exploring the relationship between contemporary mystery fiction and the stories of antiquity. Students will read a wide variety of literature and explore the texts through a variety of different literary approaches. The course will introduce students to such basic concepts as plot structure, point of view, characterization, imagery and symbolism, setting, tone, irony, and style. Prerequisites: None.

## EXERCISE AND SPORT SCIENCE

**EXER1000 Intro to Human Performance Studies 3 cr**  
Introduction and orientation to the fields of and related to physical education, sports management and exercise science. Includes an overview of aims, objectives, values, issues, qualifications and opportunities in related professions as well as a brief historical perspective of sport as an industry. Prerequisites: None. Offered: Fall.

**EXER1015 Personal Health and Wellness 3 cr**  
A comprehensive course that focuses on disease prevention, physical activity, nutrition, and general health facts. The course is designed to help each student take responsibility for their overall health and learn practical ways of achieving a safe and healthy lifestyle. Course topics include self-assessment, wellness improvement plan, personal program design, exercise research investigation, and exercise critical thinking issues. Course syllabus information is subject to change without notice. Prerequisites: None. Offered: Spring.

**EXER1020 Strength Training 2 cr**  
This course is an introductory course to strength or resistance training. Students will perform more than four different workouts during the course of the semester designed for various levels of resistance training expertise. Topics covered during lecture include: skeletal and muscular anatomy and physiology, program design, lifting safety, weight room etiquette, and strength plateaus. Prerequisites: None. Offered: Fall.

**EXER1025 Physical Conditioning 2 cr**  
This course is designed to teach students the numerous methods involved in the training of individuals and athletes in order to develop conditioning to achieve a desired effect. The course will focus on training students to become proficient in the use of plyometric exercise as well as spring mechanics, speed development, flexibility training, aerobic maintenance, and agility work. Specificity toward skills to be developed will be emphasized. Prerequisites: None. Offered: Spring.

**EXER1027 Olympic and Explosive Weightlifting 2 cr**  
This intermediate-level course is intended to teach students elite strength training methodologies and techniques designed to develop athletes to a high level of performance. The course will give students a working knowledge on program design, nutrition, recovery, metabolic considerations, and the biomechanics involved in the sport of Weightlifting as well as elite athlete strength training. The course provides each candidate with a body of knowledge and expertise to enable a student to teach and train higher-level athletes in explosive free weight movements safely and effectively. At the end of the course, the USA Weightlifting Senior Coach exam will be given. Each student will have the opportunity of gaining a USA Weightlifting Senior Coach Certification after completing the strength-training course. Prerequisites: None. Offered: Varies.

**EXER1045 Organization and Management of Sport 3 cr**  
Designed to introduce students to the functions of management and practical use of management skills as they relate to sporting activities and events. Includes basic study of organization, budget, legal aspects and leadership. Prerequisites: None. Offered: Spring.

**EXER1050 Nutrition for Health and Human Performance 3 cr**  
This course will provide the student with introductory nutritional information for health, fitness and sports performance. Course content includes: classification and function of nutrients, body composition and weight management, dietary supplements and ergogenic aids, energy and metabolism, and eating disorders. Prerequisites: None. Offered: Spring.

**EXER1065 Psychology of Sport and Performance 3 cr**  
This course examines thoughts, emotions, and feelings associated with performing one's best in sport and other areas. Topics covered include: realizing potential; performance goals; motivation; mental

readiness; distraction control; group dynamics; injuries and rehabilitation; depression, eating disorders and substance abuse; and age and gender issues. Prerequisites: None. Offered: Fall.

**EXER1200 Team and Individual Games 2 cr**  
Development and refinement of skills encountered through training, competing or organizing a number of team games such as flag/touch football, softball, soccer, speedball, volleyball and basketball. (subject to season/semester). Prerequisites: None. Offered: Spring.

**EXER2020 Personal Training I 2 cr**  
An introductory course to the business of personal training. This course will focus on the fundamental concepts in personal training for healthy, general populations. Topics include: program design, nutrition, health and fitness assessments, and legal and ethical issues. Prerequisites: None. Offered: Fall.

**EXER2030 Weight Management 2 cr**  
This is an introductory weight management course for students interested in improving their lives through a weight management program and for students who are interested in working with clients on a consultant basis. Topics included during this course include: behavior modification, goal setting, nutrition, physical activity, diet fads, weight loss and weight gain, client interaction, and professional legal and ethical responsibilities. Prerequisites: None. Offered: Varies.

**EXER2060 Personal Training II 2 cr**  
A lecture/laboratory covering an overview of various training methods and facilities used in one-on-one training, group training, and sports team training. Topics include client motivation, lifestyle modification coaching, program periodization, plyometrics, rehabilitation concerns, and exercise facility design. Prerequisites: None. Offered: Spring.

**EXER2090 Exercise for Special Populations 2 cr**  
Learn about the theory and practice of functional exercise training for various populations. Learn program design techniques for healthy, diseased, and disabled populations. Students will get practical hands-on activities including stability and medicine balls, balance training, and free weights. Topics include: client recommendations and rehabilitation concerns. Prerequisites: None. Offered: Fall.

**EXER2115 Applied Exercise Physiology 3 cr**  
This course will present an overview of the most important concepts for coaches, fitness instructors, or practitioners in a health-science field. It is not the intent to study each topic in depth. This course will feature laboratory activities, demonstrations, and hands-on learning experience, and from these activities, conclusions will be discussed regarding concepts. Prerequisites: None. Offered: Fall.

**EXER2125 Applied Biomechanics and Movement Anatomy 3 cr**  
An in-depth course covering the study of biomechanics and the anatomical foundations of human movement. Topics include: muscle contraction, muscle origins and insertions, muscular and skeletal actions, articulations, and human movement fundamentals. Prerequisites: BIOL2000 recommended. Offered: Spring.

**EXER2130 Foundations of Sport Science 3 cr**  
An introductory study of anatomical, mechanical, maturational, psychological and physiological kinesiology as it applies to the practice of coaching. The major focus is to present the scientific principles that constitute the basis for sound athletic coaching practices. Prerequisites: None. Offered: Varies.

**EXER2225 Theory of Coaching 2 cr**  
This course includes skill analysis, motivation techniques, teaching progression, responsibilities, qualities, coaching philosophies, coaching skills, practice management, psychology of coaching, game management, coaching methods, statistics and team organization of various sports. The course also includes exposure to some of the great coaches, past and present. Prerequisites: None. Offered: Varies.

**EXER2235 Intro to Athletic Training 3 cr**  
This course is designed to provide the entry-level exercise science practitioner with an overview of the knowledge's, competencies, and skills of athletic training. Prerequisites: None. Offered: Spring  
\*\*Articulated\*\*.

**EXER2240 Corporate Wellness/Health Promotion 3 cr**  
This course provides the framework for implementing and facilitating effective corporate wellness programs. Topics include: health education techniques, motivation, sales and marketing strategies, working with the business professional, and assessment of corporation needs. Prerequisites: None. Offered: Varies.

**EXER2250 Group Fitness Instruction 2 cr**  
An introductory course to the fundamental elements of group fitness instruction. Areas of focus include: music selection, choreography, cuing, leadership skills, and motivational techniques. A variety of instruction formats will be taught including: step, cardio, kickboxing, aqua, and specialty classes. Strongly recommended for those pursuing careers in Corporate Wellness. Prerequisites: None. Offered: Fall.

**EXER2270 Recreation Sports 3 cr**  
This course will focus on the development, marketing, and facilitation of sports for the recreational athlete. It will also include activities for the outdoor enthusiast. Possible areas of focus include: intramural sports, community education programs, camping and orienteering, and adult recreation leagues. Prerequisites: None. Offered: Varies.

**EXER2280 Health and Aging 3 cr**  
The purpose of this course is to introduce students to the complex physiological and psychological processes associated with aging. Students will learn about specific health problems associated with an older population and ways to prevent some of the nonessential age-related declines in function. Prerequisites: None. Offered: Fall.

**EXER2290 Legal Aspects of Sport 3 cr**  
The purpose of this course is to provide students with an adequate background to ensure their comfort when dealing with legal issues surrounding sport. Students will learn of the inherent risk associated with sport management and administration. They will be provided with a history of legal arguments, defenses, and judgments in the sport arena. Prerequisites: None. Varies.

**EXER2295 Social and Ethical Aspects of Sport 3 cr**  
This course examines how sport is affected by society, and how society is affected by sport; ethical and moral issues in sport for athletes, coaches, administrators, staff personnel and media; and legal considerations in roles related to sport. Prerequisites: None. Offered: Spring.

## GM AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM (ASEP)

**ASEP1101 Automotive Fundamentals 3 cr**  
This course is designed to develop the basic concepts needed for the General Motors Automotive Service Educational Program. This unit covers basic automotive safety and procedures in the shop. Different types and uses of fasteners, including thread repair, will be covered. The proper procedures for writing repair orders and parts requisitions will be covered. The use of General Motors service bulletins, as well as service and repair manuals, will be examined in detail, including wiring schematics. Instruction and GM certification in the General Motors Specialized Electronics Training program (GM-SET) is also a part of this unit. Prerequisites: None. Offered: Fall \*\*Articulated\*\*.

**ASEP1102 Electrical and Fuel Systems 3 cr**  
This course begins by examining batteries, charging systems and starting systems used by General Motors. Proper testing methods

utilizing various types of equipment will be stressed, followed by unit repair procedures. All General Motors' ignition systems and emission controls will be examined. The fundamentals of GM engine computer systems and related sensors will be addressed. Diagnosis, adjustments and repair of component parts will be covered. An introduction to oscilloscopes and four-gas analysis will also be covered. Prerequisites: ASEP1101. Offered: Fall.

**ASEP1103 Driveability 3 cr**  
This course will cover General Motors engine control systems. Included will be a thorough examination of automotive microprocessors, sensor and actuator operation, DIS ignitions, TBI, PFI and other GM fuel systems. The proper use of service manual diagnostic information and trouble charts will be covered. The use of scan tools including TECH 1, TECH 2 and GM-PC for diagnosis will be covered in detail. This unit includes a continuation of scope and infrared operating and diagnosis. Prerequisites: ASEP1101 and ASEP1102; or instructor approval. Offered: Spring.

**ASEP1104 Body Electronics 3 cr**  
This course will cover General Motors body electrical systems. A study of the theory, diagnosis, and repair of electric windows, door locks, power seats, mirrors, electronic and conventional instrumentation, windshield wipers, cruise controls, theft deterrent systems and microprocessor-controlled body electronics is included. The automatic and electronic climate control systems will be addressed in this unit. The Supplemental Inflatable Restraint system (SIR) and its various applications and functions will also be examined. Prerequisites: ASEP1101, ASEP1102, ASEP1103; or instructor approval. Offered: Summer.

**ASEP1105 Heating And Air Conditioning 3 cr**  
This course is a study of the theory, operation, maintenance, diagnosis and repair of General Motors heating and air conditioning systems. The basic refrigerant cycle will be addressed, as well as system components and controls used by GM. Emphasis will be on GM CCOT and VDOT systems. Included will be an examination of manual controls used in conjunction with GM heating and air conditioning systems. Reclaiming and recycling of R-12 and R-134A and retrofitting will also be covered in this unit. Prerequisites: ASEP1101. Offered: Spring.

**ASEP1108 Brake Systems 3 cr**  
This course covers theory and practice of servicing brake systems on General Motors cars. Included will be disc/drum brakes, power brakes, diagonal split, anti-lock brakes, and four-wheel disc brakes. Prerequisites: ASEP1101. Offered: Summer.

**ASEP1212 Advanced Diagnostics/ New Model Update 1 cr**  
This course provides the student with additional electronic fuel and body systems diagnosis and repair procedures. The most current factory diagnostic procedures will be stressed. Emphasis will be on GM-PC, TECH 1, and TECH 2, as well as additional lab scope and infrared analysis. Also, any new products or systems introduced on GM vehicles that have not been previously covered will be addressed. Prerequisites: ASEP1101, ASEP1102, ASEP1103, and ASEP1104. Offered: Spring.

**ASEP2107 Steering and Suspension 2 cr**  
This course covers the principles of operation, removal, reconditioning, installation and adjustments of GM steering and suspension systems. It includes comprehensive training on power/manual steering gears, power/manual rack and pinion systems, suspension repairs, wheel alignment, wheel balance and vibration diagnosis. Prerequisites: None. Offered: Spring.

**ASEP2110 Automatic Transmissions 3 cr**  
This course covers the removal, disassembly, operation, reconditioning, assembly, installation and diagnosis of General Motors automatic transaxles and transmission. Prerequisites: None. Offered: Spring.

**ASEP2111 Engines 3 cr**  
This course covers the operation, diagnosis, removal, assembly, reconditioning and installation of General Motors gas engines. Oil and coolant leak diagnosis and repair will also be covered. Prerequisites: ASEP1102. Offered: Fall.

**ASEP2209 Driveline and Four Wheel Drive 3 cr**  
This course covers the disassembly, operation, reconditioning, assembly and adjustments of General Motors front and rear axles, driveaxles and driveshafts. Prerequisites: None. Offered: Fall.

## HEALTH

**HEAL1000 First Aid/CPR 1 cr**  
This course covers the knowledge and skills that are needed for emergency care of the injured or ill until medical care can be obtained. It should also serve to create an active interest in the prevention of accidents and illnesses. This course covers the knowledge for prevention of unnecessary death from heart attack, the signals of a heart attack, and the actions for survival. Basic skills performed in the management of basic life support are in accordance with standards set by the American Red Cross. (Attendance is mandatory in this course. No excuses are accepted. No makeup is scheduled.) Prerequisites: None. Offered: Fall, Spring, Summer.

**HEAL1010 CPR For the Professional Rescuer 1 cr**  
This course covers the knowledge and skills that are needed for emergency care of the injured or ill until medical care can be obtained. It is designed as a review for those who are professional rescuers, e.g., nurses, firefighters, police officers, lifeguards, etc., who need to renew their CPR certification every year. Basic skills performed in the management of basic life support are in accordance with standards set by the American Heart Association. (Attendance is mandatory in this course. No excuses are accepted. No makeup is scheduled.) Prerequisites: HEAL1000 or American Heart Level C. Offered: Fall, Spring, Summer \*\*Articulated\*\*.

**HEAL1012 Workplace Training Standard First Aid 1 cr**  
This course is designed to give individuals the knowledge and skills necessary to recognize and provide basic care for injuries and sudden illness in the workplace until advanced medical personnel arrive and take over. Course includes modules on Ergonomics; Back Injury Prevention; Workplace Violence Awareness; Preventing Disease Transmission; Adult CPR/AED; Slips, Trips and Falls; Stress Management; and Heart of the Matter. Prerequisites: None. Offered: Varies.

**HEAL1020 Advanced First Aid 1 cr**  
This course covers the knowledge and skills necessary to provide emergency care of the injured or ill until advanced medical care arrives. This course provides in-depth knowledge as well as advanced first aid skills. First aid skills are in accordance with the guidelines of the National Safety Council. (Attendance is mandatory in this course. No excuses are accepted. No makeup is scheduled.) Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**HEAL1030 Emergency Care Technical Trades 3 cr**  
This is an industry-related course that covers the knowledge and skills that are needed for emergency care of the injured or ill until medical help can be obtained and creates interest in the prevention of accidents and illness. This course covers the knowledge for prevention of death from heart attack or stroke and the signals and actions for survival. Covered also are the care and prevention of natural element conditions that may become life threatening situations. Basic skills performed in the management of basic life support are in accordance with standards set by the National Safety Council. Prerequisites: None. Offered: Spring.

**HEAL1055 Nursing Assistant/Home Health Aid 5 cr**  
This course introduces concepts of basic human needs and the function of the nursing assistant in long term care and or home health care. Basic nursing skills will be demonstrated and practiced in the laboratory setting. Upon successful completion of classroom studies, the student will participate in 24 hours of supervised clinical experience in a long term care setting. This course is a prerequisite for the Practical Nursing Program. It meets the objectives of Federal and State Statutory requirements for nursing assistant training. Prerequisites: None. Individuals who provide direct contact services to clients of licensed facilities are required to have complete criminal background studies. Disqualified persons will not be permitted to work in these facilities.

**HEAL1070 Trained Medication Aide 2 cr**  
This state-approved program provides an overview of the requirements concerning medications and their administration. Other topics include legal criteria, medical abbreviations, measurements, use of the Physician's Desk Reference (PDR), and overview of body systems and drug classifications. Administration of medications via oral, eye, ear, rectal, and topical routes will also be covered. Attendance of all classes is mandatory; any absence will result in repeating the course. Students must attain 90% on all examinations to continue in the class. Prerequisites: Must have completed Nursing Assistant-Registered program. Offered: Fall, Spring.

**HEAL1101 Anatomy and Physiology 4 cr**  
This course is an introduction to the structure and function of the human body. Focus will be on the study of each individual organ system and the interaction of each system with the rest of the body. Prerequisites: OFFC1045, HEAL1502. Offered: Fall, Spring, Summer \*\*Articulated\*\*.

**HEAL1150 Health Career Mathematics 1 cr**  
This course will assist students in mastering the skills necessary to determine drug dosages. Applicable basic skills will be reviewed, followed by proportions and a study of the metric system and the apothecaries' system. A major portion of the time will be spent solving drug dosage word problems. Prerequisites: Qualifying scores on the ACCUPLACER arithmetic test. Offered: Fall, Spring, Summer.

**HEAL1200 Phlebotomy 1 cr**  
This course will cover the process of collecting patient blood specimens and processing them for testing. Four different methods of collection will be learned and practiced. Students will be expected to participate both as a phlebotomist and as a patient. Difficult draw, adverse reaction, and pediatric situations will also be discussed and simulated. The specimens collected will be handled and processed according to laboratory standards for accurate testing. Prerequisites: None. Offered: Varies.

**HEAL1400 Nutrition and Diet Therapy 2 cr**  
This course provides a study of basic nutritional concepts. Diet guidelines and menu planning are emphasized using the Food Guide Pyramid. Therapeutic diets are discussed as related to specific disease conditions. Prerequisites: HEAL1000, HEAL1050, and OFFC1045. Offered: Fall, Spring \*\*Articulated\*\*.

**HEAL1502 Medical Terminology 2 cr**  
This course is an introduction to building medical terms and learning the meanings. Students will learn combining forms, word roots, prefixes and suffixes, and how these word parts apply to building medical terms. Students will also learn common medical abbreviations and symbols. THIS COURSE IS THE SAME AS OFFC1045. Prerequisites: None. Offered: Fall, Spring, Summer.

**HEAL1702 Pharmacology Basics 1 cr**  
This course will provide a framework of knowledge of medications in relation to body systems and disease conditions. The classifications, purposes, adverse effects and precautions of drugs will be described. Prerequisites: None. Offered: Spring.



**HEAL1800 First Aid/CPR for the Allied Health Care provider 1 cr**

This course covers the knowledge and skills that are needed for emergency care of the injured or ill until medical care can be obtained. It should also serve to create an active interest in the prevention of accidents and illnesses. This course is designed for those needing more advanced knowledge and skills than the layperson; medical assistants, personal trainers, lifeguard, police officers for emergency care of the injured or ill until advanced medical care can be obtained. Basic skills performed in the management of basic life support are in accordance with standards set by the American Red Cross. (Attendance is mandatory in this course.) Prerequisites: None. Offered: Fall, Spring, Summer.

## HEALTH AND WELLNESS

---

**HLTW1000 First Aid/CPR 1 cr**

This course covers the knowledge and skills that are needed for emergency care of the injured or ill until medical care can be obtained and also to create an active interest in the prevention of accidents and illnesses. This course covers the knowledge for prevention of unnecessary death from heart attack and the signals and actions for survival. Basic skills performed in the management of basic life support are done according to standards set by the American Red Cross. Prerequisites: None. Offered: Fall, Spring.

**HLTW1020 Advanced First Aid 1 cr**

This course covers the knowledge and skills necessary to provide emergency care of the injured or ill until advanced medical care arrives. This course provides in depth knowledge as well as advance first aid skills. First aid skills are done according to the guidelines of the National Safety Council. Prerequisites: None. Offered: Varies.

**HLTW1035 Wilderness First Aid: Emergency Care for Remote Locations 1 cr**

This course covers the knowledge and skills necessary to care for those who are injured or suddenly ill in remote locations. The Wilderness Medical Society defines wilderness as a remote geographical location more than one hour from definitive medical care. The information taught in this course will provide you with the "what to look for" and the "what to do's" necessary to successfully manage injuries and sudden illnesses that occur in delayed help situations. This course targets outdoor enthusiasts, individuals who work in remote areas, (farmers, foresters, linesmen, truckers, ranchers), people who live in areas where the EMS system may not be able to respond immediately to an emergency, as well as for those who travel in countries where medical care may be inadequate or difficult to reach. Prerequisites: None. Offered: Spring.

**HLTW1040 Emergency Care on the Job 2 cr**

This is an industry related course that covers the knowledge and skills that are needed for emergency care of the injured or ill until medical help may be obtained and also to create interest in the prevention of accidents and illness. This course covers the knowledge for prevention of death from heart attack or stroke and the signals and actions for survival. Covered also are the care and prevention of natural element conditions that may become life threatening situations also. Basic skills performed in the management of basic life support are done according to standards set by the American College of Emergency Physicians. Prerequisites: None.

## HEAVY CONSTRUCTION EQUIPMENT MECHANIC

---

**HCEM1101 General Shop Mechanics - Introduction 2 cr**

Students achieve a basic understanding of skills needed in the heavy equipment field. Some areas covered are safety, hand and power tools, hand tool projects, flaring, soldering, gears, chains, bearings,

seals, fuels, lubricants, fasteners, fittings, wires and connectors, belts, pulleys, couplings, and precision measuring instruments. Prerequisites: None. Offered: Fall \*\*Articulated\*\*.

**HCEM1110 Welding and Flame Cutting 2 cr**

The application of several welding methods used in the Heavy Equipment Industry is covered in this course. Safety, theory, and practice will be taught in a lab setting. Cutting and heat bending are also included. Prerequisites: HCEM1101 or instructor's approval. Offered: Fall \*\*Articulated\*\*.

**HCEM1132 Heavy Duty Electrical 3 cr**

This is an introduction to electricity as applied to heavy equipment covering electronic theory and magnetism. Emphasis is on theory, diagnosis and repair of basic starting, charging, lighting and ignition systems. This course prepares students for HCEM1234 through classroom instruction and lab practice. Prerequisites: None. Offered: Fall.

**HCEM1140 Diesel Engine Overhaul I 4 cr**

This course teaches engine tear down, failure analysis, cylinder head repair, minor overhaul, and use of proper precision measuring instruments on engines used in the heavy equipment field such as Cat, John Deere, Perkins, Case, Ford, Cummins, and Onan. This course also includes basic fundamentals of gas and diesel engine design, including the study of cylinder heads and blocks, lubrication, air intake, exhaust, electrical, cooling, and fuel systems. Precision measuring is included, along with preventive maintenance and minor repair as well as testing on stationary and mobile gasoline engines used in the heavy equipment industry. Safety and troubleshooting are stressed. Prerequisites: HCEM1101. Offered: Fall.

**HCEM1160 Specialized Lab I 3 cr**

The student will work in a lab setting for the purpose of using this specialized lab to allow more time to complete goals. This may be remedial, foundation, or enhancement. This specialized lab is taken by both the diploma and the A.A.S. student. Prerequisites: HCEM1101, HCEM1110, HCEM1130, and HCEM1140. Offered: Fall.

**HCEM1234 Heavy Duty Electronics 3 cr**

This course teaches students heavy equipment electronics, diagnostics and repair. The student will enhance their knowledge of equipment electronics and failure analysis through instruction and hands-on training. Course work will include electrical schematics and symbols, advanced multimeter training, testing, troubleshooting and repair of electronic monitoring systems. Computerized engine components are also covered. Prerequisites: HCEM1132. Offered: Spring.

**HCEM1246 Diesel Engine Overhaul II 3 cr**

This course teaches engine tear down, failure analysis, cylinder head repair and major overhaul, and use of proper precision measuring instruments on engines used in the heavy equipment field such as Cat, John Deere, Perkins, Case, Ford, Cummins and Detroit Diesel. This course also includes basic fundamentals of diesel engine design, including the study of cylinder heads and blocks, lubrication, air intake, exhaust, electrical, cooling, and fuel systems. Major tear down and measuring are included along with mastery of preventive maintenance and major repair, tune-up and testing on mobile and stationary diesel engines used in the heavy equipment industry. Safety and troubleshooting are stressed. Prerequisites: HCEM1101 and HCEM1140. Offered: Spring.

**HCEM1250 Brakes 2 cr**

Instruction covers hydraulic and pneumatic brake theory and operation, component identification, application, and general repairs on heavy equipment. Safety and troubleshooting are stressed. Prerequisites: HCEM1101 or instructor's approval. Offered: Spring.

**HCEM1256 Diesel Engine Tune-up 3 cr**

This course includes component identification, testing procedures, problem analysis, valve and injection adjustment, pump replacement, and engine tune-up. Troubleshooting is stressed. Prerequisites: None. Offered: Spring.

**HCEM1260 Specialized Lab II 3 cr**  
The student will work in a lab setting for the purpose of using this specialized lab to allow more time to complete goals. This may be remedial, foundation, or enhancement. Prerequisites: HCEM1245, HCEM1250, and HCEM1255. Offered: Spring.

**HCEM1261 Specialized Lab II - AAS 2 cr**  
This course is only for students pursuing the AAS (Cat Track) degree. The student will work in a lab setting for the purpose of using this specialized lab to allow more time to complete goals. This may be remedial, foundation, or enhancement. Prerequisites: HCEM1245, HCEM1250, and HCEM1255. Offered: Spring.

**HCEM2115 Transmissions 4 cr**  
This is a technical course designed to promote understanding of standard sliding gear, synchromesh, and powershift transmissions used in heavy equipment industry. Theory related to hydraulic-assisted transmissions and torque converters, along with basic fundamental principles of hydraulics, torque multiplication, gear ratios, disassembly, assembly, and adjustment procedures are covered. Prerequisites: HCEM1101 and HCEM1130 or instructor's approval. Offered: Fall.

**HCEM2135 Hydraulics I 3 cr**  
This introduction to basic hydraulics is a prerequisite to related courses. The student will study principles of hydraulics, identification of components, operation, fluids, and preventive maintenance. Students will use test instruments such as high-pressure gauges and flow meters to troubleshoot and diagnose hydraulic pump efficiency and condition of related system components. System components are disassembled and reassembled, with adjustments made to main and circuit reliefs in accordance with manufacturer's specifications. Prerequisites: HCEM1101 and HCEM1130 or instructor's approval.

**HCEM2145 Hydrostatic Systems 3 cr**  
Students study basic principles of operations, system components, testing procedures, repair techniques, adjustments, and preventive maintenance procedures. Prerequisites: HCEM1101 and HCEM2135 or instructor's approval. Offered: Fall.

**HCEM2175 Specialized Lab III 3 cr**  
Students gain additional shop experience for entry-level positions in industry. Students diagnose, record, and make repairs on customer equipment including crawlers, loaders, motor graders, backhoes, etc. Repairs are made on heavy equipment systems such as hydraulic, brake, electrical, chassis, and sheet metal. After repairs, students complete the work repair order. Prerequisites: First-year courses HCEM1101, HCEM1130, HCEM1250, HCEM2115, HCEM2135, and HCEM2145, or instructor's approval. Offered: Fall.

**HCEM2176 Specialized Lab III - AAS 2 cr**  
Students gain additional shop experience for entry-level positions in industry. Students diagnose, record, and make repairs on customer equipment including crawlers, loaders, motor graders, backhoes, etc. Repairs are made on heavy equipment systems such as hydraulic, brake, electrical, chassis, and sheet metal. After repairs, students complete the work repair order. Prerequisites: First year courses HCEM1101, HCEM1130, HCEM1250, HCEM2115, HCEM2135, and HCEM2145 or instructor's approval. Offered: Fall.

**HCEM2225 Track Drive Systems 3 cr**  
This course provides the student with an understanding of track drive component operation and wear. Students study principles of operation, demonstrate safe jacking and blocking procedures, and study track, track frame, sprocket, idler, and roller removal and installation. Wear analysis and preventive maintenance are stressed. Adjustments are made according to manufacturer's specifications. Prerequisites: HCEM1101 and HCEM2115, or instructor's approval. Offered: Spring.

**HCEM2238 Hydraulics II 3 cr**  
This course is designed for students with knowledge of hydraulic flow and pressure. Students learn National Standard Institute symbols used in fluid power diagrams. Students design complete hydraulic systems around available components and manufacture and assemble two types of high pressure hoses. A technical study provides students with operational knowledge of computer-controlled multiple hydraulic systems. Students troubleshoot and diagnose hydraulic system malfunctions. Prerequisites: HCEM1101, HCEM1130, and HCEM2135, or instructor's approval. Offered: Spring.

**HCEM2255 Steering Systems 3 cr**  
This course provides students with basic understanding of steering systems used on heavy equipment. The course begins with mechanical systems followed by intensive overview of hydraulic-assisted systems used on crawlers, articulated loaders, motor graders, and backhoes. Students study principles of operation, components, repair procedures, and adjustments. Prerequisites: HCEM1101, HCEM2135, and HCEM2145, or instructor's approval. Offered: Spring.

**HCEM2265 Differentials 2 cr**  
This course provides students with operational knowledge of differentials used in the heavy equipment industry, including standard, limited slip, controlled traction, no spin, and locking. The course covers principles of operation, gear ratios, disassembly, assembly, and adjustment procedures. Prerequisites: HCEM1101 and HCEM2115 or instructor's approval. Offered: Spring.

**HCEM2279 Specialized Lab IV Section II 2 cr**  
This course is to coincide with HCEM 2280 for Diploma requirements. Students gain additional shop experience for entry level positions in industry. Students diagnose, record, and make repairs on customer equipment including: crawlers, loaders, motor graders, backhoes, etc. Repairs are made on heavy equipment systems such as hydraulic, brake, electrical, chassis, and track drive systems. After repairs, students complete the work repair order. Prerequisites: First year courses HCEM1101, HCEM1130, HCEM1250, plus HCEM2115, HCEM2135, HCEM2145, HCEM2225, or Instructor's Approval.

**HCEM2280 Climate Control 4 cr**  
Students will be taught how to perform routine maintenance and troubleshooting procedures in order to identify and repair or replace faulty components within a climate controlled cab in heavy construction equipment. Air-conditioning theory will be discussed. Prerequisites: HCEM1101, HCEM1130, HCEM2135. Offered: Spring.

## HEAVY DUTY TRUCK TECHNOLOGY

**HDTT1100 Truck Technology Fundamentals 4 cr**  
This course covers shop procedures and safety in the truck shop such as safety in the use of hand tools, power tools, hoists, jacks, and other equipment used by a heavy duty truck technician. Different types and uses of fasteners, thread repair, and similar procedures will be discussed. Methods of record keeping, repair orders, and the use of repair manuals and related service publications will also be covered. The student will be familiarized with the basic fundamentals of operating heavy trucks. Included will be pre-start and pre-trip inspection procedures, basic operation of the vehicle, and shut-down procedures. Dropping and hooking and basic maneuvering of the trailer will be covered. Prerequisites: None. Offered: Fall  
\*\*Articulated\*\*.

**HDTT1103 Air Brake Systems 6 cr**  
This course covers the theory of compressed air and its application to the brake system. Air system components will be identified and their functions studied individually and within the entire system. Emphasis will be placed on general repair and trouble-shooting. The

course will cover identification of the mechanical components of the foundation brake system and their application, including all wheel/axle components. Theory of operation, removal, repair, and replacement along with diagnostic and testing procedures are covered in this course. Prerequisites: None. Offered: Fall.

**HDTT1106 Welding Procedures 2 cr**

This course covers basic position welding techniques of the different welding applications used in the heavy truck repair industry. This course will cover applications of oxyacetylene welding, brazing, cutting, heating, arc welding, and wire-feed (MIG). Prerequisites: None. Fall \*\*Articulated\*\*.

**HDTT1109 Fluid Power Systems 2 cr**

This course covers the introduction to basic hydraulics and is designed to promote understanding of hydraulic theory and application related to hydraulic systems, tools, and equipment used in heavy duty trucks. The student will study principles of hydraulics, operation, component identification, and preventive maintenance. Also included will be basic information pertaining to heavy truck hydraulic brake components. Prerequisites: None. Offered: Fall.

**HDTT1212 Preventive Maintenance 4 cr**

This course covers the importance and proper procedures of preventive maintenance and inspection schedules used for various types of heavy trucks and their applications. Students learn to perform inspections according to the standards of the Department of Transportation (D.O.T.) This course also offers the opportunity to participate in taking the test for certified inspector through the State of Minnesota. Prerequisites: None. Offered: Spring.

**HDTT1215 Suspensions and Steering Systems 4 cr**

This course covers the identification, inspection techniques, repair and adjustment procedures, and alignment checks of the components associated with the variety of frames and suspensions common to heavy trucks. Students will be instructed in identifying the various types of truck steering systems and components. The students learn and practice inspection disassembly, reassembly, and alignment procedures. Manual and power steering sectors and pumps are included. Prerequisites: None. Offered: Spring.

**HDTT1218 Electrical Systems 4 cr**

This course covers the basic purpose and function of the various truck electrical systems, components, and instruments. Electrical theory, application, and diagnosis using typical test equipment will also be covered. Prerequisites: None. Offered: Spring \*\*Articulated\*\*.

**HDTT1222 Truck A/C 2 cr**

This course covers identification, inspection, basic refrigeration, preventive maintenance, servicing, electrical, and refrigerant charging of tractor cab A/C units common to heavy trucks. Prerequisites: None. Offered: Spring.

**HDTT2101 Drive Train I 6 cr**

This course covers repairing, rebuilding, and diagnosing problems in transmissions and differentials. Students are taught how to remove, inspect, and replace gears, shafts, bearings, seals, and other components using the proper tools and procedures. Prerequisites: None. Offered: Fall.

**HDTT2104 Drive Train II 4 cr**

This course covers the theory of operation, repair, removal, inspection, and installation of the clutch and drive shafts. Prerequisites: None. Offered: Fall.

**HDTT2107 Diesel Fundamentals 3 cr**

This course covers the basic theory, operation, and understanding of the two- and four-stroke cycle diesel engine. The compression ignition engine principles and the engine's components will be

covered, along with the disassembly, inspection, evaluation, reassembly, and proper torque techniques which are used on this type of engine. The different engine tools and their proper usage will also be covered. Prerequisites: None. Offered: Fall.

**HDTT2110 Diesel Fuel Systems 1 cr**

This course will cover the basic operation, theory, and understanding of non-electronic diesel fuel systems. Each of the components, their operation, usage, and internal parts will be covered and then tied together to show the student the complete fuel system. Prerequisites: None. Offered: Fall.

**HDTT2213 Diesel Engine Fundamentals 4 cr**

This course covers the basic components of the diesel engine as well as their removal, inspection, cleaning, repair, proper measuring, replacement, and/or reuse. Prerequisites: HDTT2107. Offered: Spring.

**HDTT2216 Diesel Electronics 3 cr**

This course covers the basics of the electronically-controlled engines found in the trucking industry today. The components and their usage, testing, diagnosis, repair, and replacement will be covered. The student will be expected to use a wide variety of diagnostic test equipment. Prerequisites: HDTT2118. Offered: Spring.

**HDTT2222 Diesel Engine Lab 6 cr**

This course covers the removal, inspection, cleaning, and overhaul of the diesel engine. The use of special overhaul tools and service and parts manuals is included. Prerequisites: HDTT2107. Offered: Spring.

**HDTT2228 D.O.T. Certification (Elective) 1 cr**

This course covers the proper method of performing the federal and state D.O.T. truck inspection. Use of inspection forms and permit stickers will also be covered. After completion of this course and final exam, the student will be a certified truck inspector and able to perform both federal and Minnesota D.O.T. inspections. Prerequisites: None. Offered: Fall, Spring.

## HISTORY

**HIST1100 History of the United States to 1877 4 cr**

This class is a survey of American history from early Native Americans to Reconstruction. It consists of a combination of primary and secondary sources that focus on the major political and social changes in America to 1877. Prerequisites: None. Offered: Fall, Spring, Summer.

**HIST1200 History of the U. S. from 1877 to the Present 4 cr**

This course will survey the major historical events of the United States from 1877 to the present. The text emphasizes political and social developments while the secondary readings provide a closer examination of this period's major themes. Prerequisites: None. Offered: Fall, Spring, Summer.

**HIST1300 World History 4 cr**

Big History is a new approach to World History that widens the scale of study from a few thousand years to the entire past. Rather than studying World History through the lense of different cultures, nations, and civilizations, Big History starts 13 billion years ago and attempts to place the human species in the context of the universe. This course begins with the scientific account of the universe's beginnings and then describes the formation of the earth including its flora and fauna. The majority of the course concentrates on the major trends and developments of human societies from the Paleolithic, throughout the agrarian, and into the modern era. Prerequisites: College reading level recommended.

**HIST1400 American Environmental History 3 cr**  
 This course examines the interaction between humans and the natural world in the United States from the late nineteenth century to the present. In addition, heavy emphasis is placed on recent Minnesota Environmental history. The course considers such diverse topics as the impact of industrialization and urban growth on the environment, the emergence of ecology and green politics, and the creation of the idea of Nature in American culture. Students will be expected to develop a historical understanding of the major themes of modern American environmental history; relationships between human activity and pollution in cities, emergence of reform movements and environmental regulation, relationships between increasing urban growth and increasing environmental concern, and the rise of environmental politics in both local and national settings. Prerequisites: The course is taught for students interested in American history as well as those seeking a better understanding of environmental issues. Students will need access to a computer and be familiar with word processing programs and browsing the Internet.

**HIST1500 History of Western Civilization 3 cr**  
 This course examines the nature of the Western world and how it has shaped the men and women who are its heirs. Students will understand the role Western civilization has and is playing in the worldwide civilization of the present day. The course focuses on the outstanding institutions, ideas, and creative works that have formed (and expressed) Western civilization, as well as on Western interactions with other civilizations in the past and present. As Shakespeare observed, "What's past is prologue." Prerequisites: None.

## HUMANITIES

**HUMA1100 Introduction to Humanities 4 cr**  
 This course emphasizes eight disciplines as they have grown and influenced each other and the societies that produced them through the ages in western history. These disciplines are: literature, art, architecture, philosophy, music, science, religion, and technology. The course will include analysis of written texts, pictures, and ideas. Prerequisites: None.

## INFORMATION SYSTEMS

**ISTC1000 Introduction to Information Systems Management 3 cr**  
 This course provides an overview of computer hardware, relational databases, local area networks and programming. Information Systems terminology and industry acronyms associated with data, voice and video are also covered. Prerequisites: None.

**ISTC1010 Microcomputer Maintenance 3 cr**  
 This course is designed for the PC novice to learn how to maintain, upgrade, and repair personal computers. Participants will remove and replace motherboards, and various input/output devices. Hard drives maintenance procedures (formatting) and loading operating systems will be covered. Prerequisites: None.

**ISTC1030 Operating Systems I 3 cr**  
 This course covers operating system administration with the use of command line for microcomputers. Topics include booting and configuring the system, the use of internal commands and external commands, file management, networking, and writing of batch files. Prerequisites: None.

**ISTC1033 Operating Systems II 3 cr**  
 This course is designed to provide students with the knowledge and skills necessary to install, configure, manage and troubleshoot desktop clients in a network. Lectures, hands-on projects and exercises reinforce skills as they are learned. Specific topic coverage includes: Installing; Using the System Utilities; Managing File Systems

and Storage; Users, Groups, Performance Tuning; Working with the Registry; Booting Process; Fault Tolerance; Troubleshooting  
 Prerequisites: ISTC1030.

**ISTC1040 Network Systems I 3 cr**  
 This course presents an introduction to OSI 7-layer Reference Model used in data communication and computer networks with emphasis on network infrastructure design, configuration, implementation and subnetting. This course is the first in a four-course sequence designed to prepare students to take the Cisco Certified Network Associate (CCNA) examination. Prerequisites: None.

**ISTC1050 Database Systems 3 cr**  
 This course focuses on the fundamentals of relational databases; their use, design and implementation. The course will include entity-relationship modeling, logical and physical design and normalization, as well as the definition of tables and indexes. The use of Structured Query Language (SQL) for data manipulation will be emphasized. The course will also cover concepts of client/server, distributed and object-oriented databases, security and data warehousing. Prerequisites: COML1400.

**ISTC1060 Security I 3 cr**  
 This course is designed to investigate the analysis and implementation of network security policies, procedures and guidelines for establishing, monitoring and controlling methodologies for local and wide area networks. The course covers authentication methods, communication security, infrastructure security, cryptography, operational security and firewalls. Prerequisites: None.

**ISTC1100 Business Communications 3 cr**  
 This course focuses on the foundations of business communication in the Information Systems Industry. The topics will include developing your business writing skills, topics on the social and ethical implications of Information Systems. Prerequisites: None.

**ISTC1205 Web Client Programming 3 cr**  
 This course covers technologies used to create Internet client applications. Students will create numerous web applications using scripting tools/languages. The course includes the topics of cascading style sheets, tables, frames, forms and multimedia integration. Emphasis will be placed on the design, development, deployment and maintenance of the interactive web sites. Prerequisites: ISTC1300.

**ISTC1210 Web Server Programming 3 cr**  
 This course covers server-side components used to create dynamic web sites. Several technologies such as middleware, scripts and servlets will be explored. Methods and tools for integrating data will be emphasized including those provided as open source. Prerequisites: ISTC1300.

**ISTC1230 Systems Analysis and Design 3 cr**  
 This course provides coverage of systems analysis and design theories and techniques. Both the traditional, structured approach and the object-oriented approach to systems development will be explored. Students will learn the theory of analysis, design and implementation following the guidelines of the Systems Development Life Cycle. Students will demonstrate system modeling with UML. Prerequisites: ISTC1300 or equivalent programming experience.

**ISTC1300 Introduction to Programming 3 cr**  
 This course provides the beginner programmer with a guide to developing programs using structured programming logic. Analysis, design, coding, testing and debugging will be covered. Students will be exposed to various design techniques, such as flowcharts, as prequels to writing code. Programming key points include structured programming, modularized programming, decision-making, looping, arrays, data file utilization, arrays and object-oriented classes. Students will be exposed to procedural and object-oriented programming. Students will be required to generate simple programs for this course. Prerequisites: None.

**ISTC1400 Wireless Systems 3 cr**  
This course provides hands-on experience to wireless networking. The student will explore the latest wireless technologies following networking industry 802.11x standards. This course includes the planning, designing, installing and configuring wireless LANs from the principal Wireless LAN vendors, and explores the interrelationship of their hardware, software and applications. Prerequisites: ISTC1040 or equivalent networking experience.

**ISTC2005 Network Systems II 3 cr**  
This course is the second course in a four-course sequence designed to introduce students to local area network hardware router installation and configuration. The course is designed around OSI 7-layer Reference model and is the second course in the sequence to help students prepare to take the CCNA certification exam. Prerequisites: ISTC1040.

**ISTC2010 Network Systems III 3 cr**  
This course is an introduction to layer-2 switching, IPX, VLANs, Access Control Lists, and IGRP. This is the third course in a four-course sequence designed to prepare individual students for the CCNA certification exam. Prerequisites: ISTC2005.

**ISTC2015 Network Systems IV 3 cr**  
This course focuses on WANs and Broadband infrastructure design, configuration and implementation as it relates to the 7 layer OSI model used in data communications and computer networks. WAN technology and terminology, Cable modems, Port Address Translation, Network Address Translation, DHCP, xDSL, and PPP. This is the final course preparing the student to take the CCNA exam. Prerequisites: ISTC2010.

**ISTC2035 Operating Systems III 3 cr**  
In this course the student is expected to learn the procedures underlying server operating systems. The course will cover network design, installing Servers, configuring and optimizing Servers, managing users and groups, quotas, basic and dynamic disks, security, and print management. Prerequisites: ISTC1040, ISTC1033.

**ISTC2040 Database Management 3 cr**  
This course focuses on working with an enterprise-level database management system as well as basic administrative tasks such as installations. The use of Structured Query Language (SQL) will be emphasized as it relates to data definition and data manipulation. Topics also include triggers and stored procedures. Prerequisites: ISTC1050.

**ISTC2050 Data Structures 3 cr**  
This course introduces the student to the theory, design and implementation of common data structures and related algorithms. Topics include linked lists, recursion, stacks, queues, search algorithms, sorting algorithms, graphs and binary trees. Students will write numerous programs to demonstrate comprehension of the course topics. Prerequisites: ISTC1300 or equivalent programming experience.

**ISTC2065 Security II: Firewalls 3 cr**  
This course is designed for the network administrator who needs to learn the basics of VPN security and network firewalls. Basic installation techniques are covered along with how to make an intelligent choice of firewall technology. Basic firewall troubleshooting is also presented. This course aligns with the CheckPoint CCSA Certification outline. Prerequisites: ISTC1060.

**ISTC2070 Security III: Forensics 3 cr**  
This course provides the student with methods for conducting a computer forensics investigation including procedures, tools, ethics, and analysis. This course maps to the objectives of the International Association of Computer Investigative Specialists (IACIS) certification. Prerequisites: ISTC2065.

**ISTC2100 Project Management 3 cr**  
This course will provide fundamentals of planning and managing projects for information system (IS) organization. This includes creating a capstone project which will involve schedules, using critical path, assigning resources, and tracking progress. Focus is on topics that are unique to management of projects in an IS department. Prerequisites: Students should take this course in their last semester of studies.

**ISTC2120 Financial Accounting for Information Systems 3 cr**  
This course focuses on the fundamentals of the accounting system, as well as examines financial reporting from the perspective of decision makers outside the company. The topics will integrate these inside/outside perspectives by studying the accounting activities that take place inside the company and evaluating their impact on users outside the company. Topic coverage is paced appropriately for non-accounting majors. Prerequisites: None.

**ISTC2140 Digital Convergence 3 cr**  
This course will provide hands-on experience to voice over IP technology. The student will explore the difference between analog and digital signals, public switched telephone, circuit switched, and packet switched networking. Prerequisites: ISTC1040 or equivalent networking experience.

**ISTC2310 Java I 3 cr**  
This course covers the JAVA language and how to use it to create a variety of applications. The course will cover object-oriented topics such as classes, methods, constructors, inheritance and polymorphism as well as primitive data types and control structures. The course will include creating applications that utilize the JAVA Swing Classes. Object-oriented design using the unified Modeling Language will also be introduced. Although this is an introductory Java course, students are expected to have an existing knowledge of programming concepts. Prerequisites: ISTC1300.

**ISTC2315 Java II 3 cr**  
This course builds on JAVA 1 to cover some of JAVA's more advanced capacities. Topics covered include the embedding of simple applets in web pages, enterprise wide development of distributed n-tier client/server applications, Remote Method Invocation (RMI), JAVA Database Connectivity (JDBC), server side JAVA programming (Servlets/JSP), collections and data structures. Prerequisites: ISTC2310 or equivalent Java programming experience.

**ISTC2320 .NET I 3 cr**  
This course will introduce the student to the .NET application development environment. The student will learn the .NET tools to create applications that correspond to Windows standards. Topics covered include data controls, reports, multiple-document applications, file processing, elementary database interfacing (ADO.NET), class modules, web applications (ASP.NET) and application installation. The major focus of the course will be on object-oriented topics such as classes, constructors, inheritance and polymorphism used in the context of creating Graphical User Interface (GUI) intense programs. By the end of the course, the student will be able to design and code simple business applications. Prerequisites: ISTC1300 or equivalent programming experience.

**ISTC2325 .NET II 3 cr**  
This course will present advanced topics in .NET application development. Coursework will focus on developing programs in the 3-tier client/server environment. Topics covered include database interfacing using ADO.NET, web applications using ASP.NET, web services, collections, enumerations, interfaces, Crystal Reports, and an introduction into mobile device applications. Prerequisites: ISTC2320 or equivalent .NET programming experience.

## INTERDISCIPLINARY STUDIES

### **INTS1000 College Success Strategies 2 cr**

This course is designed to assist students to improve their cognitive and affective skills in order to achieve academic success. The topics included in the course are time management, note taking, test taking, using print and electronic resources, responsibility, motivation and attitude. This course meets the requirements for MnTC goal 2 - Critical Thinking. Prerequisites: None. Offered: Fall, Spring, Summer.

### **INTS1010 Job Search Skills 1 cr**

This course is designed to help students who are completing their education or seeking a job change to conduct a thorough and productive job search. In this class each individual will receive assistance with completing their resume and/or professional portfolio. The professional portfolio is the latest tool used to conduct an effective job search. The class will cover the "do's" and "don'ts" of marketing your skills and talents to both large and small companies. It will also provide valuable information on the best ways to conduct an effective interview thus taking away some of the anxiety associated with the interviewing process. Prerequisites: None. Offered: Spring.

### **INTS1040 Sharing Your Culture 1 cr**

This course is intended for international students required to present cultural and native country information as part of their tuition cultural scholarship. Topics will include: identification of audience, use of visual aids, organization of the individual's cultural and/or country topic, practice in presentation delivery. This class is reserved for International students accepted into a DCTC program of study, attending full-time under an F1 visa. Prerequisites: None. Offered: Fall, Spring.

### **INTS2955 Community Development through Service Learning 2 cr**

The Community Development through Service Learning course is designed to promote experiential learning to familiarize students with citizenship and community service. Students are required to demonstrate their knowledge of and approach to community service through participation in an approved community service project. Students will be asked to reflect upon their experience then analyze the experience based on relevant course concepts.

## INTERIOR DESIGN

### **IDES1100 Design Fundamentals 4 cr**

This course covers the elements and principles of design: line, shape and form, space, texture, color and balance, proportion and scale, unity and harmony, and emphasis in two-dimensional and three-dimensional format. Color will be dealt with in detail to include color basics, theory, and psychology, and how color affects us and/or a space. We will approach the solution of design problems using the creative problem solving techniques. Prerequisites: None. Offered: Fall  
\*\*Articulated\*\*.

### **IDES1110 Drafting for Interiors 4 cr**

This course covers the basic skills necessary to complete the drafting process of any given space. Students will learn proper use of drafting equipment, proper line quality, appropriate use of architectural symbols and lettering, dimensioning, electrical symbols and application, elevations, sections, detail, and isometric drawings. The skills learned will be used in the majority of all future design courses. Prerequisites: None. Offered: Fall.

### **IDES1120 Critical Thinking and Programming 4 cr**

This course covers a straightforward and systemic approach to space planning interior spaces. Students will learn the preliminary phases of the interior design process - programming (gathering, analyzing, and compiling project information) and schematic design (developing and

conveying the design concept). Anthropometrics, furniture clearances, circulation requirements, and ergonomics will be introduced. Students will use critical thinking skills and develop bubble and block diagrams as tools to lay out spaces in both residential and contract (commercial) spaces. Prerequisites: Concurrent enrollment in IDES1000 and IDES1110. Offered: Fall, Spring.

### **IDES1135 Verbal and Visual Presentation 3 cr**

This course covers the process of making visual and verbal presentations. These presentations will be focused on the appropriate industry needs. Students will incorporate the basic steps in making a verbal presentation, including the basics of the sales process, and study the various ways of making a visual presentation, including sketching techniques that can be implemented in a creation. One-point and two-point perspectives will also be included. Prerequisites: Concurrent enrollment in IDES1100 and IDES1110. Offered: Fall, Spring.

### **IDES1206 Residential Studio I 3 cr**

This course covers the basic skills necessary to design both public and private interior spaces in a home. The interior design process will be applied, with an emphasis on the design development phase (refining the design concept and focusing on design details). Students will investigate residential furnishing, lighting, and finish sources and will be introduced to specifying these products. Residential building systems (electrical, plumbing, and HVAC) will be introduced. Students will apply their programming design fundamentals, as well as verbal and visual communication skills, in progressively complex residential interior design projects. Visual tools will include manually-drafted floor plans, presentation elevations, and presentation boards. Prerequisites: IDES1100, IDES1110, IDES1120, and IDES1135. Offered: Fall, Spring.

### **IDES1217 Commercial Studio I 3 cr**

This course covers the basic skills necessary to design interior spaces in commercial settings. The interior design process will be applied, with an emphasis on the design development phase (redefining the design concept and focusing on design details). Students will investigate contract furnishings, lighting and finish sources and will be introduced to specifying these products. Students will apply their programming, design fundamentals and verbal/visual communication skills in a variety of plans, presentation elevations, and presentation boards. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135. Offered: Spring.

### **IDES1225 Computer Aided Drafting 3 cr**

This course introduces the student to two-dimensional drafting skills using CAD (computer-aided design). The software used in this course is AutoCAD for Windows; the release will be determined by what is currently being used in the interior design profession. AutoCAD tools used to draw, edit, and display 2-D drawings will be studied and utilized, using hands-on training. Students will learn how to set up and plot drawings using a variety of paper sizes and architectural scales. Other AutoCAD features that will be covered include layering, wblocks, text, and dimensioning. These skills will be used in the Interior Design kitchen/bath and commercial courses. Students enrolling in this course are expected to have a working knowledge of Windows operating system. Prerequisites: IDES1110, COML1400 or instructor approval. Offered: Spring.

### **IDES1230 History of Art, Architecture and Interiors 4 cr**

This course covers the history of art, architecture, and interiors, from ancient times through the 21st century, with which an interior designer must be familiar for use in industry applications. Prerequisites: None. Offered: Fall, Spring.

### **IDES1235 Advanced Visual Presentation Techniques 2 cr**

This course covers computer based design visualization practices. These practices will be focused on the appropriate industry needs. Students will utilize computer based color application techniques to create fully rendered presentation drawings. Application of scanned materials and incorporation of environmental graphics will also be examined. Three dimensional computer modeling processes will be

explored, utilizing a number of different software applications. Integration of computer generated models into photos of existing spaces, mapping of true textures to the models, simulated lighting effects and preliminary animation techniques will also be covered. Prerequisites: Concurrent enrollment in IDES1235.

**IDES2100 Interior Design Career Directions 1 cr**

This course prepares the student with the tools and information necessary to obtain an internship position upon the completion of the interior design coursework. Individual skills needed in different design positions will be researched and identified. Internship and career goals will be established. A portfolio of assignments and projects will be developed that best match the desired career directions of the student. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217, IDES1225, IDES1230. Concurrent registration or completion of IDES2106, IDES2110, IDES2136, and IDES2146. Offered: Fall.

**IDES2106 Color and Light 3 cr**

The student will continue to study the hue, value and intensity of color. They will investigate the dynamics of color and light in interior space while developing the knowledge of what color is, why it happens, and how it is controlled. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217. Offered: Fall, Spring.

**IDES2110 Materials, Estimating and Specifications 3 cr**

This course provides students with information that will allow them to establish a systematic approach for selecting materials in interiors. Students will also create the content of specifications documents for interiors, emphasizing code requirements and testing standards. Environmental issues and concerns in relation to the product materials will be addressed. Textiles and their use in residential and commercial interiors are presented. Students will learn the appropriate estimating techniques to determine accurate material amounts for any given job. The overall appropriateness and manufacturing process combined with the use of materials for walls, floors, and ceilings will be emphasized. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217.

**IDES2136 Commercial Studio II 4 cr**

This course covers the interior design of public spaces. The interior design process will be applied, with emphasis on the design development phase (space plan and design details and presentation elevations) as well as contract documentation appropriate to this class (product specifications, installation plans, and schedules, working elevations and reflected ceiling plans). Commercial building support systems will be introduced. Strategic facilities planning will be explored. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217, IDES1225, IDES1230, and concurrent registration in IDES2110. Offered: Fall.

**IDES2146 Residential Studio II (Kitchen and Bath) 4 cr**

This course covers the basics of residential construction and their application with kitchen and bathroom interior spaces. The course uses the guidelines published by National Kitchen and Bath Association (NKBA) and the principles of universal design. Spatial analysis and the selection and product specification of appropriate materials, cabinetry, and appliances will be introduced. The interior design process phase contract documentation appropriate to this class will be emphasized, which will include an installation plan and schedule, an electrical and lighting plan, and working elevations as well as sections and details for custom millwork. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217, IDES1225, and IDES1230; concurrent registration in IDES2110. Offered: Fall, Spring.

**IDES2200 Professional Business Practices and Sales 3 cr**

This course will emphasize the business practices specific to the interior design industry, including organizational methods and procedures. Sales and marketing techniques, building a clientele, qualifying clients, determining fees, and proposals will be presented.

Establishing a business, understanding a business plan, and identifying those issues pertinent to all successful designers are included. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217, IDES1225, IDES1230, IDES2106, IDES2110, IDES2136, and IDES2146. Offered: Spring.

**IDES2210 Senior Studio 5 cr**

This course serves as a culmination of design skills and knowledge from all interior design courses. Students have the opportunity to select a residential, kitchen and bath, or commercial studio. Students' projects will utilize the total design process, which includes programming/strategic planning, schematic design, design development, and contract documentation. The outcome must qualify for portfolio inclusion and will be juried by professionals in the industry. Prerequisites: IDES1100, IDES1110, IDES1120, IDES1135, IDES1206, IDES1217, IDES1225, IDES1230, IDES2106, IDES2110, IDES2136, and IDES2146. Offered: Fall, Spring.

## LANDSCAPE HORTICULTURE

**LAHT1000 Plant Science 2 cr**

This course covers the study of biology of higher plants, including morphology, physiology, and taxonomy. Emphasis is placed on knowledge relevant to landscape horticulture. Prerequisites: None. Offered: Fall.

**LAHT1010 Soil Science 3 cr**

This course covers the study of the fundamentals of soil and their use in horticulture. The course is an overview of the physical, chemical, and biological properties of soils, their classification and management, and soil fertility. Prerequisites: None. Offered: Spring.

**LAHT1100 Woody Plant Materials I 2 cr**

This course covers the identification and use of woody plants, including trees, shrubs, and evergreens, in Minnesota landscapes. Prerequisites: None. Offered: Fall.

**LAHT1110 Woody Plant Materials II 2 cr**

This course covers the identification and use of woody plants, including trees, shrubs, and evergreens, in Minnesota landscapes. Prerequisites: None. Offered: Spring.

**LAHT1200 Plant Pests 3 cr**

This course is an overview of the biology, identification, and control of weeds, insects, and infectious and non-infectious diseases common to landscapes of Minnesota. Prerequisites: None. Offered: Fall.

**LAHT1300 Landscape Construction I 3 cr**

This course covers the study and practice of the skills necessary to install landscape plantings and materials. Sample subjects include planting, edging, mulching, retaining walls, decks, patios, and fences. This course emphasizes plantings. Building codes and permits are also discussed. Prerequisites: None. Offered: Fall.

**LAHT1310 Plant Maintenance 2 cr**

This course covers the maintenance of landscape plants other than turf by proper cultural practices, including pruning, fertilizing, damage repair, and support. Prerequisites: None. Offered: Spring.

**LAHT1320 Turf Management 3 cr**

This course is an introduction to establishing and maintaining turf, including turf species identification, seeding, sodding, fertilization, aeration, and other cultural practices. Prerequisites: None. Offered: Spring.

**LAHT1400 Greenhouse Operations 2 cr**

This course is an overview of commercial greenhouse functions, including structures, environmental control, media and other materials, and basic growth practices. Prerequisites: None. Offered: Spring.

- LAHT1410 Nursery Operations 2 cr**  
This course is an overview of basic nursery practices, including grading standards, harvest, planting, storage, and pruning. Emphasis is placed on field production and knowledge applicable outside the nursery. Prerequisites: None. Offered: Fall.
- LAHT1502 Safety and Equipment 1 cr**  
This course is an introduction to the safe use and basic maintenance of tools and equipment. Personal safety issues as well as legal issues are discussed. Prerequisites: None. Offered: Fall.
- LAHT1510 Landscape Mathematics 1 cr**  
This course covers solving mathematical problems common to the landscape horticulture trade, including calculating areas, fertilizer rates, pesticide rates, and others. Prerequisites: Satisfactory score on CPT math entrance exam or passing grade in MATS 0200. Offered: Fall.
- LAHT1600 Landscape Design I 3 cr**  
This course is an introduction to design theory and drafting techniques. Basic design elements, site characteristics, and history of landscape design are discussed. Students are taught basic drafting skills and are prepared to create and read simple landscape plans. Prerequisites: None. Offered: Spring.
- LAHT2000 Herbaceous Plant Materials 2 cr**  
This course is an introduction to annuals, perennials, groundcovers, ornamental grasses, and other herbaceous plants grown in Minnesota. Students identify and name assigned plants as well as supply information about the use and culture of each. Prerequisites: None. Offered: Fall.
- LAHT2010 Indoor Landscaping 3 cr**  
This course is an overview of the materials and methods of indoor landscaping and indoor plant maintenance. Students will identify foliage plants and their cultural requirement. Practices include lighting, acclimatization, watering, fertilizing, and others. Prerequisites: None. Offered: Spring.
- LAHT2100 Landscape Construction II 3 cr**  
This course covers the study of design, planning, estimating cost, and construction of such landscape features as decks, retaining walls, patios, and fences. Students will build hardscapes in class. Basic elements of surveying are included. Prerequisites: LAHT1300. Offered: Fall.
- LAHT2110 Irrigation and Lighting 2 cr**  
This course covers the fundamentals of landscape irrigation and lighting, especially for residential sites. Subjects include materials, design, and installation. Prerequisites: None. Offered: Spring.
- LAHT2120 Landscape Surveying 1 cr**  
This course deals with the basics of land, topographical and construction surveying as it is used in landscaping. Students use hand and tripod instruments. Required for construction majors; suggested for all students. Prerequisites: None. Offered: Fall.
- LAHT2202 Landscape Design II 4 cr**  
This course is an advanced study of design theory and presentation graphics. Includes plan, detail and elevation drawing techniques using various media. In depth discussion and application of design principles, design process and professional practice. Prerequisites: LAHT1600. Offered: Fall.
- LAHT2210 Design Problems 3 cr**  
This course reinforces design theory concepts through residential, commercial, and public space design problems. Presentation techniques and professional practice are further discussed. Prerequisites: None. Offered: Spring.
- LAHT2230 Landscape Computer Aided Design I 2 cr**  
This course is an introduction to the use of computers in the design process. This is an elective class suggested for design majors. Prerequisites: Instructor permission. Offered: Fall.
- LAHT2232 Landscape Computer Aided Design II 2 cr**  
This course is a continuation of LAHT2230 and expands on the use of computers in the design process. This is an elective class suggested for design majors enrolled in LAHT2210. Prerequisites: LAHT2230. Offered: Spring.
- LAHT2300 Plant Propagation 2 cr**  
This course is an overview of plant propagation and terminology. Students become familiar with industry techniques including seeding, cuttings, and grafting. This course is required for plant production majors. Prerequisites: None. Offered: Fall.
- LAHT2312 Nursery and Greenhouse Operations I 2 cr**  
This course continues from LAHT1400 and 1410. Nursery topics include container production, nursery pests, and inventory. Greenhouse topics include introduction to bedding plant production and chemistry of growth media. Prerequisites: LAHT1400 and LAHT1410. Offered: Fall.
- LAHT2320 Nursery and Greenhouse Operations II 3 cr**  
This course is a continuation of LAHT 2310 with an emphasis on bedding plant production. Topics include fertilization, pest control, size control, and other cultural practices. Students will grow a bedding plant crop. Prerequisites: LAHT 2310. Offered: Spring.
- LAHT2400 Pest Management 2 cr**  
This course is an overview of pest control and integrated pest management. It reviews proper, safe, and legal application of pesticides, with emphasis on knowledge needed to pass state pesticide applicator's test. Prerequisites: None, but LAHT 1200 is suggested. Offered: Spring.
- LAHT2410 Special Pruning Methods 1 cr**  
This course covers theory and practice of such distinctive pruning practices as bonsai, espalier, and topiary. Prerequisites: None, but LAHT 1310 is suggested. Offered: Spring.
- LAHT2500 Landscape Business Management 4 cr**  
This course is an overview of the requirements needed for successful management in a landscape business. Subjects include personnel management, sales and marketing, government issues and basic concepts of consumerism, pricing and distribution. Prerequisites: None. Offered: Spring.
- LAHT2510 Landscape Estimating 3 cr**  
This course is an overview of the competitive bidding process including job estimating, proposal writing, and project specifications. It includes practice in completing business records common to the landscape horticulture industry. Prerequisites: LAHT 1510 or permission of instructor. Offered: Fall.
- LAHT2600 Landscaping with Native Plants 2 cr**  
This course covers the study of the philosophy, science, and practice of using native plants in landscape settings. It includes the study of Minnesota's native plant communities, pros and cons of native plant use, designing with native plants, and their culture. Field trips are included. Prerequisites: None. Offered: Fall.
- LAHT2610 Professional Certification 1 cr**  
Professional certification is a capstone experience that promotes professionalism and demonstrates understanding of the knowledge of landscape horticulture. Students take the Minnesota Nursery and Landscape Association Certified Professional examination. Prerequisites: Completion of three semesters of LAHT coursework with a GPA of 3.0 or better and completion of two internship courses.
- LAHT2620 Water Gardening 1 cr**  
This course covers all the components of water gardening including: different types of water gardens, how to design and install a water garden, different types of pumps needed, identification, use, potting and growing of water plants, selection and care of fish for a garden,



chemicals needed, and maintenance, upkeep and over wintering of water gardens. Prerequisites: None.

## MARKETING AND SALES

### **MKTC1000 Principles of Marketing 3 cr**

Introduction to marketing terms, concepts, and skills useful in analyzing marketing problems. Covers legal, behavioral, ethical, competitive, economic, technological and international factors affecting product, pricing, promotion, and marketing channel decisions. Identify factors marketing managers take into account when creating a marketing plan, including buying behavior, market segmentation, product life cycle, packaging, branding, pricing, advertising, sales promotion, public relations, personal selling, and product distribution methods. Prerequisites: None. Offered: Varies.

### **MKTC1100 Fundamentals of Sales 3 cr**

Introduction of the basic principles and applications of the sales process as they may apply to industrial, wholesale and retail selling situations. This would include prospecting and qualifying, planning and pre-approaching, approaching the customer, the sales presentation/demonstration, handling objections, closing the sale and post-sale service and follow-up with customer. Prerequisites: None. Offered: Varies \*\*Articulated\*\*.

### **MKTC1150 Consumer and Professional Buying Behavior 3 cr**

Course examines the principles of the behavioral sciences of psychology, sociology and anthropology and how these sciences are used in creating marketing communications plans aimed at consumer or professional buyers. Specific topics include perception processes, lifestyle analysis, personality psychographics, motivation analysis and influence of groups on buying behaviors. Prerequisites: None. Offered: Varies.

### **MKTC1200 Professional Sales 3 cr**

Course examines the knowledge and skills required of an effective salesperson. Students will examine methods of identifying prospects, securing appointments, pre-approach planning, gaining attention and interest, understanding prospects' wants and needs, obtaining agreement of concerns and solutions, showcasing product benefits, handling sales resistance, identifying and responding to buying signals, sale-closing techniques, post-call analysis and customer retention techniques. Prerequisites: None. Offered: Varies.

### **MKTC2000 Advertising Practices and Procedures 3 cr**

This course studies advertising fundamentals. Students will explore the marketing communications plan, product and service positioning, consumer behavior theories, uses of various media, relationship advertising, and the process of developing creative strategies. Examination of advertising's relationship to other promotional elements of selling, sales promotion and publicity, and the functions and operation of an advertising agency. Prerequisites: None. Offered: Varies.

### **MKTC2010 Advertising Campaign Management 3 cr**

This course emphasizes overall advertising campaign management. It focuses on strategy development, advertising, and promotional relationship, media strategy, budget management and control, and measuring results. Students study and analyze case histories and current campaigns covered in advertising trade publications. Students study advertising management's role in the marketing process, and sharpen their abilities to think strategically, analyze, conceptualize and make sound decisions. Students prepare and present a full advertising campaign. Prerequisites: MKTC2000. Offered: Varies.

### **MKTC2050 Direct Marketing 2 cr**

Learn the principles and components of direct marketing. Topics include marketing channels, the concepts of profiling, modeling and segmenting, database management, management in direct marketing, market analysis, privacy regulations, and internet, email

and e-commerce marketing. Special concentration will be focused on Customer Relationship Management (CRM), a key competitive strategy, which focuses on the needs of customers. Prerequisites: None. Offered: Varies.

### **MKTC2060 Proposal Writing 1 cr**

This course is an introduction to the proposal-writing process and its role in the marketing cycle. It covers the skills needed and information required to write a compelling proposal. It also covers the components of a good proposal and factors that can result in a rejected proposal. Prerequisites: None. Offered: Varies.

### **MKTC2105 Marketing Communications Writing 3 cr**

Course examines how to write advertising copy for all areas of marketing communications such as the Internet, public relations, news media, scriptwriting, business writing as well as for print, radio, television and collateral media. Prerequisites: None.

### **MKTC2215 Marketing Promotions 2 cr**

This course explains the importance of promotions in the marketing. It defines the steps in promotion planning and components of sales promotions, trade promotions, and techniques in consumer promotions along with promotional strategies, motivational and support programs, event sponsorship, premiums, contests and sweepstakes. Prerequisites: None. Offered: Varies.

### **MKTC2300 Public Relations and Promotions 3 cr**

This course explains the nature and uses of public relations as a promotional tool. Training in the writing and preparation of press releases and press kits, publicity campaigns, conduct of press conferences, and other public relations tools. Course also includes current practices and problems in the field of public relations. Emphasizes successful case histories and planning techniques. Prerequisites: None. Offered: Varies.

### **MKTC2310 Public Relations 3 cr**

This course explains the nature and use of public relations as a promotional tool. Training in the writing and preparation of press releases and press kits, publicity campaigns, conduct of press conferences, and other public relations tools. Course also includes current practices and problems in the field of public relations. Emphasizes successful case histories and planning techniques. Prerequisites: None.

### **MKTC2410 Marketing Visual Communications 1 cr**

The understanding of print and electronic visual communications is an integral part of marketing communications. In this course, students will be introduced to the fundamentals of the role visual communications plays in the marketing process. The course includes study how to select pictures to use in e-marketing, public relations and print including the importance of a photograph's content. Students will familiar with the role visual communication specialists play in the marketing process. Prerequisites: None. Offered: Varies.

### **MKTC2505 E-Marketing 3 cr**

Course provides an overview of electronic commerce by examining and evaluating tactics of businesses utilizing the internet and other electronic media as part of their marketing mix. A review is made of Web technology trends and e-commerce strategies. Prerequisites: None.

### **MKTC2550 International Marketing 3 cr**

This course introduces students to the concepts and disciplines of international marketing. Students develop an understanding of the international environment and its impact on marketing. Topics include social and cultural influences; political, legal and financial considerations; exporting and importing; organizational alternatives; information sources; market-entry strategies; pricing and distribution; sales and communications practices; counter trade; and other current international marketing issues. Prerequisites: None. Offered: Varies.

**MKTC2600 Marketing Research 3 cr**  
This course examines the processes and techniques used in securing, analyzing and creatively using information to identify marketing problems and opportunities. Businesses need current information on which to base their marketing decisions; this course studies research to help business determine marketing strategies and create plans for such objectives as product development, marketing promotional evaluations, operation efficiencies and client satisfaction. Prerequisites: None. Offered: Varies.

**MKTC2815 Business Law 3 cr**  
Examine workplace issues impacting supervisory responsibilities and explore the influence of ethics on individuals and organizations. You will be introduced to the American legal system. Understand civil, contract, employment, and labor laws and how they affect business, such as harassment, discrimination, TORTS, documentation and terminations. Prerequisites: None. Offered: Fall, Spring.

**MKTC2900 Portfolio and Interviewing 1 cr**  
Students will prepare their portfolios for interviewing and showing potential employers. Students will also learn how to set-up interviews, develop interviewing skills and create their resumes and cover letters for job searches. Prerequisites: None. Offered: Varies.

## MATH

**MATS0200 Basic Mathematics 3 cr**  
This course is designed to develop and increase the student's ability to perform basic math operations and to solve mathematical problems relevant to technical education. Topics covered include whole numbers, fractions, decimals, ratio and proportion, percents, and problem solving. Signed numbers and simple algebraic equations are introduced near the end of the course. Prerequisites: None. Offered: Fall, Spring, Summer.

**MATS0305 Introduction to Algebra 4 cr**  
This course introduces students to concepts of basic algebra. Topics include operations with real numbers, variable expressions, geometric computations, solution of linear equations with applications, translating linear equations to and from graphs, manipulating polynomial expressions and factoring. Prerequisites: Completion of MATS 0200 or qualifying scores on the ACCUPLACER test. Offered: Fall, Spring.

**MATS0400 Introduction to Geometry 1 cr**  
This course is designed to introduce the student to basic geometry. Topics covered include lines, angles, angle pairs, circles, polygons, and solid figures. The student will work with formulas for circumferences, perimeters, areas, and volumes. Prerequisites: Successful completion of MATS 0200 or qualifying scores on the ACCUPLACER test. Offered: Varies.

**MATS0500 Introduction to Trigonometry 1 cr**  
This course introduces the student to trigonometry as a practical problem-solving tool. Students learn to use sine, cosine, and tangent functions, in addition to the Pythagorean Theorem, in order to solve right triangles. The law of sines and the law of cosines are also introduced. Prerequisites: Successful completion of MATS 0200 or qualifying scores on the ACCUPLACER test. Offered: Varies.

**MATS0600 Intermediate Algebra 4 cr**  
Students with a basic algebra background are prepared for college-level mathematics courses such as college algebra, statistics, math for liberal arts, and concepts in math for elementary teachers. After reviewing linear equations and factoring methods, students move on to study rational expressions and equations, radical expressions and equations, rational exponents, quadratic equations and their solution in the complex number system, coordinate geometry including lines and circles, and functions and their graphs. Prerequisites: Successful

completion of MAT0305 or qualifying scores on the ACCUPLACER test. Offered: Fall, Spring.

**MATS1205 Math for Electricians 3 cr**  
A course for students enrolling in the Electrical Construction program. After a brief review of fractions, decimals, percents, and proportions, students will apply significant figures and engineering notation in applying Ohm's law, basic formulas of series and parallel circuits, the theorem of superposition, and Norton's and Thevenin's theorems. Students will further solve simultaneous equations and apply Kirchhoff's laws to series, parallel, and complex circuits. Trigonometry, vectors, and AC wave analysis are also introduced. NOTE TO ELECTRICAL CONSTRUCTION STUDENTS: This course does NOT fulfill the union requirement of a year of high school algebra. Students looking to fulfill this requirement should enroll in MATS0305. Prerequisites: Successful completion of MATS0305 or qualifying scores on the ACCUPLACER test. Offered: Fall, Spring.

**MATS1225 Concepts of Mathematics for Elementary Teachers 3 cr**  
This college-level course prepares future elementary teachers to teach mathematics by taking an in-depth look at various arithmetic operations and the ways in which young children actually reason. Topics include general problem solving strategies and what constitutes a good explanation in mathematics, place-value and the decimal number system, the meaning of fractions, the logic underpinning various methods of addition, subtraction, multiplication, and division, reasoning with proportions, and applications of percentages. Prerequisites: Successful completion of MATS0600 or qualifying scores on the ACCUPLACER test. Offered: Fall, Spring.

**MATS1251 Statistics 4 cr**  
Fundamental principles of inferential statistics are presented in lecture and supplemented with computer labs using Minitab software. Specific topics include descriptive and graphical statistics, fundamentals of counting and probability, probability distributions, sampling distributions, confidence intervals, hypothesis testing, linear regression, chi-square tests, ANOVA, and nonparametrics. Prerequisites: Successful completion of MATS0600 or qualifying scores on the ACCUPLACER test. Offered: Spring.

**MATS1300 College Algebra 4 cr**  
This course develops a student's ability to analyze and work with functions and graphs, as part of the preparation for a rigorous calculus sequence (taking this course together with MATS1320 is equivalent to precalculus). Topics include tests for symmetry, finding intercepts and asymptotes, constructing piecewise-defined functions, transformations, polynomial and rational functions, composite and inverse functions, and exponential and logarithmic functions. Techniques for solving linear, quadratic, rational, radical, exponential and logarithmic equations (with applications) are emphasized throughout the course. Systems of linear equations and matrix algebra are introduced, after which sequences and series are also briefly introduced. Prerequisites: Qualifying scores on the elementary algebra or college level math tests or successfully complete MATS0600. Offered: Fall, Spring, Summer.

**MATS1320 College Trigonometry 2 cr**  
A foundation in trigonometry which, taken with college algebra, prepares students for a rigorous calculus sequence. Topics include right-triangle trigonometry, the laws of sines and cosines, the unit circle, trigonometric graphs with transformations, trigonometric identities, inverse trigonometric functions, trigonometric equations, polar coordinates, complex numbers and vectors. Prerequisites: Corequisite: MATS1300 or instructor approval. Offered: Varies.

**MATS1350 Math for Liberal Arts 4 cr**  
A college-level course designed to build a student's appreciation of both the beauty and utility of mathematics as it is used in society. Topics include voting and apportionment, fair division, scheduling and route planning, patterns of growth, and basic probability and

statistics concepts including the bell curve. NOTE that this course does not serve as a prerequisite for any other math course. Prerequisites: Successful completion of MATS0600 or qualifying scores on the elementary algebra or college level math tests. Offered: Fall, Spring, Summer.

**MATS1480 Technical Calculus 2 cr**

This course is designed for students in an engineering technology program who wish to learn how to apply calculus to practical problems. After a brief review of analytic geometry, students are immediately introduced to differentiation and applications of the derivative (such as related rates and optimization problems), followed by integration and applications of integration (such as work problems, hydrostatics, and center of mass problems). Modeling with differential equations, and their solution by computer, is also explored. Prerequisites: Successful completion of MATS1300 or qualifying scores on the elementary algebra or college level math tests. Offered: Varies.

**MATS1500 Beginning Calculus w/Trigonometry 4 cr**

This course is designed for students who wish to explore the foundations of calculus in a more mathematically rigorous way than in MATS1480. The course begins with college trigonometry topics, including the six trigonometric functions and their inverse, the law of sines/law of cosines, radian measure and the unit circle, trigonometric identities and solving trigonometric equations. Fundamental concepts of calculus are then developed, including limits and continuity, differentiation of polynomial, trigonometric, exponential, and logarithmic functions with applications, and integration by numerical and exact methods with applications. Mathematical modeling with differential equations is also introduced. Prerequisites: Successful completion of MATS1300 or qualifying scores on the elementary algebra or college level math tests. Offered: Varies.

## MEDICAL ASSISTANT

**MDAS1122 Laboratory Skills I 5 cr**

This course starts with an introduction to the clinical lab setting, lab safety, glassware, weights, measurements, quality control and quality assurance. It continues with basic testing techniques in chemistry, immunology, microbiology and simple hematology. The students will also learn to maintain the instruments and records for instruments used in this testing and create patient reports for this testing. Prerequisites: Concurrently HEAL1150 or MATS0990. Offered: Fall.

**MDAS1130 Clinical Procedures I 3 cr**

This course covers medical assisting duties that are the fundamentals required for medical asepsis, physical examination, federal regulations, emergencies, patient assessment including vital signs, and documentation skills. Professionalism and the study of law and ethics are taught at the beginning of the course. Assisting with physical exam, minor surgery procedures and sterile technique are presented at end of course. Students are expected to take a First Aid and CPR course prior to externship. Prerequisites: 30% or above on Reading CPT or successful completion of ENGL0123. Offered: Fall.

**MDAS1140 Phlebotomy 1 cr**

This course will cover the process of collection of patient blood specimens and processing them for testing. Four different methods of collection will be learned and practiced. Students will be expected to participate both as a phlebotomist and as a patient. Difficult draw, adverse reaction and pediatric situations will also be discussed and simulated. The specimens collected will be handled and processed according to laboratory standards for accurate testing. Prerequisites: Concurrently enrolled in Medical Terminology and Anatomy. Offered: Fall.

**MDAS1210 Disease/Medical Treatment, Including Nutrition 3 cr**

This course presents basic information about common disease conditions affecting various body systems. The causes, symptoms, and current diagnostic and treatment procedures will be presented.

Basic nutritional concepts and practical applications are also included. Prerequisites: MDAS1101. Offered: Spring.

**MDAS1222 Laboratory Skills II 4 cr**

This course builds on Laboratory Skills I using all the skills learned in that course and adding complete urinalysis, advanced hematology, and ECG theory and performance. A large part of this course will focus on microscopic analysis of urine and blood. The end of the course will simulate the operation of a POL from specimen collection to result reporting of all testing learned in Laboratory Skills I and II. Following this course the student will be prepared to function in a clinic laboratory. Prerequisites: MDAS1122. Offered: Spring.

**MDAS1230 Clinical Procedures II 3 cr**

This course covers the expanded practice of Medical Assisting duties that are the fundamentals required for assisting with medical specialty exams and procedures, specimen collection, rehabilitation and therapeutic modalities. Prerequisites: MDAS1130; Students are expected to take a First Aid and CPR course prior to externship. Students also complete program requirements in Clinical Lab procedures, Anatomy & Physiology, Medical Terminology, Pharmacology, Nutrition and Radiology. Offered: Spring.

**MDAS1250 Fundamentals of Radiographic Imaging 2 cr**

This course is designed to: 1. Prepare students for the MN State Examination for x-ray operators. 2. Give students an overview of radiology technology and importance it plays in the medical field. 3. Provide students with the necessary information to understand the following: Medical terminology as related to the specialty of radiology, the design and proper use of x-ray equipment, the principles of radiation safety with protection to both the operator and the patient, and the importance of good, safe working habits. 4. Acquaint the students with the common radiographic procedures. Prerequisites: None. Offered: Summer.

**MDAS1260 Medical Assistant Certification Review 1 cr**

This course is design to help the student prepare for the National Certification test in order to use the CMA credential. Prerequisites: Completion of the Medical Assistant program. Offered: Varies.

**MDAS1270 Administrative Procedures 3 cr**

This course is an overview of administrative duties that are performed by a medical assistant. Emphasis will be on clerical functions, bookkeeping procedures, insurance claims, professional communications, legal concepts, patient instruction, operational functions, written and electronic medical records. Other topics included in this course will be office and human resource manager responsibilities. Prerequisites: OFFC1130 and HEAL1502.

**MDAS1700 Pharmacology for Medical Assistants 3 cr**

This course introduces the study of medications and their uses in the ambulatory care setting. Medical Assistant students will learn the techniques needed for administration of medications. Prerequisites: HEAL1150, MDAS1130. Course is taken concurrently with MDAS1230.

## NANOSCIENCE TECHNOLOGY

**NANO1001 Nano Technology Concepts 3 cr**

This course provides an introduction to the emerging field of nanoscience and will begin with the basics of scale and focus on the micro and nanometer range. Nanotechnology is a result of the capability to observe and manipulate systems at the molecular or atomic scale. This course will discuss the implications of this technology as it applies to the traditional sciences as well as various commercial markets such as materials, electronics and biotechnology. The course will also address the challenges facing businesses who desire to integrate nanotechnology into existing products and for entrepreneurs who desire to benefit from this technology. Societal impacts will be discussed and evaluated. Prerequisites: None.

**NANO1100 Fundamentals of Nanotechnology I 3 cr**  
This course will consist of lecture, laboratory exercises, guest speakers and field trips to introduce students to the world of nanoscale science. The course content will follow and enhance the biology course that is taken simultaneously with this course. Topics will include DNA extraction, protein function, bio-catalysis, biotechnology and cellular development. Students will complete a research project related to nanoscale biology. Prerequisites: Take concurrently with BIOL1500 and Mats1500. Offered: Fall.

**NANO1200 Fundamentals of Nanotechnology II 3 cr**  
Similar to the first semester NANO1100 course, this course will continue the investigation into nanoscale science with the emphasis on chemistry and physics applications. Students will perform experiments with photonics, x-ray diffraction, material properties etc. in concert with the Gen. Ed. courses. This course will include trips to laboratories, guest lecturers, and a classroom lecture component. Students will work independently and in teams and prepare a subject appropriate research paper. Prerequisites: NANO1100 and take concurrently with PHYS1020, CHEM1500 and MATS1250. Offered: Spring.

**NANO1210 Computer Simulation 1 cr**  
This course will cover the application of computer simulation (modeling) to nanoscale systems. In addition, this course provides a visualization of concepts and interactions covered in NANO1100 and NANO1200. The course will cover applied statistics, design of experiments and impact of input parameter variations for biological and mechanical systems. Prerequisites: NANO1100, COML1400.

**NANO2101 Nanoelectronics 3 cr**  
This course will increase the depth of topics and discussion of those covered in NANO1200. Quantum physics will be reintroduced at a greater depth with coverage of band structure, conduction, diffusion, thin film response and optical properties from a modern physics perspective. Students will study, measure, evaluate and create fabricated structures such as nanowires, cantilevers and nano channels. Application of nanoscale principles will be used to discuss imprint lithography, etching, component block assembly of nanotransistors, quantum computing, magnetic and electron spin memory and holographic memory devices. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200, and NANO1210. Concurrent registration in NANO2111, NANO2121, NANO21312, NANO2150 and NANO2970.

**NANO2111 Nanobiotechnology/Agriculture 3 cr**  
This course will increase the depth of topics and discussion of those covered in NANO1100. Students will investigate the potential of nanoscience in multiple biological applications including nanopore, nanoparticle and nanochannel structures, diagnostics and treatment. Emphasis will be placed on interactions between biological and non-biological systems and understanding biochemistry. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200, and NANO1210. Concurrent registration in NANO2101, NANO2121, NANO2131, NANO2150 and NANO2970.

**NANO2121 Nanomaterials 3 cr**  
This course will increase the depth of covered topics and discussion of those covered in NANO1100 and NANO1200 courses. Subjects covered include single walled and multiwalled carbon nanotubes (fabrication, property measurement and compound formulation), creation of nanomaterials, particles and crystals by various processes including colloidal suspensions, deposition, evaporation and plating. Properties (hardness, wear resistance, adhesion, conductivity etc.) and measurement techniques of nanomaterials will be covered. Interactions between organic and inorganic materials such as micro array techniques and bacteria molding will be discussed. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200 and NANO1210. Concurrent registration in NANO2101, NANO2111, NANO2131, NANO2150 and NANO2970.

**NANO2131 Manufacturing Quality Assurance 2 cr**  
This course will cover multiple manufacturing methodologies (chemical solutions, electro filament, molding, coating, rolling etc. first in the traditional sense and second as these techniques apply to the nanoscale. Quality Assurance (Six Sigma) practices will be discussed with an emphasis on QA and reliability at the nanoscale. Design of experiments, measurements, approaches, data tracking, process improvement and statistical analysis and reporting will be discussed. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200, and NANO1210. Concurrent registration in NANO2101, NANO2111, NANO2121, NANO2150 and NANO2970.

**NANO2140 Interdisciplinary Lab 3 cr**  
This course will cover the experimental aspects of the accompanying third semester nano courses. Four major lab activities are planned for the course. Each lab will be a series of creation, measurement, assessment, improvement and rework. This circular understanding and assessment/improvement cycle will be included in the detail lab descriptions. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200 and NANO1210. Concurrent registration in NANO2101, NANO2111, NANO2121, NANO2150 and NANO2970.

**NANO2151 Career Planning and Industry Tours 1 cr**  
This course will prepare students for the Nanoscience Technician Program fourth semester at the University of Minnesota and also for the job market upon graduation. Class discussion and guest speakers will advise students in selection of a specific career path, creation of a resume and portfolio, preparation and practice in job interviewing and options for continuing education. The industry tours will provide students with a broad experience of potential jobs and activities related to nanoscience in a variety of industrial settings. This internship will support career decisions and provide visual application of the concepts studied. Each student will spend a total of approximately 20 hours in various industrial settings, visiting 4 to 6 companies from various industries to complete the total 20 hours. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200 and NANO1210. Concurrent registration in NANO2100, NANO2110, NANO2120, NANO2130 and NANO2151.

## OFFICE CAREERS

**OFFC1000 Basic Keyboarding 1 cr**  
This course is an introduction to basic keyboarding with emphasis on developing touch typing skills. Prerequisites: Basic computer skills. Offered: Fall, Spring, Summer.

**OFFC1005 Keyboarding/Formatting 3 cr**  
This course covers basic formatting for business documents, including letters, memos, reports, and tables. Straight-copy skill development for speed and accuracy will also be included. Prerequisites: A typing speed of 35 words per minute with five or fewer errors. Offered: Fall, Spring \*\*Articulated\*\*.

**OFFC1007 Keyboarding for Advancement 2 cr**  
The Skill Building Lab course is designed to allow students to upgrade keyboarding skills they already possess by working on additional warmup, skill building exercises and timings until they reach their desired keyboarding speed. This course does not include any of the formatting in the lessons. Students can enroll in this course, work in the Flextime Lab or on their home computer using the keyboarding CD-ROM. Prerequisites: OFFC1000 or OFFC1005. Offered: Fall, Spring, Summer.

**OFFC1010 Business English Skills 2 cr**  
This course is an extensive, comprehensive study of English grammar, spelling, word usage, punctuation, number usage, capitalization and abbreviation rules, and proofreading. Prerequisites: None. Offered: Fall, Spring.

**OFFC1017 Technology for the Business Professional 3 cr**  
This course is designed to advance the training of business and office students in the use of desktop publishing documents, real-world business projects, web site analysis, and web browser. Students will also learn the basics of creating, formatting and managing a Web site along with scheduling/organizational software. Prerequisites: COML1400 and OFFC1005. Offered: Spring.

**OFFC1019 Receptionist Skills 2 cr**  
This course incorporates the skills that are needed to be an effective receptionist. Topics such as: scheduling techniques using various software, typing skills, interpersonal communications, customer service. Prerequisites: None.

**OFFC1020 Office Procedures 4 cr**  
This course helps the student develop those skills needed to work in the twenty-first century office. Topics include using computer hardware and software, setting up meetings and conferences, making travel arrangements, understanding telecommuting and virtual office structures, and developing career advancement techniques along with leadership and team building skills. Prerequisites: None. Offered: Fall.

**OFFC1023 Leadership for Administrative Professionals 1 cr**  
Today's workplace is changing and so is the role of the administrative professional. No longer subordinate to management, "admins" of the 21st century are business partners in meeting corporate goals and objectives. Learn what it takes to become an accomplished administrative professional and a recognized leader in your workplace. Prerequisites: None.

**OFFC1024 Meeting Planning for the Administrative Profession 2 cr**  
Administrative professionals plan the majority of meetings under 100 people without formal meeting planning education or experience. This course provides fundamental knowledge and techniques to ensure success of planning small meetings. Prerequisites: None.

**OFFC1030 Word Processing 3 cr**  
This course covers hands-on training for intermediate and advanced concepts of word processing using Microsoft Word 2003. Prerequisites: OFFC1000 or OFFC1005 or concurrent enrollment. Offered: Fall and Spring \*\*Articulated\*\*.

**OFFC1040 Integrated Office Skills 3 cr**  
This course is designed to integrate and reinforce the skills and knowledge learned in previous courses in the program. Project emphasis will develop the students' awareness of work flow, chain of command, and interpersonal relationships in the office. The use of electronic tools and the integration of documents created in various Microsoft Office Suite programs is the primary focus of this course. Prerequisites: OFFC1020 and COML1400. Offered: Spring.

**OFFC1045 Medical Terminology 2 cr**  
This course is an introduction to building medical terms and learning the meanings. Students will learn combining forms, word roots, prefixes and suffixes, and how these word parts apply to building medical terms. Students will also learn common medical abbreviations and symbols. THIS COURSE IS THE SAME AS HEAL1502 Prerequisites: None. Offered: Fall, Spring, Summer. \*\*Articulated\*\*

**OFFC1052 Medical Transcription I 2 cr**  
This course covers how to properly transcribe dictated medical material into a variety of usable medical documents by using word processing skills. Emphasis will be on authentic forms, using S.O.A.P. format, understanding medical language narrative, building speed and accuracy, proofreading and editing of material. An introduction to various laboratory tests and diagnostic procedures will also be covered in the course. Prerequisites: OFFC1005, OFFC1045, COML1400.

**OFFC1053 Medical Transcription II 2 cr**  
This advanced course covers producing a variety of medical documents by using medical terminology knowledge, word processing and transcription skills. Emphasis is placed on producing authentic forms, building speed and accuracy, proofreading and editing skills, and understanding and building on additional medical terms used in specialty areas. Prerequisites: OFFC1005, OFFC1045, COML1400, OFFC1052.

**OFFC1054 Speech Recognition Transcription 2 cr**  
This course is a continuation of medical transcription using speech recognition software. Emphasis will be on editing medical documents that are generated by speech recognition software. Students will experience working with documents that are typically generated at a clinic or hospital site, such as: history and physical exams, consultation reports, surgery reports, pathology reports, laboratory reports and discharge reports. Reports will address the various specialty areas. Prerequisites: OFFC1005, OFFC1045, COML1400, OFFC1052, OFFC1053.

**OFFC1057 Medical Office Procedures 4 cr**  
This course is an overview of duties that are performed by a medical administrative assistant. Emphasis will be on using computer hardware and software. Topics include medical correspondence and documents, setting up meetings and conferences, making travel arrangements, telecommuting and virtual office structures. Students will also develop career advancement techniques, leadership and team building skills. Prerequisites: None. Offered: Fall.

**OFFC1060 Medical Receptionist Skills 1 cr**  
This course provides hands-on medical receptionist experience in a simulated office environment. Topics include correspondence, medical reports, and insurance and billing. Prerequisites: OFFC1000 or OFFC1005. Offered: Varies.

**OFFC1130 MS Word I 2 cr**  
This online-enhanced course covers the basics of using Microsoft Word software to create documents using a Personal Computer (PC). Topics include creating, editing and printing documents, using proofing tools, applying character formatting, using tabs stops, formatting paragraphs, creating envelopes and labels, working with columns, pictures, diagrams and charts, creating basic tables, using templates and wizards, comparing and merging documents and integrating Word with other Office applications. Prerequisites: Basic computer skills, including working in the Windows environment and file management (saving, retrieving or copying data files). A typing speed of 25 wpm is recommended, but not required. Offered: Fall, Spring and Summer \*\*Articulated\*\*.

**OFFC1135 MS Excel I 2 cr**  
This online-enhanced course covers the basics of using Microsoft Excel spreadsheet software to analyze financial data using a Personal Computer (PC). Topics include spreadsheet creation, maintenance and formatting, creating basic formulas, creating charts, and printing worksheets in various formats. Prerequisites: Basic computer skills, including working in the Windows environment, and file management (saving, retrieving or copying data files). Offered: Fall, Spring, Summer.

**OFFC1140 MS Access I 2 cr**  
This online-enhanced course covers the basics of using Microsoft Access software to create and maintain databases using a Personal Computer (PC). Topics include planning and creating a new database, creating and maintaining tables, establishing relationships between tables, creating and modifying basic queries, forms and reports, and importing and exporting data. Prerequisites: Basic computer skills, including working in the Windows environment, and file management (saving, retrieving or copying data files). Offered: Fall, Spring, Summer.

**OFFC1145 MS PowerPoint 2 cr**  
This online-enhanced course covers the basics and advanced methods of using Microsoft PowerPoint software to create and maintain presentations using a Personal Computer (PC). Topics include creating and editing slides, adding Clip Art, pictures and Word Art, using drawing tools, adding tables, charts and diagrams, rearranging slide order, adding animations and sound effects to slides, running a presentation, printing presentation documents and integrating Word and Excel with PowerPoint. Prerequisites: OFFC1000. Offered: Fall, Spring, Summer \*\*Articulated\*\*.

**OFFC1150 MS Word II 2 cr**  
This online-enhanced course covers advanced methods of using Microsoft Word software to create documents using a Personal Computer (PC). Topics include customizing tables, working with multiple documents, creating custom styles, controlling pagination, using the mail merge wizard and other merge features, sorting text and tables, creating and modifying document references, working with drawing objects and graphics, working with large documents, using online forms and advanced features of using macros and integrating Word with the Internet. Prerequisites: Basic computer skills, including working in the Windows environment, and file management (saving, retrieving or copying data files) and completion of OFFC1130, MS Word I or equivalent experience. A typing speed of 25 wpm is recommended, but not required. Offered: Fall, Spring, Summer.

**OFFC1155 MS Excel II 2 cr**  
This online-enhanced course covers advanced methods of using Microsoft Excel spreadsheet software to analyze financial data using a Personal Computer (PC). Topics include linking worksheets and workbooks, sorting and filtering, creating and using macros, using problem-solving, analysis and auditing tools, creating pivot tables and pivot charts, creating advanced charts, importing and exporting data, sharing workbooks and integrating Excel with the Internet or an Intranet. Prerequisites: Basic computer skills, including working in the Windows environment and file management (saving, retrieving or copying data files) and completion of OFFC1135, MS Excel I or equivalent experience. Offered: Fall, Spring, Summer.

**OFFC1157 MS Works 3 cr**  
This course covers the basic software application of Microsoft Works for Windows using IBM networked computers. The student will develop a comprehensive understanding of how an integrated software package can work separately or together. No previous knowledge or experience of personal computers is needed. This course will not replace COML1400. Prerequisites: OFFC1000 or equivalent. Offered: Varies.

**OFFC1160 Basic Internet 2 cr**  
This online-enhanced course covers the basics of using the Internet to find and store information. Topics covered include using a browser, using search engines, file management, using e-mail, creating advanced searches and using the Internet to explore the online information available for the topics of science, math, writing, journalism, history, business e-commerce, economy, government and using the Internet to locate jobs. Prerequisites: Basic computer skills, including working in the Windows environment and file management (saving, retrieving or copying data files). Offered: Varies.

**OFFC1165 WordPerfect I 2 cr**  
This course covers the basics of WordPerfect for Windows software using IBM-networked computers. The student will learn to create, edit, save, delete, and print text. The spell checker, thesaurus, and grammar checker will be introduced. Prerequisites: OFFC1000 or equivalent. Offered: Varies.

**OFFC1170 WordPerfect II 2 cr**  
This course covers the advanced features of WordPerfect for Windows software on networked computers. The student will learn to use advanced formatting, desktop publishing, and merge techniques. Prerequisites: OFFC1165 or equivalent. Offered: Varies.

**OFFC1175 Lotus I 2 cr**  
This course covers an introduction to Lotus 1-2-3 for Windows spreadsheet software used to analyze financial data. Topics include spreadsheet creation/maintenance/formatting, record retrieval, charts, and printing. Prerequisites: Basic knowledge of personal computers and Windows is helpful. Offered: Varies.

**OFFC1180 Lotus II 2 cr**  
This course covers continued development of the use of Lotus 1-2-3 for Windows spreadsheet software used to analyze financial data. Topics include advanced data management skills, advanced chart manipulation to analyze data graphically, advanced statistical functions, and macros. Prerequisites: OFFC1175 or equivalent. Offered: Varies.

**OFFC1190 Calculators 1 cr**  
This course covers development of the touch system on the numeric keyboard calculators and microcomputer keyboards. Students will develop speed and accuracy using the touch system for the four basic arithmetic operations and solving business problems. Prerequisites: None. Offered: Fall, Spring, Summer.

**OFFC1200 MS Access II 2 cr**  
This course covers continued development of Access databases and tables. It is an advanced-level course where learners will design multiple queries, use Wizards, and automate applications using macros. Prerequisites: OFFC1140 or equivalent. Offered: Fall, Spring, Summer.

**OFFC1204 Data Entry 2 cr**  
This course introduces the basic principles and techniques of data entry using personal computers. The student will develop a basic skill level of performance measured by speed and accuracy. Prerequisites: Basic computer skills, OFFC1000 and OFFC1190 or equivalent.

**OFFC1210 Adobe PageMaker for the PC 3 cr**  
This course introduces the student to Adobe PageMaker, a popular desktop publishing software. Manipulation of text will be presented as well as page construction, importing of text, and graphics using the PC. Prerequisites: Basic computer skills.

**OFFC1215 Quicken Basics 2 cr**  
This course covers the basics of using Quicken to manage your personal finances. It covers basic concepts, providing the opportunity for you to improve your financial abilities and increase your knowledge of how the electronic financial system works. Prerequisites: None. Offered: Varies.

**OFFC1220 Basic Web Page for Personal Use 2 cr**  
This course will introduce the first time user to the very basic creation of a Personal Web Page for the Internet. Student will create simple Web Pages using HTML Assistant Pro tool. This course is designed for an introduction to HTML and is not applicable for Computer Careers or Graphic Design Programs. Prerequisites: OFFC1160. Offered: Fall, Spring, Summer.

**OFFC1225 Help Desk Support 2 cr**  
This course will aim to prepare students to hold an entry-level position in the help desk industry or a company. Companies now want to attract individuals who have balance of business, technical, and people skills to help make the help desk successful. Prerequisites: None. Offered: Fall, Spring, Summer.

**OFFC1230 MS Publisher 2 cr**  
This course covers the basics of Microsoft Publisher for Windows software using IBM networked computers. The student will learn to create, edit, save, delete, and print professional looking applications including business cards, flyers, brochures, and newsletters. The spell checker, auto features and Wizards will be introduced. Prerequisites: OFFC1130 or equivalent. Offered: Fall, Spring, Summer.

**OFFC1235 MS PhotoDraw 2 cr**  
This course covers the basics of Microsoft PhotoDraw for Windows software using IBM networked computers. The student will learn to create graphic images for use in business cards, letterheads, flyers or other printed documents, to touch up and modify photographs, and to create a simple web page. Prerequisites: OFFC1000 and COMC1900 or equivalents. Offered: Varies.

**OFFC1240 QuickBooks I 2 cr**  
This online-enhanced course covers the basics of using Intuit's QuickBooks Pro software on a Personal Computer (PC) to manage a company's financial data. Topics include how to set up customers and vendors, how to enter checkbook, sales and invoice transactions, how to receive payments and make deposits, how to enter and pay bills, how to run and manage lists and reports and how to set up a new company in QuickBooks. Prerequisites: Basic computer skills, including working in the Windows environment, and file management (saving, retrieving or copying data files). Knowledge of basic accounting terms and processes is recommended, but not required. Offered: Fall, Spring, Summer.

**OFFC1245 QuickBooks II 2 cr**  
This online-enhanced course covers advanced methods of using Intuit's QuickBooks Pro software on a Personal Computer (PC) to manage a company's financial data. Topics include setting up and maintaining inventory, managing sales tax, setting up and processing payroll, making adjustments, completing year-end procedures, and using QuickBooks for budgeting, forecasting and business planning. Prerequisites: Basic computer skills, including working in the Windows environment and file management (saving, retrieving or copying data files) and completion of OFFC1240, QuickBooks I or equivalent experience. Knowledge of basic accounting terms and processes is recommended, but not required. Offered: Fall, Spring, Summer.

**OFFC1250 Introduction to Microsoft Windows XP 2 cr**  
This course covers basic Windows skills needed to operate an IBM or IBM-compatible Personal Computer (PC). Topics included are basic Windows navigation, running multiple programs, managing files and folders, customizing windows, backing up data files, working with printers and using Windows maintenance utilities. Prerequisites: Basic computer skills, including working in the Windows environment and file management (saving, retrieving or copying data files). COML1400, Introduction to Computers recommended but not required. Typing speed of 25wpm recommended.

**OFFC1255 MS Project 2 cr**  
This course covers the use of MS Project software. The student will learn how to plan and create a project, create tasks, schedule assign resources, update status and use Project tools for communicating and sharing information across applications and the Web. The goals of this course track to the standards for the Microsoft Office User Specialist exam for Microsoft Project. Prerequisites: Basic computer skills (using windows and managing files) REQUIRED; COML1400 recommended. Keyboarding/typing: Typing speed of 25wpm recommended.

**OFFC1260 Certification Basics - Word 3 cr**  
This course covers training in the preparation for students to take the Microsoft Office Specialist Exam for Word. Prerequisites: OFFC1030 Word Processing or equivalent. Offered: Fall.

**OFFC1265 Certification Basics - Excel 3 cr**  
This course covers training in the preparation for students to take the Microsoft Office Specialist Exam for Excel. Prerequisites: OFFC1135, MS Excel I or equivalent. Offered: Spring.

**OFFC1270 Certification Basics - Access 3 cr**  
This course covers training in the preparation for students to take the Microsoft office Specialist Exam for Access. Prerequisites: OFFC1200 MS Access II or equivalent. Offered: Fall.

**OFFC1275 Certification Basics - PowerPoint 3 cr**  
This course covers training in the preparation for students to take the Microsoft Office Specialist Exam for PowerPoint. Prerequisites: OFFC1145, MS PowerPoint or equivalent. Offered: Fall.

**OFFC1280 Certification Basics - Outlook 3 cr**  
This course covers training in the preparation for students to take the Microsoft Office Specialist Exam for Outlook. Prerequisites: OFFC1017, Technology for the Business Professional or equivalent. Offered: Fall.

**OFFC1285 Oral Business Communications and Job Seeking Skill 2 cr**  
This course covers the development of oral communication skills in the following areas: one-to-one communication, oral presentations to groups, use of MS PowerPoint in presentations and student evaluation of speeches. Students will also learn successful employment interview strategies as well as how to find various job leads, write a successful resume, application letter, and follow-up letter. Prerequisites: None. Offered: Spring \*\*Articulated\*\*.

**OFFC1290 Written Business Communication 2 cr**  
This course covers the process of communication, including writing techniques and strategies. Students learn by completing a range of writing exercises and critical thinking cases. Specific applications focus on letter and memorandum writing and formal and informal reports. Communication skills are emphasized along with e-mail usage. Prerequisites: OFFC1010, Business English Skills or concurrent enrollment. Offered: Spring.

## PHILOSOPHY

**PHIL1100 Ethics 3 cr**  
This course is an introduction to the study of ethics. Students will be involved in discussions about the nature of values and exploring solutions to contemporary and historical moral problems across various cultures. Prerequisites: CPT reading score over 50%.

**PHIL1200 Critical Thinking 3 cr**  
This course is an introduction to logic. Students will develop skills in critical thinking and will practice applying these skills to problems found in the workplace and other everyday environments. Topics will include the nature of argumentation, fallacies, categorical and propositional logic, deductive and inductive reasoning, and argument evaluation and construction. Prerequisites: None.

## PHYSICS

**PHYS1100 College Physics I 4 cr**  
This course is the first of two courses that cover non-calculus physics topics. These topics include: mechanics, concepts of energy and momentum, basic laws of motion, structure of matter, gas laws, heat and thermodynamics, waves and sound. Prerequisites: None.

**PHYS1200 College Physics II 4 cr**  
This course is the second of two courses that cover non-calculus physics topics. These topics include: fluids, thermal physics, direct and alternating currents, magnetism, light and optics, waves, and topics in modern physics. Prerequisites: None.

## PRACTICAL NURSING

### **PNSG1000 Foundations of Nursing Practice I 2 cr**

This course introduces the LPN role in the nursing process and beginning nursing skills to meet the basic human needs of clients. Supervised laboratory learning is included. Prerequisites: HEAL1010, HEAL1020, and current enrollment or prior successful completion of HEAL1055, HEAL1502. CPT: Reading Comprehensive Score - 26%, CPT: Arithmetic Skills Score - 30%. Offered: Fall, Spring.

### **PNSG1050 Clinical Refresher I 1 cr**

This course prepares the returning student to begin clinical courses in the nursing major. The student will have the opportunity to practice nursing skills, and will be required to demonstrate competence in theory and skills. Prerequisites: PNSG1000. Offered: Fall, Spring.

### **PNSG1100 Foundations of Nursing Practice II 2 cr**

Students are expected to demonstrate progression in nursing knowledge and skill development. Procedures are practiced in the laboratory setting. Documentation procedures will be discussed and practiced. Prerequisites: HEAL1101, HEAL1150, PNSG1000, PSYC1100, PSYC1300, PSYC1400, and HEAL1400. Offered: Fall, Spring.

### **PNSG1350 Pharmacology 2 cr**

This course introduces the study of medications and their uses. Students will learn the techniques needed for administration of medications. Students will master the mathematical skills necessary to accurately calculate drug dosages including the metric and apothecary systems. Prerequisites: HEAL1150; HEAL1101; PNSG1000, HEAL1400 (First semester of Practical Nursing program).

### **PNSG1400 Adult Health Nursing I 4 cr**

This course addresses diseases of the endocrine, respiratory, cardiovascular, and musculoskeletal systems. It includes pathology, medical treatment, nursing implications, nutritional aspects, and pharmacodynamics. The management of surgical clients, clients with pain, and care of the terminally ill is also discussed. Prerequisites: PNSG1000, HEAL1400 and concurrent enrollment or prior successful completion of PNSG1100, and PNSG1350; CPT: Reading Comprehension score 50% or successful completion of ENGL0123, Medical Reading and Study Skills. Offered: Fall, Spring.

### **PNSG1500 Adult Health Nursing II 3 cr**

This course includes the study of conditions that affect the renal, neurological, reproductive, integumentary, sensory, and digestive systems. This includes the pathophysiology, symptoms, treatment, and nursing management for a select group of acute and chronic conditions. The nutritional aspects and pharmacodynamics are discussed. Course content will integrate critical thinking, math, and attitudinal aspects of nursing care. Prerequisites: PNSG1100, PNSG1400, concurrent enrollment or prior successful completion of PNSG1350, PNSG1530, and PNSG1540 Offered: Fall, Spring.

### **PNSG1530 Beginning Clinical 3 cr**

This course introduces students to beginning nursing practice. Students will provide basic nursing care for selected clients in clinical settings with instructor supervision. Students will collect data, perform basic nursing skills, and administer delegated medical treatments. Prerequisites: HEAL1101, PNSG1000, PNSG1100, PNSG1400, PSYC1100, HEAL1400, PSYC1300, and PSYC1400, concurrent enrollment or prior successful completion of PNSG1350. Offered: Fall, Spring.

### **PNSG1540 Clinical I 2 cr**

This course will offer the student the opportunity to perform nursing care for selected clients in an acute or subacute setting with instructor supervision. Students will administer medications and perform delegated medical treatments. Students will be expected to demonstrate progression in the performance of nursing skills. Critical thinking skills will be emphasized. Prerequisites: PNSG1530. Offered: Fall, Spring.

### **PNSG1560 Clinical Practice II 3 cr**

This course provides opportunities for students to perform nursing skills for selected acutely ill clients in clinical settings with minimal instructor guidance. Students will continue to implement the LPN role in the nursing process, and perform nursing care and treatments as learned in prior theory and laboratory courses. Independent functioning is encouraged along with medication administration proficiency. Prerequisites: PNSG1530, PNSG1540, and PNSG1800. Offered: Fall, Spring.

### **PNSG1570 Clinical Practice III 2 cr**

This course provides opportunities for students to perform nursing skills to select postpartum women and newborn infants in clinical settings with instructor guidance. Students may also assist in caring for children. Students will continue to implement the PN role in the nursing process and perform nursing care and treatments as learned in prior theory and laboratory courses. Prerequisites: PNSG1540. Offered: Fall, Spring.

### **PNSG1580 Clinical IV 3 cr**

This course provides students with the opportunity to function more independently in the clinical setting. Emphasis is placed on critical thinking and role transition from student to graduate nurse. An instructor will be available to provide minimal guidance and support. Students will meet weekly to discuss clinical practice issues. Ethical and legal perspectives of healthcare will be addressed. Prerequisites: PNSG1500, PNSG1530, PNSG1540, concurrent or prior successful completion of PNSG1560, PNSG1570, and PNSG1800. This course is the capstone clinical course in the Practical Nursing program. Offered: Fall, Spring.

### **PNSG1650 Clinical Refresher II 1 cr**

This course prepares the advanced-standing returning student to continue with clinical courses in the nursing major. Students will have the opportunity to practice nursing skills and will be required to demonstrate competence. Prerequisites: PNSG1100, PNSG1400, PNSG1530, or PNSG1540. Offered: Fall, Spring.

### **PNSG1700 Mental Health/ Transcultural Nursing 2 cr**

This course explores mental health and mental illness. Maladaptive disorders, treatment, and nursing care are discussed. Transcultural nursing issues will be addressed. Prerequisites: HEAL1100, HEAL1150, HEAL1500, PNSG1000, and PSYC1100. Offered: Fall, Spring.

### **PNSG1800 Family and Community Nursing 3 cr**

This course prepares the student to care for maternity and pediatric patients. The obstetric portion of the course focuses on nursing care during pregnancy, labor/delivery, and postpartum, as well as care of the normal newborn. In the pediatric portion, the effects of illness and hospitalization on children are studied. An overview of health care in the community is included. Health promotion and disease prevention are emphasized. Prerequisites: HEAL1400, PNSG1100, PSYC1200, PSYC1300, and PSYC1400 and concurrent enrollment or prior successful completion of PNSG1560, PNSG1570, and PNSG1580. Offered: Fall, Spring.

## POLITICAL SCIENCE

### **POLS1000 Introduction to Political Science 3 cr**

Introduction to Political Science will present a broad introduction to the basic concepts, approaches, and areas of study of political science. Discussion and active debate of key political ideologies; liberalism, conservatism, socialism, communism, fascism, nationalism, feminism, and environmentalism will be central to the course. The class will also delve into the specific political systems and institutions of key members of the international community as well as consider contemporary American political issues. Prerequisites: None. Offered: Fall, Summer.



## PSYCHOLOGY

**PSYC1100 General Psychology 3 cr**  
This general psychology course is an introduction and overview of the scientific study of behavior and experience. It includes topics like perception, learning, human development, intelligence, motivation, psychological disorders, social perception and group behavior. Prerequisites: None. Offered: Fall, Spring, Summer.

**PSYC1200 Abnormal Psychology 3 cr**  
This psychology course is an introduction and overview of psychopathology. This course discusses diagnosis, treatment and prognosis of patients with mental health disorders and issues impacting mental health professionals. Prerequisites: None (A previous course in General Psychology is recommended) Offered: Fall, Spring, Summer.

**PSYC1300 Child and Adolescent Psychology 3 cr**  
This psychology course is an introduction and overview of the scientific study of child development from prenatal through adolescence. It includes topics like perception, learning, intelligence, motivation, developmental disorders, and parenting and peer influence on the developing child. Prerequisites: None. Offered: Fall, Spring, Summer.

**PSYC1400 Adult and Geriatric Psychology 2 cr**  
This Adult psychology course is an introduction to adult and geriatric psychology from a lifespan perspective. This course examines topics from a developmental perspective, including sensation and perception, memory, intelligence and social cognition through adulthood. Prerequisites: None. Offered: Fall, Spring, Summer.

**PSYC1600 Human Sexuality 2 cr**  
This psychology course provides a comprehensive, up-to-date survey of the research findings and theories pertaining to human sexuality, and it helps the student apply this information to their personal lives. Prerequisites: None. Offered: Fall.

## RAILROAD CONDUCTOR

**RRCC1110 Orientation 1 cr**  
This is an opportunity for students to determine if a career as a conductor is right for them. Students will shadow conductors in a working rail yard and experience for themselves the physical and scheduling demands of the job. Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors. 5 hrs. lecture, demonstration/wk. Selective admission program - see a counselor about special requirements. Prerequisites: None.

**RRCC1120 Introduction to Conductor Service 4 cr**  
This is an introductory course for the conductor service option within the railroad operations program. Upon successful completion of this course, the student should be able to describe railroad organization and general operations, policies and practices to ensure railroad safety, and the basic responsibilities of conductors. 5 hrs. lecture, demonstration/wk. Selective admission program - see a counselor about special requirements. Prerequisites: Admission to the DCTC railroad conductor program and completion of the one-week orientation. (RRCC1110).

**RRCC1130 General Code of Operating Rules 4 cr**  
This is the fourth course in the conductor option for the railroad operations degree program. Conductors must maintain a thorough understanding of the General Code of Operating Rules (GCOR). This course provides an in-depth study of the GCOR. Upon completion of this course, the student should be able to demonstrate abilities to apply the

General Code of Operating Rules to safe and efficient train movement and operations. 5 hrs. lecture/wk. Selective admission program - see a counselor about special requirements. Prerequisites: Admission to the DCTC railroad conductor option and successful completion of RRCC1120 Conductor Service with a minimum grade of "C".

**RRCC1140 Mechanical Operations 2 cr**  
This course covers mechanical operations that relate to conductor service. This is the second course in the conductor option of the railroad operations degree program. Upon successful completion of this course, the student should be able to describe the importance and application of freight care mechanical policies and practices to ensure safe railroad operations. 2.5 hrs. lecture/wk. Selective admission program - see a counselor about special requirements. Prerequisites: Admission to the DCTC's railroad conductor program and successful completion of RRCC1120 with a grade of "C" or better.

**RRCC1150 Conductor Duties 2 cr**  
Upon successful completion of this course, the student should be able to describe and apply railroad organization and general operations, policies and practices to ensure railroad safety, and basic responsibilities of conductor. This course includes safety and the general rules with which conductors must comply and teaches the techniques and administrative procedures conductors use on the job to perform safely and effectively. 2.5 hrs. lecture/wk. Selective admission program - see a counselor about special requirements. Prerequisites: Admission to the DCTC railroad conductor option and successful completion of RRCC1140 Mechanical Operation with a minimum grade of "C".

**RRCC1160 Utilization of Railroad Equipment and Safety Stand 2 cr**  
This course is designed for persons interested in pursuing a career as a Railroad Conductor. The student will study and demonstrate the accepted standards of railroad equipment utilization. They will also demonstrate knowledge and application of railroad safety rules and techniques for moving box cars. Prerequisites: Current enrollment in Railroad Conductor certificate.

## REAL ESTATE AND PROPERTY MANAGEMENT

**PMGT1101 Real Estate I 2 cr**  
This course is an introduction to the exciting world of real estate that meets the requirements of 30 hours for pre-licensing education. Topics covered will include real estate and the law, the concepts of home ownership, the laws of agency and the brokerage business, forms of ownership, legal descriptions, and taxes. Prerequisites: None. Offered: Fall, Spring, Summer.

**PMGT1102 Real Estate II 2 cr**  
This course meets the requirements for the second 30 hours of pre-licensing education. Topics covered will include listing agreements, buyer representation, real estate contracts, principles of financing, fair housing, environmental issues, and closing the transaction. Prerequisites: PMGT1101. Offered: Fall, Spring, Summer.

**PMGT1200 Introduction to Property Management 1 cr**  
This course is an introduction to the profession of property management. The fundamental techniques used for preserving and increasing the value and integrity of investment real estate will be covered. Special emphasis will be placed on determining and developing strategies to meet the owners' goals and objectives. Prerequisites: None. Offered: Fall.

**PMGT1204 Real Estate Law 2 cr**

This course meets the state requirement for Real Estate III. This course presents a practical look at the many laws that affect the ownership, sale, and management of real estate. Principles will be learned by reviewing and discussing actual cases. Special emphasis will be placed on agency law, fair housing, contract law, and any other laws and disclosures that real estate practitioners need to know. Prerequisites: None. Offered: Fall, Spring, Summer.

**PMGT1205 Loan Application/ Processing 1 cr**

This course covers the real estate loan process from pre-qualifying the borrower to determining which types of loans may be available and selecting which type would be best for the borrower. It includes a discussion of what the underwriters are looking for and how to prepare a loan for submittal for approval. A must course for those in, or desiring to be involved in, the financing aspects of residential and commercial real estate. Prerequisites: None. Offered: Fall, Spring, Summer.

**PMGT1207 Financing Instruments 1 cr**

This course covers the many types of financing instruments that are used today to finance the construction and purchase of real estate. It also looks at the specific clauses in mortgages and notes and the impact they have on borrowers and lenders. Special attention will be given to the many creative methods of financing real estate and how each may benefit the buyer and the seller. Prerequisites: None. Offered: Fall, Spring, Summer.

**PMGT1208 Introduction to Appraisal 1 cr**

This course is an introduction to the appraisal profession. The student will learn about the opportunities, licensing requirements, and basic procedures used in the appraisal process. Also discussed will be the principles of real estate ownership and transferring of ownership interests. Prerequisites: None. Offered: Spring.

**PMGT1210 Appraisal Process 1 cr**

This course covers the process the appraiser must go through to comply with the requirements of the assignment. The student will learn that the process used is just as important as the results obtained by the appraisal. The student will also learn how to determine if comparable sales were "arms length transactions." Prerequisites: None. Offered: Spring.

**PMGT1211 Appraisal, Rules and Standards of Practice 1 cr**

This course covers the Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal Foundation. Also covered are the basic mathematical formulas required for the appraisal process. This course is included in the 90 hours of pre-licensing education required to take the state-sponsored licensing exam. This course is also approved for 15 hours of continuing education for both real estate or appraisal. Prerequisites: None. Offered: Spring.

**PMGT1212 Residential Appraisal Workshop 1 cr**

This course reviews the principles of the appraisal process and provides the student with the necessary forms and knowledge to complete a residential single family appraisal report. This course also is approved for 15 hours of real estate and appraisal continuing education. Prerequisites: None. Offered: Spring.

**PMGT1213 Managing Residential Property 1 cr**

This course covers all the basics of managing residential income property. The student will identify the various types of properties, compare the pros and cons of each, and develop good check lists for developing a very complete system for managing property. Prerequisites: None. Offered: Fall.

**PMGT1214 Life and Safety Issues 1 cr**

This course covers issues necessary to protect the health, safety, and well being of occupants and property management employees of real estate investment properties. Topics covered are preventive

maintenance inspections, proper disclosures, and procedures to follow when mishaps occur. Prerequisites: None. Offered: Fall.

**PMGT1216 Managing Commercial/ Industrial Properties 1 cr**

This course covers the management and marketing of office buildings, industrial properties, and retail facilities. The student will compare the similarities and differences between these types of properties and residential investment properties. Prerequisites: None. Offered: Fall.

**PMGT1218 Maintenance Management and Insurance 1 cr**

This course covers the reasons for properly maintaining property and techniques for doing so. The roles of property managers, resident managers, maintenance staff, and outside service companies are discussed. Also discussed are preventive maintenance, inspections, life cycle costing methods, operating reports, risk management, and staffing. Prerequisites: None. Offered: Fall.

**PMGT1220 Leases 1 cr**

This course covers rental contracts, beginning with the legal definitions of the various forms of leasehold estates and the rights the landlord and tenant have in each. The student will learn what steps to take to determine the qualifications of a prospective tenant and how to negotiate and create an acceptable residential lease contract. Prerequisites: None. Offered: Fall.

**PMGT1224 Income Capitalization Analysis 1 cr**

This course compares the various methods of estimating the market value of income-producing properties. It includes the pros and cons of gross rent multipliers, cap rates, cash on cash returns on investment, and analysis of the impact financing may have on the value of a property to a particular investor. Prerequisites: None. Offered: Spring.

**PMGT1226 Construction and Blue Print Reading 1 cr**

This course covers building construction basics from blue print reading to types of construction. Emphasis will also be placed on the process of requesting construction bids and developing an understanding of the principles of building codes. Prerequisites: None. Offered: Fall.

**PMGT1228 Community Association Management 1 cr**

This course covers one of the fastest-growing areas of real estate and property management, community association management. Recent statistics indicate that 50% of new residential properties being constructed are in some way a part of an owner's association. This course is a real hands-on, practical course on what you need as a homeowner involved in an association, or a real estate salesperson involved in buying or selling townhomes or condominiums, or a property management professional. Prerequisites: None. Offered: Spring.

**PMGT1230 Income Property Marketing 1 cr**

This course covers all phases of income property marketing from defining goals and objectives to evaluating the results of that plan. Emphasis will be given to the importance of paying attention to the details of a good marketing plan, and the power of feedback and adjustments. Prerequisites: None. Offered: Fall.

**PMGT1232 Cash Flow Analysis 1 cr**

This course covers one of the most powerful tools a real estate investor/appraiser can use. The student will learn how to estimate future performance of income-producing property, and how to evaluate those future cash flows by using present day values. The course will cover capital gains, and the king of all tax shelters, the 1031 tax deferred exchange. Prerequisites: None. Offered: Spring.

**PMGT1302 Planning and Operating a Small Business 1 cr**

This course is an introduction to the designing, developing, and operating of a small business and/or an independent contractor practice. This is a must course for individuals beginning their careers

in Real Estate, Appraisal, Financing, Insurance or Property Management. We start with how to develop a business plan, implement that plan, and conclude with how to make adjustments to keep up to changes in the business environment. Prerequisites: None. Offered: Fall, Spring.

**PMGT1303 Introduction to Entrepreneurship 1 cr**

This course is an introduction to the designing, developing, and operating of a small business and/or an independent contractor practice. This is a must course for individuals beginning their careers in Real Estate, Appraisal, Financing, Insurance or Property Management. We start with how to develop a business plan, implement that plan, and conclude with how to make adjustments to keep up to changes in the business environment. Prerequisites: None

**PMGT1304 Marketing Strategies for Small Business 1 cr**

This course covers one of the most important areas of operating a small business or independent contractor practices. The student will learn how to maximize results from a minimal amount of dollars by using proven marketing strategies. A must course for those entering the field of Real Estate, Property Management, Appraisal, Financing or Insurance. Prerequisites: None.

**PMGT1401 Real Estate Math and Calculator Basics 1 cr**

This course covers the basic operation of the Hewlett-Packard HP12C financial calculator. All of the most common applications used by real estate professions, appraisers, property managers and loan officers are covered in this course. This is definitely one of the most powerful tools available for the true professional. Prerequisites: None. Offered: Fall, Spring.

**PMGT2020 Negotiating for Agreement 1 cr**

This course covers the importance of developing negotiating skills and the basic techniques used in negotiating. We will look at everyday situations and discuss how these strategies can help us in the business world and in some personal situations. Prerequisites: None. Offered: Spring.

## SOCIOLOGY

**SOCY1010 Marriage and the Family 3 cr**

This course embodies a survey of human relationships. This course will examine and explore both the practical side and the sociological side of human relationships. Topics include dealing with love, conflict, sexuality, parenting, relationship violence and gender roles. The focus of the course is to expose students to the cultural diversity of marriage and the family. To give students a fundamental understanding of the sociological perspective on this topic and apply a theoretical/ historical perspective. Prerequisites: None. Offered: Fall, Spring, Summer.

**SOCY1110 Introduction to Sociology 3 cr**

This course covers the basic concepts and terminology used in sociological studies. Sociology is broadly defined as the study of human social organization and social behavior including its forms and consequences. It will focus on the characteristics of human group life as they relate to the structure of the social environment and its influence on the individual. This course is designed to introduce students to the theories, concepts and areas of inquiry that typically characterize sociological analysis. Students will have the opportunity to examine the ethical/dimensions and issues facing political, social, and personal life as it relates to the topics in Sociology. Students will explore their own citizenship and find ways to apply their ideas and goals to civic learning and service learning through embracing facets of human society and the human condition. Prerequisites: None. Offered: Fall.

**SOCY1150 Race and Gender 2 cr**

This course is designed to enable students to obtain a greater understanding of various minority/dominant relations in the United States. It will focus on class, gender, race/ethnicity, and sexuality from

a historical and sociological side of human relationships. We will examine and explore both the theoretical and social approach to minorities and minority relations. Topics include historical perspectives, identity, social trends, oppression/exploitation of minority groups in the U.S., future trends in minority relations. The focus of the course is to expose students to the cultural diversity of the U.S. from every classification of minority. To give students a fundamental understanding of the sociological perspective on this topic and apply a theoretical/historical perspective. Global perspectives will be addressed. Prerequisites: None. Offered: Spring.

**SOCY1210 Social Issues Changing World 3 cr**

An examination of the many ways in which the United States is interconnected with other societies in a changing world. This changing globalization process and related problems that threaten human well-being are studied from a sociological perspective. Prerequisites: None. Offered: Spring.

**SOCY1250 Juvenile Delinquency 2 cr**

A sociological examination of juvenile delinquency and society's response to delinquent youth. The juvenile justice system and the rights and responsibilities of children under law. Major topics include the historical foundations of delinquency, emphasis on micro and macro level of struggle in which delinquent behavior takes place, critique of current sociological theories on delinquency, sociological and social psychological causes of delinquency, juvenile justice response to delinquency, and citizen responsibility. Prerequisites: None. Offered: Fall, Spring.

**SOCY1300 Introduction to Anthropology 3 cr**

Anthropology is the scientific and humanistic study of humankind in all its varieties and of human nature in its universal sense. This course introduces students to the four subfields of anthropology: archaeology, cultural anthropology, languages and culture, and physical anthropology. Students will learn to identify and apply anthropological methods of study through a sociological and anthropological approach to humanity. Prerequisites: None.

## SPANISH

**SPAN1000 Occupational Spanish 2 cr**

This course is designed to help students expand their communications skills by learning enough basic Spanish to communicate in their occupational field and in the community at a basic level. Students will participate in a variety of practical speaking situations. Topics will be job-specific situations. Prerequisites: None. Offered: Varies.

**SPAN1100 Beginning Spanish I 4 cr**

This course is designed as an introduction to basic Spanish language skills, including listening comprehension, reading, speaking and writing. Students are introduced to cultures of the Spanish speaking countries and develop an understanding and sensitivity to diverse groups. Major grammar focus includes regular and irregular verbs in the present tense, adjective agreement, and discussion of family, school, time, weather, numbers and greetings. Prerequisites: None. (This course is for the true beginner, but 1 or 2 years of any high school language is helpful). Offered: Fall, Spring, Summer.

**SPAN1200 Beginning Spanish II 4 cr**

This course continues the development of listening, reading, speaking, and writing skills that were introduced in Beginning Spanish 1100. The course continues emphasis on the cultures of Spanish speaking countries. Major grammar focus includes a review of the present tense, reflexive verbs, regular and irregular forms of the preterit and imperfect, and discussion of travel, pastimes, food shopping, and your daily routine. Prerequisites: SPAN1100 or its equivalent. (Students who were successful with 2 or 3 years of high school Spanish could begin with this class. Those with 4+ yrs. would be too advanced). Offered: Fall, Spring.

## SPEECH

### **SPEE1015 Fundamentals of Public Speaking 3 cr**

This speech course introduces students to the factors involved in becoming efficient communicators in both individual and group presentations. The course emphasis will be placed on audience analysis, research and organization, speech construction, and delivery techniques. Prerequisites: None. Offered: Spring.

### **SPEE1020 Interpersonal Communication 3 cr**

This course focuses on the practical and theoretical concepts of human communications and the styles used in personal, social and professional environments. Students will also acquire skills in critical thinking, perception, listening, verbal and non-verbal expressions and conflict resolution. Prerequisites: None. Offered: Fall, Spring, Summer.

### **SPEE1030 Intercultural Communications 3 cr**

This course studies the cultural differences and how it affects communication. Topics include definitions of communication; definitions of culture and diversity of cultural patterns; cultural variables influencing communication such as language, non-verbal behavior, perception, values, and beliefs; facts that facilitate or inhibit intercultural communication; and examination of American culture in comparison to other cultures. Prerequisites: None. Offered: Fall, Summer.

### **SPEE1042 Small Group Communication 3 cr**

This course provides instruction in theory and practice in the application of skills learned in the study of small group communication principles. Students will spend a substantial part of their course time participating in small groups, completing group projects, and analyzing group interaction. Prerequisites: None. Offered: Spring.

### **SPEE1050 Nonverbal Communication 2 cr**

This course includes facial expressions, tones of voice, gestures, eye contact, spatial arrangements, patterns of touch, expressive movement, cultural differences, and other "nonverbal" acts. Research suggests that nonverbal communication is more important in understanding human behavior than words alone--the nonverbal "channels" seem to be more powerful than what people say. Prerequisites: None. Offered: Spring.

## SUPERVISORY MANAGEMENT

### **SMGT1000 Principles of Supervision 3 cr**

Ease the transition to supervisor. Study the role and responsibilities of supervisors including planning, organizing, leading, staffing, and managing performance. Develop improved communication and human relations skills. Learn techniques for delegation, performance appraisal, motivating, and counseling. Become familiar with the impact of laws governing the employer-employee relationship such as labor laws, equal employment opportunity, and OSHA. Take this course early in the sequence of Supervisory Management courses. Prerequisites: None. Offered: Fall, Summer.

### **SMGT1010 Interpersonal Skills 1 cr**

Practice a variety of effective interpersonal communication techniques including active listening, giving and receiving effective feedback, assertive communication, handling emotional behavior, and interpretation of nonverbal cues. Identify barriers to positive interpersonal work relationships and strategies for developing and maintaining healthy work relationships. Prerequisites: None. Offered: Fall.

### **SMGT1022 Leadership 3 cr**

Learn concepts to become an effective leader in today's global business environment. Determine your leadership style and the implications of that style on workgroup performance. Incorporate

ethics, corporate mission, vision and culture into a powerful leadership strategy. Enhance your ability to motivate and positively influence others in a increasingly diverse workforce. Prerequisites: None. Offered: Fall, Summer.

### **SMGT1023 Leadership for Administrative Professionals 1 cr**

Today's workplace is changing and so is the role of the administrative professional. No longer subordinate to management, "admins" of the 21st. century are business partners in meeting corporate goals and objectives. Learn what it takes to become an accomplished administrative professional and a recognized leader in your workplace. Prerequisites: None.

### **SMGT1028 Management Effectiveness 3 cr**

Learn practical tools to manage time and stress. Develop habits to increase personal productivity and create an individual time management plan. Set priorities, delegate and reduce time wastes and stressors. Explore strategies to improve time utilization in workgroups. Prerequisites: None. Offered: Fall, Summer.

### **SMGT1030 Ethics in the Workplace 1 cr**

Explore the influence of ethics on individuals and organizations. Consider frequently-encountered workplace ethical dilemmas. Examine the role of values in leadership and decision making and the influence of supervisors in shaping workforce behavior. Develop a code of ethics for supervisors. Prerequisites: None. Offered: Spring.

### **SMGT1033 Business Law and Ethics 3 cr**

Examine workplace issues impacting supervisory responsibilities and explore the influence of ethics on individuals and organizations. You will be introduced to the American legal system. Understand civil, criminal, TORT, contract, employment, and labor laws and how they affect business. Prerequisites: None.

### **SMGT1050 Resolving Conflict 1 cr**

Learn to resolve conflict and negotiate collaborative solutions in workplace settings. Master conflict resolution and negotiation strategies essential for supervisors and others in leadership positions. Select and apply conflict resolution and negotiation strategies that are appropriate for a given situation. Learn to effectively confront conflict in its early stages and to negotiate solutions beneficial to all persons involved. Prerequisites: None. Offered: Fall.

### **SMGT1060 Habits for Personal Effectiveness 1 cr**

Discover how to close the gap between what is most important to you and how you spend your time. Increase your interpersonal effectiveness and your ability to foster cooperation. Develop a personal creed and mission statement as a tool for achieving life balance. Prerequisites: None. Offered: Spring.

### **SMGT1070 Time Management 1 cr**

Learn practical tools to gain control of your time and your life. Apply a comprehensive time management system based on identifying values, long-term goals, short-term goals, and daily action steps. Set priorities, delegate, and reduce time wasters and clutter. Assess personal improvement opportunities and develop an individual time management plan. Explore strategies to improve time utilization of work group members. Prerequisites: None. Offered: Summer.

### **SMGT1080 Introduction to Distribution Careers 1 cr**

This course is designed to provide students with an overview of distributorships. Included is an examination of the role of distributors bringing goods to market and adding value through distributor services. Network with industry specific professionals to learn about career opportunities in a growing market. Prerequisites: None.

### **SMGT1081 Business Principles 3 cr**

This course is an introduction to the operation and organization of business enterprises and will provide students with a comprehensive and foundational view of business organizations, operations, finance, production, distribution, business law, diversity, and other business

concepts and activities. Students will learn how these aspects of business enterprises are essential to our economic system and the global economy. Prerequisites: None.

**SMGT1082 Distribution, Operations & Logistics 3 cr**

Gain an understanding of management concepts, principles, and applications for effective operations of industrial distribution firms. Topics covered are concepts of rationale of discounting, financial systems, inventory management, purchasing, vendor evaluations, profitability analysis, warehouse management and future trends. Prerequisites: None.

**SMGT1160 Fundamentals of Meeting, Conference and Event Management 2 cr**

Learn strategies to develop meaningful, well-organized conferences, meeting and special events, perfect for meeting planners experienced with logistics who want to develop the principles and techniques that form the foundation of meeting and event programs. Individuals interested in a meeting planning career or just starting in the field will want to build their career on the fundamentals included in this curriculum. Prerequisites: None.

**SMGT1161 Advanced Meeting, Conference and Event Management 3 cr**

Whether you are interested in the field of meeting planning or already an experienced meeting planner, this is the hands-on, dynamic course you have been looking for to hone your skills and learn new techniques. This course delivers tricks of the trade and new twists while refreshing time-tested practices. Students will learn to apply the Convention Industry Council meeting profile and accepted practices for request for proposals. Prerequisites: None.

**SMGT1162 Special Event Coordination and Management 3 cr**

Learn strategies to effectively procure, organize, implement and monitor the products and services that bring an event to life. This course focuses on event design basics, room set-up, event flow, entertainment, food and beverage options, and communication. Students will research and shop for a case study special event venue and design a boardroom presentation to present venue and theme recommendations to a boss or client; learn vendor selection techniques, and event specifications will be created and vendor/venue work orders reviewed. Get acquainted with music licensing, host liquor liability, the Americans with Disabilities Act (ADA), and preparation for a pre-convention briefing. Students will explore planner resources such as convention and visitor bureaus and destination management companies. Prerequisites: None.

**SMGT1163 Event Promotion 3 cr**

Promote your meetings, events, festivals, tradeshow and conventions with the skill of an experienced event marketer. This course combines marketing and public relations expertise to make your event a success! Curriculum includes a business simulation and integrates key business skills such as critical thinking, team dynamics and communication. Prerequisites: None.

**SMGT1164 Meeting & Event Risk Management 2 cr**

Learn to recognize potential meeting and event risks and to prioritize risks for management action. Application of practical strategies to manage risks of people, property, income and goodwill are a key element of meeting and event management success. Learn risk management techniques using case studies and real-life scenarios. Curriculum includes how to craft a risk management plan as part of your meeting or event management plan. Prerequisites: SMGT1161, SMGT1162 or instructor approval. Offered: Fall, Spring

**SMGT1166 Event Design 3 cr**

Meeting and event planners who want to increase production value of their events will find this course essential to achieving well-designed and orchestrated events. This course provides a thorough knowledge of event design principles, processes and practices. Students will learn about the various decorative elements used in

special events and how production factors integrate to produce a winning event. Students will learn the basis of good design through study of design principles and practices. Through case studies students will learn techniques and resources to apply event design. Prerequisites: None.

**SMGT1167 Meeting and Event Sponsorship 3 cr**

Sponsorship dollars can mean the difference between financial success or ruin for an event. Sponsor visibility and benefit to the sponsoring organization can make or break their business. Establishing ROI for the event, as well as the sponsoring organization, is important to the symbiotic relationship between these entities. For the event planner, the value of sponsorship to the event and its attendees, as well as how to integrate the sponsorship into the event are key elements of success. Fundraisers, who frequently double as the event planner, need to know how to place value on sponsorship, maximize the sponsor experience and where to find more sponsors. Event planners and fundraisers will learn state-of-the-art methods for finding, securing and retaining sponsors in this class. Prerequisites: None.

**SMGT1168 Trade Show Management 3 cr**

Students new to exhibit management or experienced professionals who want to brush up on their skills will find this course essential to their career. Through the extensive case studies, students will learn how to manage exhibit operations from start to finish and become acquainted with marketing the trade show to exhibitors and attendees. Information and resources to manage essential trade show components such as site selection, floor plan layout, program planning, housing, registration and transportation will be explored. Prerequisites: None.

**SMGT1169 International Meeting Management 3 cr**

Globalization is changing how we do business, and its impact on meeting and event management is here to stay. Novice and experienced meeting planners who desire to work in the global arena will find the practical sourcing and planning knowledge found in this course to be the bridge to international business they have been looking for. International protocols are essential elements of the curriculum. This course focuses on the international elements of meeting planning and skills required to segue U.S.-trained meeting planners to the international market including selection of international venues, sourcing service and liaison support, international venue contracts, shipping, exhibitions, insurance considerations, food service and communication. Prerequisites: None.

**SMGT1170 Meeting Planning for the Administrative Profession 2 cr**

Administrative professionals plan the majority of meetings under 100 people without formal meeting planning education or experience. This course provides fundamental knowledge and techniques to ensure success of planning small meetings. Prerequisites:

**SMGT1205 Total Quality Management 4 cr**

Learn how to integrate TQM into planning and project management, strategic management, process improvement, and how to modify an organizations behavior. Assess supervisor's roles and responsibilities related to quality including identifying and meeting customer's needs, applying tools and techniques for improving systems and processes, developing a quality training plan for work group members and enhancing work group commitment to continuous quality improvement. Prerequisites: None. Offered: Varies.

**SMGT1210 Problem Solving 2 cr**

Learn a systematic approach to solving work place problems. Become proficient at using tools for gathering, analyzing, and evaluating data. Master techniques for accessing creativity and group participation. Learn strategies for gaining approval and support and for facilitating successful implementation. Prerequisites: None.

**SMGT1220 Work Teams 1 cr**  
Develop the skills and knowledge to cultivate productive work teams. Identify the types and benefits of teams and work groups and the stages of team development. Learn to develop team mission, purpose, and goals. Apply techniques for team decision making and conflict resolution. Prerequisites: None. Offered: Varies.

**SMGT1231 Planning and Project Management 2 cr**  
Learn how to plan and control projects from start to finish including: determining scope/objectives, scheduling/sequencing, budget, action steps, assigning personnel, authority/responsibility, standards, contingency planning and methods for monitoring and evaluation of the projects success. Use tools such as Gantt Charts, flow charts and others. Plan a work or personal project applying the skills and knowledge learned in class. Prerequisites: None. Offered: Varies.

**SMGT1232 Problem Solving and Decision Making 3 cr**  
Tapping into your creative energy can make you more effective in solving problems and developing innovative solutions. Learn a systematic approach to solving work place problems. Become proficient at using tools for gathering, analyzing and evaluating data. Master techniques for accessing creativity and group participation. Learn strategies for gaining approval and support for facilitating successful implementation of decisions. Prerequisites: None.

**SMGT1242 Effective Business Communication 3 cr**  
Learn and practice skills to communicate your message directly and effectively to generate the desired results, whether in a meeting, presentation or written media. Integrate multi-media to support your ideas. Assess your audience prior to communicating to maximize effectiveness. Facilitate group participation including handling disruptive behavior. Learn and apply skills in any situation to achieve win-win negotiations. Prerequisites: None. Offered: Fall, Spring.

**SMGT1250 Managing Customer Service 1 cr**  
Identify how supervisors can plan for and support excellent customer service through developing a service strategy. Examine the impact of employee training and decision making authority on customer service. Analyze models of service for internal and external customers. Learn tools and techniques for gathering feedback and handling complaints. Consider the relationship between customer service and quality. Prerequisites: None. Offered: Spring.

**SMGT1260 Managing Teams 3 cr**  
Develop the skills and knowledge to cultivate productive work teams. Learn to defuse resistance to change and foster support and involvement in developing a shared vision. Master conflict resolution and negotiation strategies essential for supervisors and others in leadership positions in fostering self managed work teams. Prerequisites: None. Offered: Fall, Spring.

**SMGT1405 Managing Performance 3 cr**  
Manage employee performance by establishing performance expectations, identifying and providing needed training and support, monitoring performance, and providing formal and informal feedback. Practice conducting employee performance evaluations. Learn methods to take corrective action. Identify sources of inadequate performance - skills and knowledge, processes and systems, motivation and personal issues - and determine appropriate resolution to each. Coach and mentor good performers to higher levels. Prerequisites: None. Offered: Fall, Spring.

**SMGT1410 Coaching 1 cr**  
Coach work group members toward improved performance. Identify guidelines and steps for coaching. Practice giving feedback. Develop individual improvement plans. Prerequisites: None. Offered: Fall.

**SMGT1415 How to Delegate Effectively 1 cr**  
How to Delegate Effectively is a key component of a supervisor/leaders success. Learn how to identify tasks that can be delegated and how to identify who in your organization is suited for that task.

Overcome barriers to effective delegation. Develop a support system for the monitoring of the employee and the task. Prerequisites: None.

**SMGT1420 Managing a Diverse Workforce 1 cr**  
Consider issues related to culture, race, sex, age, and ability. Assess personal assumptions, biases, and stereotypes. Discuss legal issues associated with hiring, promotion, and preventing and acting on harassment. Develop action steps supervisors can take to avoid stereotyping, to improve cross-diversity communication and understanding, and to eliminate barriers affecting equal access, professional growth, and mobility. Prerequisites: None. Offered: Fall.

**SMGT1422 Intro to Supervision for Individuals with Limited English Proficiency 3 cr**  
Designed for those who speak English as their second language, this course is designed to help transition to supervision and management successfully. Learn cultural differences and how they affect motivation, communication, assertiveness and conflict resolution. Prerequisites: None.

**SMGT1440 Employee Selection 1 cr**  
Develop the skills to conduct effective interviews for selecting new employees. Legal issues, fairness, planning, and conducting the interview will be examined. Practical application of techniques will be featured through role play. Prerequisites: None. Offered: Summer.

**SMGT1441 Introduction to Human Resource Management 3 cr**  
This course focuses on providing supervisors and managers an overview of the principles and practices of Human Resources Management functions in today's organization, Compensation and Benefits, and Managing Employee Relations Prerequisites: None. Offered: Varies.

**SMGT1450 Employee Training 1 cr**  
Learn skills and strategies necessary to assess training needs, design and prepare a training plan, and deliver a training session. Assess the transfer of the training. Consider factors that affect training to include but not limited to: diversity, legal issues, learning styles, media support, evaluation methods, managing the classroom and follow-up. Prerequisites: None. Offered: Fall.

**SMGT1463 Managing a 24/7 Workforce 1 cr**  
Effectively managing employees on the night, or rotating shifts is critical in a 24/7 global business market. Since about 26% of the working population in the United States works some kind of shift schedule, it becomes necessary for employers to adjust their "day orientation" policies to accommodate the particular needs of their employees who are working around the clock. Learn to balance business needs with quality of life issues for shift-workers. Prerequisites: None.

**SMGT1470 Safety and Compliance Management 2 cr**  
Learn the programs and regulations set forth by OSHA, MPCA, and DOT for maintaining worker safety and rules compliance in business and industry today. Supervisor's responsibility in safety training, industrial hygiene, motivation, and enforcement of policies will be addressed. Other areas of study will include worker's compensation cost control, accident investigation techniques, and policy and program development. Prerequisites: None. Offered: Fall, Spring.

**SMGT1480 Career Development 1 cr**  
Think through and develop your life-career plan. Assess your values, interests, and capabilities. Learn tools helpful in the job search process to assist with networking, resume writing, interviewing, and securing a job. Study factors influencing advancement such as job performance, personal qualities, organizational needs, and mentors. Consider the supervisor's role in influencing career paths of employees. Prerequisites: None. Offered: Varies.

**SMGT1601 Financial Management 2 cr**  
This course provides the non-financial manager/supervisor an understanding of business accounting terms, basic accounting cycles,

budgeting, cost control, income statements, cash flow analysis and other financial statements. Develop and apply skills in basic accounting principles and concepts to make sound business financial decisions. Prerequisites: None. Offered: Varies.

**SMGT1605 Graduation Project 1-6 cr**

Complete an improvement project applying the knowledge and skills you have learned in the Supervisory Management Program. Advisor approval is required for the project and credits. Credits are variable (1-6 credits) based on scope of project. Up to five technical electives required in the program may be applied to the Graduation Project. Prerequisites: Register in last semester of program.

**SMGT 1660 Introduction to Tourism and Hospitality 2 cr**

This course introduces students to the largest industry in the world – tourism and hospitality. Learn about management and operations of tourism and travel organizations such as visitor and convention bureaus, travel agencies, hotels/motels/resorts, airlines, cruise lines, tour operators, car rental companies, casinos, amusement parks and more. Prerequisites: None.

**SMGT1665 Lodging Operations 3 cr**

A lodging operation is comprised of many departments, each of whom must work together with precision to fulfill guest expectations. Course curriculum addresses the complete range of lodging operational considerations from the front lobby guest experience to the shipping and receiving dock.

**SMGT 1670 Lodging Systems and Technology 2 cr**

Technology is integral to success in today's lodging environment. Students will be introduced to the many systems that ensure success, including monitoring room inventory, communication, staffing, yield management and data mining to predict consumer habits.

**SMGT 1675 Hotel Front Office Management 3 cr**

This course provides a hands-on tour of the front office in a lodging establishment. Curriculum includes a computerized simulation of the front office processes from guest check-in thru night audit. This is on-the-job training in the classroom. Prerequisites: None.

**SMGT 1680 Hospitality Space and Logistics Management 3 cr**

This course focuses on the management of products and services at hotels, resorts and other venues that hold group meetings. Achieving success of the group client's meeting goals while ensuring the property's operational efficiency and profit, is a core skill in the hospitality industry. Creating a partnership for success between the venue and the group is a significant element of today's competitive business environment.

**SMGT 1685 Hospitality and Tourism Guest Services 2 cr**

Hospitality and tourism customers experience satisfaction when the combination of positive product AND service exist. In this course students will learn listening techniques and customer service skills. Hospitality and tourism case studies, tapes and other media give students first-hand experience in providing quality guest services. Problem solving is an important element of the curriculum.

**SMGT 1690 Successful Sales and Closing Strategies 3 cr**

This course provides in-depth sales, proposal and presentation training. Customer satisfaction starts at the beginning of the sales process and continues through post-sale planning. The post-sale relationship is important to the sales cycle in order to retain the customer's business. Curriculum includes hands-on hospitality and tourism case studies and simulations that address the sales cycle from first visit to retention planning and action. Prerequisites: None.

**SMGT 1695 Hospitality Risk Management 2 cr**

Learn to recognize potential risks in the hospitality environment and to prioritize those risks for action. Application of practical strategies to management risks of people, property and goodwill are key elements of success. Learn risk management techniques using case studies and real-life scenarios. Prerequisites: None.

**SMGT1705 Thinking and Learning (Acc) 2 cr**

Develop your critical thinking skills. Learn how to effectively acquire new knowledge, analyze it, and integrate it. Acquire strategies and techniques for learning more in less time and deeply retaining it. Discover how to apply learning styles, multiple intelligences, mindmapping, and other accelerated learning tools for success in an accelerated program. Prerequisites: None.

**SMGT1776 Organizational Behavior 3 cr**

Review, discuss, and analyze what makes an organization of any size and purpose, successful. Examine the ways that systems and values help to make up the dynamics of an organization's culture. Discuss the ways individuals work inside an organization and ways they influence those around them. Consider in detail what this all means in the context of today's call for constant change. Prerequisites: None. Offered: Varies.

**SMGT1815 Team Building (Acc) 2 cr**

Develop the skills and knowledge to cultivate productive work teams. Identify the types and benefits of teams and work groups and the stages of team development. Learn to develop team mission, purpose, and goals. Apply techniques for team decision making and conflict resolution. Learn to lead a team through team self-evaluation, developing a team training plan, recognizing achievements, learning from mistakes, celebrating accomplishments, and when the time comes, disbanding with style. Prerequisites: None.

**SMGT1825 Interpersonal Effectiveness 2 cr**

Introduce managers, supervisors and employees to a variety of interpersonal communication techniques that will strengthen respect and relationships. Practice skills in active listening, giving and receiving feedback, assertive communication, handling emotional behavior, dealing with multi culturalism and valuing differences and interpret non verbal communication. Learn to identify and remove communication barriers. Identify potential conflict situations and formulate strategies to resolve them. Prerequisites: None. Offered: Varies.

**SMGT1875 Training and Developing Employees (Acc) 3 cr**

Consider employee training and development needs from orientation through progressive job training. Learn how to determine training objectives, plan, prepare, conduct, and measure benefits of work group training. Assess learning styles of trainees, and learn effective training techniques to reach a wide range of learners. Design and deliver a work-related training session. Learn to coach work group members toward improved performance. Identify guidelines and steps for coaching. Develop individual improvement plans. Prerequisites: None.

**SMGT1950 Mentoring 1 cr**

Learn how to develop a corporate Mentoring program. Analyze corporate cultures to determine what level of support is needed for developing an internal or external Mentoring program. Recognize the differences between mentoring, coaching, managing, and supervising. Learn how to identify, select, train, and match mentees, mentors and coordinators. Develop an action plan that ensures corporate buy-in. Develop a plan for launching your program with support materials and components in place. Develop a system of feedback which incorporates confidentiality. Review and evaluate mentoring programs. Prerequisites: None. Offered: Spring.

**SMGT 1970 Casino Operations 3 cr**

This course provides a comprehensive view of casino operations. From the slot club, cage operations, casino floor design and into the management office, students will be guided through the operations of a casino and introduced to patronage motivation. Prerequisites: None.

**SMGT 1975 Casino Products: Protections and Probabilities 3 cr**

From fraud and theft protection, to understanding the theory of various casino games, this course includes mathematic principles, probability theory, basic accounting and reporting information necessary for success in the casino industry. Prerequisites: None.

- SMGT2001 Management Skills I, Foundations in Management 3 cr**  
This course is part I of three parts of the process of obtaining certification as a Certified Manager, from the Institute of Certified Professional Managers. Prerequisites: None.
- SMGT2002 Management Skills II, Planning & Organizing 3 cr**  
This course is part 2 of three parts of the process of obtaining certification as a Certified Manager, from the Institute of Certified Professional Managers. Gain knowledge planning and organizing, and apply skills related to planning and strategy, operations management, project management, decision making, team management, organizational structure and human resources management. Prerequisites: SMGT 2001.
- SMGT2003 Management Skills III, Leading & Controlling 3 cr**  
This course is part 3 of three parts of the process of obtaining certification as a Certified Manager, from the Institute of Certified Professional Managers. Gain knowledge leading & controlling, and apply skills related to leadership principles, empowerment and delegation, managing change, conflict and culture, operations control, quality management and financial management. Prerequisites: SMGT2002.
- SMGT2015 Accelerate Your Learning Potential 2 cr**  
Effectively apply your learning power to its greatest capacity. Learn a variety of principles, tools and techniques for learning more in less time and deeply retaining it. Learn study tools for note taking, and test taking. Manage your emotions to keep stress low and motivation high. Apply learning styles, multiple intelligences, mind mapping and other tools to help you learn the way to learn best and accomplish your goals. Access how accelerated learning principles can be applied into your work and personal life. Prerequisites: Course required for students enrolled in the SMGT evening program.
- SMGT2020 Negotiation Skills 1 cr**  
Uncover the secrets to "win -- win" negotiations, based on collaborative principles. Learn a system to prepare for and conduct successful negotiations. Assess your negotiating style and develop a personal negotiation strategy. Apply skills in any situation in which issues are resolved through negotiation. Prerequisites: None. Offered: Summer.
- SMGT2030 Motivation in the Workplace 1 cr**  
The motivated employee learns fast, deals courteously and efficiently with customers, is cooperative with other employees, and is committed to helping you achieve the kind of results that you are seeking. Motivation comes from within; however, by following the recommendations of this course, you can unlock, enhance, and direct the motivating forces within the employees who report to you. Prerequisites: None. Offered: Fall.
- SMGT2046 Fundamentals of Management & Diversity 4 cr**  
This course will provide students with the background and theories of supervision and management, and the key skills required to be a successful supervisor, manager and entrepreneur. Learn to effectively manage a ever increasingly diverse workforce. Prerequisites: None.
- SMGT2050 Statistical Process Control I 2 cr**  
Statistical Process Control (SPC) forms the foundation for score keeping and breakthrough improvements in product and service quality. This course is designed to have you become competent in using SPC concepts and integrating them with basic tools needed to identify and eliminate special cause in quality problems. SPC is presented in a workshop format to give you hands-on experience in learning the use of statistical and basic problem-solving tools. You will apply the new learning to work situations. Prerequisites: None.
- SMGT2051 Statistical Process Control II 2 cr**  
Use and apply each of the seven standard tools of quality. Define how much management supports the use of these tools in the workplace. Participants will be able to apply SPC as it relates to their own

environment and support process improvements projects by correctly collecting and recording meaningful data. Prerequisites: None.

- SMGT2070 Organizational Dynamics 1 cr**  
Examine the differing ways in which organizations function based on culture, values, structure, norms, rituals, and relationships. Learn to read cultures and navigate your path through the real communication and decision making channels not seen on the organizational chart. Consider implications for personal and organizational effectiveness. Prerequisites: None.

- SMGT2080 Labor Relations 1 cr**  
Understand the historic and legal context for modern labor relations. Develop a practical understanding of how to manage four major points of contact between management and a bargaining unit: union organizing, collective bargaining, contract administration, and grievance arbitration. Practice skills through case study analysis, the mock negotiation of a realistic collective bargaining contract, and the simulation of a grievance arbitration. Prerequisites: None. Offered: Spring.

- SMGT2090 Managing Problem Performance 1 cr**  
Turn a difficult employee into a productive team member. Identify performance problems and develop tools to deal with performance concerns. Uncover root causes of inadequate performance and help your people achieve improved results. Role-playing exercises will be used to demonstrate techniques for identifying and dealing with problem behavior. Properly addressing performance issues can result in increased productivity and job satisfaction for all involved. Prerequisites: None. Offered: Summer.

- SMGT2105 Managing Diversity 3 cr**  
Identify what it takes to become a diversity leader in your organization and community. Learn the complexities of managing in today's diverse workforce. Explore the evolution of diversity from the past, present and future perspectives. Assess personal, group and organizational viewpoints toward diversity and diversity initiatives. Examine the legal aspects related to discrimination, affirmative action, bias and stereotyping in human resource activities. Implore effective communication methods to build relationships and understanding. Utilize the differences, similarities and tensions of individuals and groups into a collaborative and competitive advantage for your organization. Eliminate barriers affecting equal access and professional growth and mobility. Prerequisites: None.

- SMGT2110 Leading a Multicultural Workforce 3 cr**  
Learn how to adapt global and multicultural contexts into traditional leadership theories. Develop assimilation strategies that do not lose the many advantages that diversity offers. Examine the leadership challenges regarding ethics, social responsibility, accountability and training in a multicultural environment. Choose appropriate leadership styles to build teamwork and collaboration. Raise the awareness of the workforce at all levels to leverage the value of diversity. Prerequisites: None.

- SMGT2115 Multicultural Mentorship I 2 cr**  
This course explains what multicultural mentoring is and how it can be used as an effective tool to develop individuals, foster teamwork, multicultural understanding and organizational effectiveness and productivity. This course places the student in the role of mentee and mentor. As a mentee, the student will learn how to develop and acquire new skills and abilities through a multicultural mentorship partnership. A mentor/mentee agreement will develop a path to growth opportunities. This course is a prerequisite for SMGT2116, Multicultural Mentorship II. Prerequisites: None.

- SMGT2116 Multicultural Mentorship II 1 cr**  
This course builds on what multicultural mentoring is and how it can be used as an effective tool to develop individuals, foster teamwork, multicultural understanding and organizational effectiveness and productivity. This course places the student in the role of mentee and



mentor. As a mentor, you will utilize skills learned to help their mentee succeed. A mentor/mentee agreement will develop a path to growth opportunities. Prerequisites: None.

**SMGT2120 Multicultural Conflict Resolution 2 cr**

This course focuses on building multicultural conflict resolution skills needed to improve the workplace relationships by understanding the concept of cultural clashes, practicing conflict management prevention, mastering negotiating skills across cultures, building multicultural communication skills, developing mediation techniques, understanding the conflict management continuum resolving multicultural conflict, and comprehending the Alternative Dispute Resolution progression. Prerequisites: None.

**SMGT2125 International Business 3 cr**

Understand the growing influence of globalization on all areas of business. Assess the global business environment which includes trade, outsourcing, off shoring, legal, technological, political and social and ethical perspectives. Learn the affects of cultural contexts in negotiation and management. Explore strategies for international and global business. Prerequisites: None.

**SMGT2130 Creativity and Problem Solving 3 cr**

This course will explore the need for and use of creativity and innovation in today's global and multi-cultural business environment. Assess your level of imagination by discovering your creative mind and how you can best put it to work in organizational or personal situations. Learn techniques to solve problems creatively involving teams and anticipating potential areas of conflict. Challenge conventional thinking by learning techniques to improve creativity, group participation and gaining approval and support decisions for successful implementation. Students will study findings of current problem-solving research and apply them to ethical and international problems. Prerequisites: None.

**SMGT2150 Appreciating Differences in the Workplace 1 cr**

Learn about yourself and your preferences through instruments such as the DISC Personal Profile or Meyers-Briggs Type Indicator. Consider how your personal style interacts with the styles of others on the job and in everyday life. Analyze the fit between your style and your job and its implications on career goals. Build an objective frame of reference for addressing emotional and interpersonal issues within relationships at home and on the job. Prerequisites: None. Offered: Varies.

**SMGT2415 Advanced Sales Strategies 3 cr**

This course focuses on factors influencing customer relationship strategies. Key topics include self-image, nonverbal communications and ethics as foundations for relationships in selling. The student will examine the important role of complete and accurate product, company and competitive knowledge in personal selling as they develop product strategy. Developing a customer strategy includes social influences, perception, emotional and rational buying behavior. Opportunities will be provided for students to plan, deliver, and critique actual sales presentations. The student will learn the steps of a sales demonstration and negotiating buyer resistance. Prerequisites: None.

**SMGT2755 Operational Workplace Safety 2 cr**

This course is designed to meet and exceed the Minnesota State Statutory requirements for the twelve (12) hours pre-assignment training for Protective Agents mandated by the Minnesota Statute 326.3361, Subdivision 1 to 4, and Administrative Rules 7506.0100 to 7506.2900. A must course for persons interested in obtaining a career in the private security industry or individuals who want to raise their security awareness in today's environment. Prerequisites: None. Offered: Varies.

**SMGT2950 Prior Experiential Learning Portfolio Development 1 cr**

This course will guide students through the creation of an individual degree plan for the Supervisory Management AAS degree program or

other participating programs at the college. Students will assess their previous education, prior learning from work and life experiences and develop a portfolio of prior learning which will be submitted for review. Any credit(s) awarded will be in compliance with the standards, principles, and procedures as published by the Council for adult and Experiential Learning. Prerequisites: Program advisor approval. Offered: Varies.

## TOURISM AND TRAVEL

**TRVL1305 Travel Information Systems 3 cr**

Travel industry information systems, called Global Distribution Systems (GDS), are a tool essential to processing and documenting travel arrangements. Learn about the available services and systems used to process inquiries and reservations as well as manage client data and documents to ensure success. A variety of travel industry resources and references will be covered in addition to the Global Distribution Systems. "Long-tail" services, such as restaurant, theater, and limousine reservations will also be covered. You will have hands-on, practical experience with a Global Distribution System, such as WorldSpan GO! ResSM, in this course. In addition, you will have access to a GDS, such as Worldspan, from your home via the Internet. Prerequisites: None.

**TRVL1310 Global Tourism 3 cr**

This course blends geography and culture to make tourism come alive. Discover tourism destinations throughout the world, their location, culture, climate, religions, traditions, and other pertinent travel facts that will help you be a knowledgeable and seasoned tourism professional. This course will provide you with the geographic knowledge and Internet research skills required of today's tourism professional. Prerequisites: None.

**TRVL1315 Tourism and Travel Resources 3 cr**

From literature to software and the Internet, students will learn about the many resources that enhance travel and tourism revenue and efficiency. Topics covered include using an airline consolidator for international air travel, international travel documents, tours, cruises, group travel, rail travel and destination Web Sites. A Global Distribution System (GDS), such as Worldspan GO! Res, will be used as a resource and will also be available to students from home via the Internet. Curriculum includes front and back-office resources, such as ClientBase Plus and TRAMS. Extensive, hands-on practical experience is an integral part of this course. Prerequisites: None.

## VISUAL COMMUNICATIONS

**VCOM1001 Intro Visual Communications 2 cr**

This is an introductory course that prepares all students for entry into the Visual Communications field. General overviews will be given of the visual arts, photography and graphic design fields. Students will learn basic computer operation, how to use the local network, and learn general operational methods used in the Visual Communications Department. Additionally, students will learn to prepare, mount and display artwork. All these skills are a prerequisite for other courses in the Vis Com Department. Prerequisites: None. Offered: Fall, Spring.

**VCOM1006 Color Theory and Applications 2 cr**

This course will take the basics of art fundamentals and apply them to the development of promotional graphic design projects. The study of psychological responses to color will be emphasized when used to design various graphics. the student will be able to apply these design fundamentals to all aspects of the creative arts field. Prerequisites: None.

**VCOM1010 Intro Photoshop 2 cr**  
This is an introduction of the basic tools used for image manipulation in Adobe PhotoShop. Image modification and compositing, use of the scanner, and mastery of PhotoShop tools are stressed. Image adjustment and enhancement and layer masks are also taught. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**VCOM1015 Layout I 2 cr**  
This course covers development of page layout and basic graphic design processes. It provides an overview of the graphic design profession and a historical framework for modern graphic design/page layout practices. The student will overcome visual design problems by employing design elements and principles used as the foundation of any design work. It includes the "how to's" of creating effective page layout for print and screen. Practical applications of typography and use of visual concepts will be explored. This course will utilize hand layout tools exclusively. Prerequisites: None.

**VCOM1021 Intro Photography 3 cr**  
In this course the student will learn how to use all the manual 35mm camera controls to create good black and white photographs. We will practice using the motion and depth-of-field controls in different kinds of outdoor and natural lighting conditions. The student will combine the knowledge of different films and exposure techniques with the study of artistic composition to produce-pleasing images. Discussion of basic accessories and special techniques will round out the camera knowledge. Prerequisites: None.

**VCOM1025 Law and Ethics for Visual Communications 1 cr**  
In a world of digital information, new opportunities and markets are opening daily. Now, more than ever, visual communicators must understand the need to understand their legal and ethical responsibilities, both as business people and artists. This course will explore the rights and responsibilities of individuals involved in collecting, producing, and selling images. Prerequisites: None.

**VCOM1030 Visual Design Fundamentals 3 cr**  
This course will take the principles of design along with art fundamentals and apply them to the development of graphic design projects. Students will be introduced to basic drawing techniques to illustrate their ideas. The elements of design and color will be studied. Presentation skills and professional attitude will be practiced. Specific emphasis will be made in developing creativity and overcoming creative blocks. The student will be able to apply these design fundamentals to all aspects of the visual communications field. Prerequisites: None. Offered: Fall, Spring \*\*Articulated\*\*.

**VCOM1032 Interactive Design Fundamentals 2 cr**  
This course will explore the fundamentals of design, development and delivery of computer-based multimedia. Students will be introduced to basic HTML, image preparation and web page tools/software. The elements and principles of design along with general presentation skills and professionalism will be practiced. Special emphasis will be placed on uses of multimedia in the visual communications industry and the structure of the Internet. Students will be able to create a simple website with HTML and upload it to a server at the end of the course. Prerequisites: VCOM1040, Basic Drawing.

**VCOM1040 Basic Drawing 3 cr**  
This course is designed to provide the artistic student the basics of drawing. General methods, mediums and styles will be explored. The elements and principles of art and design will be applied to various drawing projects. Uses of drawing in design are included in the focus. Students will study presentation and preservation of original artwork. Prerequisites: None. Offered: Varies. \*\*Articulated\*\*

**VCOM1051 Scale and Perspective Drawing 2 cr**  
This beginning drawing course covers drawing techniques for drawing linear perspective in a rapid manner. Drawing without tools is emphasized although tool use is explained and demonstrated by

the student for both sketchbook drawing and drafting board drawing. One, two and three point drawing is explained as well as drawing style and use of color. Prerequisites: None. Offered: Fall, Spring.

**VCOM1060 Creative Problem Solving 3 cr**  
In this course various methods of solving creative problems will be explored through design projects. The elements and principles of design will be utilized applying methods of creative problem solving. Prerequisites: None. Offered: Varies.

**VCOM1080 Photo Styling 2 cr**  
Photo styling involves the art of composing, arranging, and preparing a photographic set for the photographer. Many fundamentals of Photo Styling concepts come by way of historical movements in art history. Successful photo stylists also rely upon and refer to artistic conventions such as scale and perspective, color theory, composition, proportion, and form. Additionally, stylists will have a working knowledge of photography, lighting, and post-production methods. In this course students will learn about the role of photographers, stylists, and art directors. Students will apply art theory and technical concepts to practical styling projects such as food photography, "table-top" product photography, and interior architectural photography. Prerequisites: None. Offered: Varies.

**VCOM1095 Illustration Fundamentals 3 cr**  
This course covers the basic concepts in illustration techniques. Projects will be assigned to develop illustration skills and uses of various media. The history of illustration and general design styles will be examined. Visual concept development and communication through illustration will be explored through research and application. Prerequisites: VCOM1040.

**VCOM1310 Printing Lab I 2 cr**  
This course serves as the first half of the VCOM 1540 - Intro Custom Printing. The emphasis will be on the operation of the black & white enlarger and covers the use of polycontrast filters and other print enhancement techniques to produce high quality enlargements. Various projects will help the student develop a keen eye for density and contrast judgments. The second half and sequential course to this one is VCOM 1320-Printing Lab II which continues into color enlarging. Prerequisites: None. Offered: Varies.

**VCOM1320 Printing Lab II 2 cr**  
This photography course serves as the second half of the Introduction to Custom Printing (VCOM 1310) and picks up where Printing Lab I leaves off. After reviewing and practicing the necessary skills, techniques and equipment needed to produce good b/w enlargements a thorough discussion of color theory will be covered. Projects in color correction and judgments will constitute the main areas of study in this course. Prerequisites: VCOM1310. Offered: Varies.

**VCOM1330 Color Printing Lab I 2 cr**  
This photography course serves as the equivalent to the first half of VCOM 1560- Custom Color Printing. The student will be introduced to custom color enlarging techniques on different color papers to become more proficient at color and print quality judgment. Techniques on dodging, burning and vignetting will be covered as well as other techniques. Prerequisites: VCOM1310 or VCOM1541 and VCOM1320. Offered: Varies.

**VCOM1340 Color Printing Lab II 2 cr**  
This photography course serves as the equivalent to the second half of VCOM 1560- Custom Color Printing. A custom printing technician needs to be able to produce large, professional quality color enlargements ready for selling and displaying. This course prepares the student for such a task by covering large format custom enlarging techniques on different color papers as large as 30 x 40 inches. Techniques on enhancing, mounting, matting, texturizing and displaying large prints will be covered. Prerequisites: VCOM1330 and VCOM1541. Varies.

**VCOM1370 North Shore Photography Workshop 1 cr**

This course is a 3-day field trip to the North Shore of Minnesota. Here we explore the tips and techniques of effective nature photography. We spend part of the time in informative lectures and slide shows held on site with the rest of the time spent in the field under the guidance of the instructor. Topics such as advanced composition, creative use of filters, lens and viewing angles, difficult metering situations and effective equipment operation are covered throughout the workshop. Students will come away with a new appreciation and understanding of nature photography as well as some great images of one of Minnesota's most beautiful areas. "Repeatable for up to three credits". Prerequisites: VCOM1020 or equivalent. Offered: Varies.

**VCOM1380 Basic Photography 1 cr**

Using the 35mm camera and most of its controls will be the basis for this online photography course. The student will learn how to create good exposures through the use of f-stop and shutter speed controls in natural lighting conditions. In this course we will concentrate on using the depth-of-field controls in emphasizing creative image control. The student will combine the knowledge of different films and exposure techniques with the study of basic artistic composition to produce pleasing images. Prerequisites: None. Offered: Varies.

**VCOM1400 Intro QuarkXPress 2 cr**

Students will become familiar with QuarkXPress an electronic layout program. Emphasis will be placed on software operation. Use of text, graphics, tabs, style sheets, and master pages will be incorporated into projects. Prerequisites: VCOM1000 recommended. Offered: Varies \*\*Articulated\*\*.

**VCOM1410 Intro Illustrator 2 cr**

This course is a comprehensive look into the drawing tools of Adobe Illustrator, a computer illustration application. Students will develop skills using the basic drawing tools. Use of the transformation tools, templates, layering, spot and process color and file output will be emphasized. Prerequisites: VCOM1000 recommended. Offered: Fall, Spring \*\*Articulated\*\*.

**VCOM1415 Typography Fundamentals 2 cr**

Students will learn the basics of typography. Measurement, type fitting, design with type and an appreciation of type in the design process will be stressed. Prerequisites: None. Offered: Varies.

**VCOM1422 Print Process I 2 cr**

Students are introduced to the history of print and explore a variety of print processes (flexo, letterpress, lithography, digital, etc.) A general overview of print process will include: basic paper characteristics and selection, imposition and folding, color keys, and job work flow. Prerequisites: None.

**VCOM1430 Intro InDesign 2 cr**

Students will become familiar with Adobe InDesign as an electronic publishing program. Emphasis will be placed on software operation. Use of text, graphics, tabs, style sheets, and master pages will be incorporated into projects. Prerequisites: VCOM1000 recommended. Offered: Varies.

**VCOM1435 Proofreading Fundamentals 1 cr**

Students will learn basic proofreading techniques. Proofing marks will be learned and used to mark text. Proofing techniques will be used to identify proofing errors. Prerequisites: None. Offered: Varies.

**VCOM1440 Vinyl Signage 1 cr**

Students will become familiar with the vinyl sign maker using FlexiSignPro software. Basic signage will be discussed. Projects will include single and multi-color vinyl. Transfer, weeding and registration will be covered. Prerequisites: None. VCOM1410 recommended.

**VCOM1515 Photo Lighting Techniques 2 cr**

The essence of good photography is the ability to recognize and expose for different lighting conditions. This course covers the use of all types of light meters under all different lighting conditions from indoor flash to outdoor and difficult light. This will be a study of the properties of light ranging from color temperature to direction and quality of both natural and artificial lights. Other related areas include how different film, filters, and lenses react to these lighting conditions. Prerequisites: VCOM1020 required (may be taken concurrently). Offered: Varies.

**VCOM1520 Basic Processing & Monitoring 3 cr**

In this course the student will be introduced to the fundamentals of black/white and color film and paper processing. With the emphasis on quality, we will cover how processing, both by manual sinklines and by automatic machines, affects the quality and consequently the salability of the final print. Four different b/w processes and three color developers will be covered. The plotting and monitoring of all these processes will be the heart of this course. Prerequisites: None. Offered: Varies.

**VCOM1525 Basic Darkroom Techniques 4 cr**

In this course the student will be introduced to the fundamentals of black/white film and paper printing and processing. With the emphasis on quality, we will cover how film processing, by both manual sinklines and automatic machines, will affect the overall quality and salability of the finished b/w print. The science behind the proper developing and use of photo materials will be discussed, touching on EPA and OSHA concerns, creative use of different papers and enhancement techniques to explore niche markets, and techniques will be explored to complete the skills needed to be a successful and creative darkroom artist. Prerequisites: None.

**VCOM1530 Copy and Restoration 1 cr**

Old photo restoration, retouching, toning and reproduction are the main emphasis of this course. The student will experience the gratification of copying old black/white and color photographs by using copy camera and retouching techniques to repair minor aging and damage. Hand coloring and defect correction through the use of oils and pencils will be covered. Prerequisites: VCOM1020 required. Offered: Varies.

**VCOM1541 Introduction to Custom Printing 3 cr**

Beginning with the basic operation of black and white enlarger, this course will cover all the skills necessary to create prize-winning enlargements. Projects include variable contrast printing, print enhancement techniques, different papers and textures, and various negative to print size formats. An introduction to color printing will include a thorough discussion of color theory and then the practical application of color adjustment in the making of contact sheets and high quality enlargements. Prerequisites: None. Offered: Varies.

**VCOM1550 Machine Printing Systems 3 cr**

This course covers the aspects of using semi-automatic machines for printing high quality proofs and enlargements. The emphasis will be on the techniques and concepts of equipment operation, set-up, and color balancing. Projects will include the handling of difficult negatives, color copy negatives, package printing and color correction techniques on at least four different types of printers. A good understanding of color theory and the ability to recognize and correct color problems will be at the heart of all the projects and discussions. Prerequisites: VCOM1520, VCOM1540. Offered: Varies.

**VCOM1561 Custom Color Printing 3 cr**

The ultimate test of a custom printing technician is producing large, professional quality color enlargements ready for selling and displaying. This course prepares the student for such a task by covering large format custom enlarging techniques on different color papers as large as 30x40 inches. Techniques on enhancing, mounting, matting, texturizing and displaying large prints will be covered. Prerequisites: VCOM1310 or VCOM1541 and VCOM1320. Offered: Varies.

**VCOM1565 Color Printing Systems****4 cr**

This course builds on the printing skills from the Basic Darkroom Techniques course by providing the theory and practice of traditional color printing by both automatic and custom printing equipment. At the heart of this course is a thorough understanding of color theory, color application, color recognition and color adjustments and management as it relates to the production of high-quality color photographs in all facets of the industry. The student will use numerous custom and semi-automatic color printing devices to produce color photographs ranging from wallets to 3-foot enlargements. The ultimate test of skills in this area is for a photographer or photo technician to be able to recognize and create a high-quality photograph in order to stay competitive in the industry. Prerequisites: VCOM1525.

**VCOM1570 Portrait Photography****2 cr**

This course covers the use of studio lighting and cameras to produce professional looking portraits. Emphasis will be on the use of medium (120) format camera and film to capture images of people. A critical skill in this area is the ability to use the correct lighting to enhance the character and features of the customer. Projects will also include the use of gray cards, light meters, and posing techniques. Prerequisites: VCOM1020, VCOM1515. Offered: Varies.

**VCOM1580 Intro Digital Imaging****2 cr**

This course introduces the student to the technology needed to capture a digital image, manipulate it and then output the image back to a hardcopy. As the technology changes we will incorporate it into this course. Discussions of concepts, philosophy and industry impact of this technology will be held in each class session to help the student to understand how this technology will impact the student's careers and the industry as a whole. Projects will include the operation and discussion of digital cameras, photo CDs, flatbed and slide scanners, Macintosh computers, b/w and color printers and film recorders. At least three different imaging softwares will be used and evaluated during the course. Prerequisites: VCOM1000. Offered: Varies \*\*Articulated\*\*.

**VCOM1710 Reporting****2 cr**

Reporting is a course on the basics of writing and reporting for newspapers and magazines. Students will learn how to gather and organize the elements of a story using the inverted pyramid and Associated Press style. Grammar, caption writing, editing, layout, law and ethics will also be covered. Prerequisites: None. Offered: Varies.

**VCOM1720 Photojournalism****2 cr**

Photojournalism involves telling stories to a mass audience with the use of images. In this course students will be introduced to studio and location photography skills and related skills such as previsualization, use of traditional and digital cameras, cutline writing, layout, visual storytelling, Associated Press style, and business skills. Prerequisites: None. Offered: Varies.

**VCOM1730 Advanced Photo Lighting Techniques****2 cr**

This course builds on the skills learned in Photo Lighting Techniques to increase the student's knowledge of on-location lighting techniques, advanced studio lighting, and use of multiple lighting sources. Students will use a hands-on approach to apply ambient and artificial lighting techniques to real-life situations in portraiture; still-life subjects; and architectural subjects will be covered. Portrait and still-life lighting techniques will cover lighting as it relates to composition with an emphasis in using lighting to bring emotion and a flattering rendition of the photographic image. Prerequisites: VCOM1020, VCOM1515 or instructor approval.

**VCOM1740 Macro Photography****2 cr**

Macro or close-up photography can be a difficult skill to master, even though it is used in many different areas of the photographic industry. Nature photography, medical and forensic photography, the copy and restoration industry, industrial and commercial photography are just some of the career clusters that benefit from good macro

photography skills. Real-life projects in this course will include the use of special macro lenses, ring flashes, and special lighting techniques to capture high-quality close-up images. Prerequisites: VCOM1020, VCOM1515, or instructor approval.

**VCOM2035 Layout II****3 cr**

This course covers development of advanced page layout skills. It includes creating effective marketing pieces through the practical application of typography and composition. The use of visual concepts will be explored. Development and completion of a variety of assignments will place emphasis on visual communication methods including the use of hand tools and the computer as page layout implements. Prerequisites: VCOM1015.

**VCOM2085 Drawing for Illustration****2 cr**

In this course the students will study and apply methods in commercial illustration. Advanced drawing skills and techniques for illustration will be developed and various media uses will be explored. Students work to develop individual styles through advanced assignments. Prerequisites: VCOM1095.

**VCOM2095 Painting for Illustration****2 cr**

In this course the students will study and apply advanced methods in commercial illustration. Painting skills and techniques for illustration will be developed and various media uses will be explored. Students work to develop individual styles through advanced assignments. Prerequisites: VCOM1095.

**VCOM2400 Advanced Photoshop****3 cr**

This course builds on the tools and techniques learned in VCOM 1010 (Intro PhotoShop). The student will use and become more proficient with all the tools used to modify photographs. Some of the special effects power of these software will be introduced during this class. Emphasis will be placed on using this software to produce commercially acceptable photographs and advertisements, as well as hard copy outputs. Prerequisites: VCOM1010. Offered: Fall, Spring.

**VCOM2415 Advanced Electronic Publishing****3 cr**

Students will create advanced electronic publishing projects using either PageMaker or QuarkXPress. Emphasis will be on advanced publishing techniques, use of color, color separations, and design of portfolio quality projects. Prerequisites: VCOM1400 or VCOM1430. Offered: Fall, Spring.

**VCOM2420 Advanced Computer Illustration****3 cr**

This course is a project driven course. Students will use Intro Illustrator to create a variety of portfolio quality drawings. Prerequisites: VCOM1410. Offered: Fall, Spring.

**VCOM2422 Print Processes II****3 cr**

Print Process II is a continuation of Print Process I (VCOM1422). Students will develop an understanding of the print process including: negative stripping and proofing, color keys, job preflight, an overview of bindery and finishing operations (binding, folding, die cutting, foil stamping, etc.) and PDF workflow. Prerequisites: VCOM1422.

**VCOM2423 Print Management****2 cr**

Students learn the customer service and sales side of the print industry. Topics include: job costing, estimating, customer service, print buying, print distribution (including postal regulations). Prerequisites: VCOM1422.

**VCOM2510 Commercial Photography****2 cr**

In this course the student will learn how to use all the features of a large format, 4x5 view camera to produce commercial style images. By using special image distortion correction and depth of field controls, the student will setup and shoot many different types of images, such as still life, product, advertisement, and others. The use of studio lighting will be discussed and used during these projects as well as the use of natural lighting when photographing outdoor commercial projects. Prerequisites: VCOM1020, VCOM1515, VCOM1570.

**VCOM2520 Digital Photography 2 cr**

In this course the student will apply the fundamentals of photography, lighting, and digital imaging in order to produce professional quality digital photographs. Students will apply the principals of digital photographic "workflow" to projects which will include studio portraits, still life, and outdoor architectural projects. Students will apply techniques of working with layouts, file management, and color management to produce images both for print and web production. Prerequisites: VCOM 1010, VCOM 1020 VCOM1515, and VCOM 1580.

**VCOM2530 Advanced Photojournalism 2 cr**

Photography has been used in print publication for decades and will continue to be an integral part of print communication. In this course students will be introduced to advanced photojournalistic techniques and concepts linked with studio and location photography skills, editing skills, and related concepts dealing with pre-visualization, use of traditional and digital 35mm cameras, cut-line writing, layout, visual storytelling, copyright, libel, privacy, Associated Press Style, and business skills. Prerequisites: VCOM1020, VCOM1720 or instructor approval.

**VCOM2540 The Business of Photography 2 cr**

Professional photographers who use the craft to pay their bills will tell you that the vast majority of their duties do not revolve around photography itself, but the many and varied activities that support the business of photography. This course, therefore, does not teach students photography per se. This course will teach students about the skills, tools, and resources necessary to succeed in business. Prerequisites: None.

**VCOM2551 Digital Studio Workflow 1 2 cr**

Digital photography is rapidly becoming the media of choice. Photographers are faced with a variety of image management issues as they explore new techniques and photographic opportunities. Students in this course will use a full digital studio to capture, manipulate, output and manage images via a standardized digital workflow process. In this course an emphasis is placed on color management. Students will explore both the technical issues involved in using digital equipment, and investigate the creative options available to the professional digital photographer. Prerequisites: VCOM1010, or instructor approval.

**VCOM2552 Digital Studio Workflow 2 2 cr**

This course enhances the skills and knowledge from VCOM2551 and takes workflow beyond capture, image management and output stages into the correction of difficult images and unusual situations. Advanced skills in Adobe Photoshop will be covered as the photographer learns how to solve technical issues and create unique products to help them succeed in the competitive workplace. Prerequisites: VCOM1006, VCOM1010, VCOM1021, VCOM1580, VCOM2520, VCOM2551.

**VCOM2555 Alternative Light Sources 2 cr**

This technical and creative course will allow students to explore the use of alternative light sources used in scientific, artistic, and commercial photography. Background about color theory and spectral analysis will give a foundation for understanding the range of possibilities open to the photographer. Projects and assignments will range from color balance and color temperature to use of infrared and ultra violet light sources. Discussion will include the use of lasers, spectral microscopy, and infrared sensors used in photographic equipment today. Prerequisites: VCOM1020, VCOM1515 or instructor approval.

**VCOM2565 Crime Scene/Forensic Photography 2 cr**

This course will teach student to apply the basics of 35mm camera operation to the process and procedures of various crime scene and forensic photography investigations including, but not limited to: arson cases, auto accidents and auto-related death, break-ins, domestic abuse, personal injuries, homicides. Prerequisites: VCOM1020, VCOM1515.

**VCOM2575 Medical Photography 2 cr**

Medical Photography focuses on traditional and digital photographic methods to accomplish a range of services for Medical Schools, Health Science departments, hospitals, clinics, and government agencies. Medical photographers are specifically trained to provide high quality medical products and services. This course will teach the student to apply photographic and lighting techniques to the needs of the health care profession. Prerequisites: VCOM1020, VCOM1515 or instructor approval.

**VCOM2581 Photo Portfolio 2 cr**

This hands-on course will guide the student through the creation of a photography-based portfolio. Concepts in assemble techniques, display options and presentation methods will be at the heart of this course. Upon completion the student will have an industry-ready photographic portfolio in preparation for career exploration. Prerequisites: Should be taken during the last semester prior to graduation and concurrently with VCOM2000. Offered: Varies.

**VCOM2582 Portfolio Development (Photographic Entrepreneur) 2 cr**

This class will concentrate on preparing the student to enter the photography job market. Students will be required to create a finished professional portfolio demonstrating their photographic skills. The portfolio will include examples of film and digital photography. Images for inclusion in the portfolio will be created using a variety of photographic formats, and techniques, and will emphasize the marketing and business plan developed for a start-up business. As a part of this course, students are required to participate in a formal portfolio showing near the end of their final semester of school. Prerequisites: ENTR1000, ENTR1150, ENTR1430, ENTR1900, VCOM1010, VCOM1020, VCOM1515, VCOM1570, VCOM1580, VCOM2510, VCOM2000 - must be taken concurrently or instructor approval.

**VCOM2584 Portfolio Development (Art Communications) 2 cr**

This course will concentrate on preparing the student to enter the photography job market. Students will be required to create a finished professional portfolio demonstrating their photographic skills. The portfolio will include examples of film and digital photography. Images for inclusion in the portfolio will be created using a variety of photographic formats, and techniques, but will emphasize photojournalism, and artistically styled images. As a part of this course, students are required to participate in a formal portfolio showing near the end of their final semester of school. Prerequisites: VCOM1010, VCOM1020, VCOM1030, VCOM1080, VCOM1400 or VCOM1440, VCOM1515, VCOM1570, VCOM1580, VCOM1720, VCOM2510, VCOM2000 - must be taken concurrently or instructor approval.

**VCOM2586 Portfolio Development (Scientific Imaging) 2 cr**

This course will concentrate on preparing the student to enter the photography job market. Students will be required to create a finished professional portfolio demonstrating their photographic skills. The portfolio will include examples of film and digital photography. Images for inclusion in the portfolio will be created using a variety of photographic formats, and techniques, but will emphasize scientific imaging. As a part of this course, students are required to participate in a formal portfolio showing near the end of their final semester of school. Prerequisites: VCOM1010, VCOM1020, VCOM1515, VCOM1570, VCOM1580, VCOM1730, VCOM1740, VCOM2565, and VCOM2575. VCOM2000 - must be taken concurrently or instructor approval.

**VCOM2605 Audio/Video for Presentations 3 cr**

This course introduces the student to the planning, designing and production of photo/video based presentations and audio. Students will learn how to develop timelines, narrative scripts and story boards. Students will become familiar with techniques of audio, video and still images creation, compression and formatting appropriate for use in interactive multimedia and linear presentation. Delivery and packaging of a variety of digital media will also be covered. Prerequisites: None.

**VCOM2650 Multimedia Project Management 2 cr**

This course is designed to introduce the student to the methods of design and construction of a multimedia production. Students will learn project management, client contact and presentation techniques. Students will learn to integrate information from a variety of resources into a multimedia production design. Teamwork and group participation in project development will be stressed. Prerequisites: VCOM1000 recommended. Offered: Varies.

**VCOM2655 Intro Director 3 cr**

This is an introductory course in the use of 3D modeling and animation software. Basic modeling techniques, use of animation software, basic animation and understanding the 3D process will be stressed. Students will create models that will be animated. Emphasis will be placed on movement, application of textures, lighting, camera movement, and project continuity. Projects will be exported in video format for use in multimedia and web page projects. Prerequisites: VCOM1000, VCOM1010 required, VCOM1410 recommended. Offered: Fall, Spring.

**VCOM2660 3D Modeling and Animation 3 cr**

This course is designed to give the skills needed to make basic computer generated 3D models and animations for use in multimedia and web projects. Software will be used to create, animate and render 3-D models. Textures, color and lighting will be applied to wire frame models. Emphasis is placed on tool and menu use to create models and animations. Prerequisites: VCOM1000, VCOM1010 required, VCOM1410 recommended. Offered: Varies.

**VCOM2670 Introduction to Authorware 2 cr**

This course is designed to give the student introductory experiences in Authorware Professional, Macromedia's computer based training software. Students will concentrate on basic tool and menu operation, flow charting, storyboard development, and basic multimedia construction. Prerequisites: VCOM1000, VCOM1010 required, VCOM1410 recommended. Offered: Varies.

**VCOM2680 Introduction to Flash 2 cr**

Students will use Macromedia object based 2D animation program to create animated segments for use in web pages. Timing, storyboarding, design and software tools will be emphasized. Prerequisites: VCOM1010, VCOM1410 recommended. Offered: Varies \*\*Articulated\*\*.

**VCOM2685 Web Page Construction I 2 cr**

This class will familiarize students with the concepts of web page design and construction. Emphasis will be on good design for both graphic elements and logical web page information flow. Prerequisites: VCOM1010 recommended and VCOM1410 required or instructor approval. Offered: Varies \*\*Articulated\*\*.

**VCOM2690 Web Page Construction II 3 cr**

In this class students will become familiar with advanced web page design techniques. The emphasis will be on good design of both graphic elements and logical web page information flow. This advanced course will introduce students to a variety of web page construction software packages and tools. Additionally issues dealing with file transmission (audio, video, multimedia interaction) will be discussed. Prerequisites: VCOM2685.

**VCOM2694 Advanced Multimedia Production 2 cr**

This course is project intensive. Students will use skills learned in Intro Director and/or Intro Authorware to create portfolio quality multimedia production. Emphasis will be placed on use of scripting language, logical information flow, story boarding, and quality graphic design. Prerequisites: VCOM1001, VCOM1010, VCOM1410, VCOM2655. Offered: Varies.

**VCOM2700 Advanced Flash Animation 3 cr**

This course is designed to give students additional instruction and experience in Macromedia's Flash Animation software. This is a

project driven course and students will work on a variety of presentations for delivery on the web. Emphasis will be placed on design and the use of scripting language to control Flash animations. Prerequisites: VCOM2680. Offered: Varies.

**VCOM2721 Portfolio for Graphic Design 2 cr**

This class will concentrate on preparing the student to enter the multimedia, print industry and illustration job market. Students will be required to create a finished graphics portfolio in the area of their degree. Students will use skills learned in other software applications to refine and develop projects for use in their portfolio. Projects will be created using multimedia and web authoring programs. Projects for inclusion in the portfolio will be created in pixel based, object based, layout, web authoring and multimedia programs. Prerequisites: This course must be taken in conjunction with VCOM2730.

**VCOM2722 Portfolio for Multimedia and Web Development 2 cr**

This class will concentrate on preparing the student to enter the multimedia, print industry and illustration job market. Students will be required to create a finished graphics portfolio in the area of their degree. Students will use skills learned in other software applications to refine and develop projects for use in their portfolio. Projects will be created using multimedia and web authoring programs. Projects for inclusion in the portfolio will be created in pixel based, object based, layout, web authoring and multimedia programs. Prerequisites: This course must be taken in conjunction with VCOM2730.

**VCOM2724 Portfolio for Applied Visual Arts 2 cr**

This class will concentrate on preparing the student to enter the applied arts fields which may include multimedia, print industry and illustration job market. Students will use skills learned in art mediums and software applications to refine and develop projects for use in their portfolio. Projects for inclusion in the portfolio will include art mediums as well as in pixel based, object based, and layout applications. Prerequisites: This course must be taken in conjunction with VCOM2730.

**VCOM2730 Career Research Skills 1 cr**

This course will take the principles of design along with art fundamentals and apply them to the development of graphic design projects. Students will be introduced to basic drawing techniques to illustrate their ideas. The elements of design and color will be studied. Presentation skills and professional attitude will be practiced. Specific emphasis will be made in developing creativity and overcoming creative blocks. The student will be able to apply these design fundamentals to all aspects of the visual communications field. Prerequisites: None.

**VCOM2800 Advanced 3D Modeling and Animation 4 cr**

This is an advanced course in 3D modeling and animation. Students will create animations for use on the web and in multimedia productions. Emphasis will be placed on modeling and animating objects and test. Students will create animations from storyboards and will animate to prepared audio tracks. This course will focus on creating portfolio quality animations. Prerequisites: VCOM1000, VCOM1010, VCOM1410, VCOM2660. Offered: Varies.

**VCOM2810 3D Modeling and Animation Capstone 5 cr**

Students will work on complex animation projects for multimedia and web display. Students will be expected to produce industrial quality animations using advanced modeling and animation techniques. Prerequisites: VCOM1000, VCOM1010, VCOM1410, VCOM2660, VCOM2800 required (with instructor approval may be taken concurrently with VCOM2800). Offered: Varies.

**VCOM2820 Advanced Typography 2 cr**

Advanced Typography is a continuation of VCOM1415 Typography Fundamentals. Students will develop a greater understanding of type as a key element of design. The course will concentrate on designing with type, understanding the relationship between type families and type styles, selecting type for emotional impact, and using color and

texture in type. Additional topics will include type and copyright requirements, computer type faces and type on the web. Prerequisites: VCOM1415. Offered: Varies.

## WELDING TECHNOLOGY

### **WELD1010 Oxy Fuel and Stick Welding 2 cr**

This course covers the introduction to metals, shop safety, along with technique and theory of welding, brazing, cutting and heating. This course is also the basis for all electric welding processes and is strongly recommended before taking any electric welding process. Prerequisites: None.

### **WELD1012 Mig and Tig Welding 2 cr**

This course covers welding techniques on carbon steel, aluminum, and stainless steel. Students will perform welding tasks on carbon steel, stainless steel and aluminum. Prerequisites: None.

### **WELD1100 Welding Safety and Theory 2 cr**

This course covers the technical process of the welding trade. Included in the course studies are oxy-fuel welding and cutting processes, shielded metal arc welding, machine components, electrode classifications, polarities and functions. Also included will be safety regulations, habits and requirements of the welding trade. Prerequisites: None. Offered: Fall.

### **WELD1102 Shielded Metal Arc Welding I 4 cr**

This course covers basic Shielded Metal Arc Welding (stick) using various electrodes and currents (polarities) in the flat position. Also emphasized are shop safety and shop ethics. Prerequisites: WELD1100 must be taken while taking WELD1102 or by permission of instructor. Offered: Fall \*\*Articulated\*\*.

### **WELD1104 Semi Automatic Arc Welding I 3 cr**

This course will teach the student to wire feed carbon steel in all positions, using dual-shield FC (flux cored) wire with CO<sub>2</sub> shielding gases and self-shielded FC wire and submerged arc welding. Prerequisites: WELD1100. Offered: Fall.

### **WELD1106 Gas Tungsten Arc Welding I 3 cr**

This course is designed for hands on skills training using the Gas Tungsten Arc Welding (tig) process on a variety of metals including mild steel, stainless steel, and aluminum. Also included in the course are machine set-up, safety, and the oxy-fuel welding and cutting processes. Prerequisites: WELD1100 Welding Safety and Theory must be taken while taking WELD1106 or by permission of instructor. Offered: Fall \*\*Articulated\*\*.

### **WELD1108 Blueprint Reading 3 cr**

In this course the student will learn how to interpret weldment fabrication drawings and other types of engineering prints such as assembly, detail, machining and tooling prints. Prerequisites: None. Offered: Fall.

### **WELD1110 Layout 3 cr**

This course is designed to introduce the student to the layout processes of transferring information from blueprints to a working layout. Prerequisites: WELD1108. Offered: Spring.

### **WELD1112 Welding Fabrication/Qualification 3 cr**

This course covers student fabrication experience on a working project. Also covered in this course is the weld certification under the AWS D1.1 code. The passing of this code test is required for a diploma. Prerequisites: WELD1102, WELD1104, WELD1108, WELD1114, and WELD1116. Offered: Spring.

### **WELD1114 Shielded Metal Arc Welding II 4 cr**

This course covers shielded metal arc welding and flux core arc welding out of position. Also presented will be welding qualification certification practices. Prerequisites: None. Offered: Spring.

### **WELD1116 Semi Automatic Arc Welding II 2 cr**

This course covers the gas metal arc welding processes on mild steel, aluminum, and stainless steel. Also covered are the mig spray processes on aluminum, mild steel and stainless steel. Prerequisites: WELD1104 or instructor approval. Offered: Spring.

### **WELD1118 Gas Tungsten Arc Welding II 2 cr**

Using the oxy-acetylene GTAW processes, the student will learn to fusion weld various metals in the flat and vertical positions. Hands-on experience will be emphasized in shape cutting with electric eye machine. Prerequisites: None. Offered: Spring.

## WOOD FINISHING TECHNOLOGY

### **WOOD1001 Wood Technology 2 cr**

This course studies wood as a material and will help the student gain an understanding of how wood relates to humidity, temperature, adhesives, abrasives, coatings, and cutting tools. This course is important to those who want to be able to problem solve wood and finishing defects. Emphasis is on terminology and wood identification. Prerequisites: None. Offered: Fall.

### **WOOD1004 Woodworking 3 cr**

This course covers the safety and operation of woodshop handtools and power tools. Students will identify and create joinery used in furniture construction. An emphasis will be placed on the duplication of furniture parts and the repairing of existing furniture parts. Prerequisites: None. Offered: Fall.

### **WOOD1007 Methods of Fastening 3 cr**

This course covers the procedures and materials used in the disassembly and reassembly of furniture, cabinets, and other similar wooden objects. The study and application of metal fasteners, adhesives, and clamping procedures will be covered. Students will be required to work on several pieces of furniture. An introduction to the identification of period furniture and their components will be covered. Emphasis will be placed on the regluing of broken components of these same pieces. Prerequisites: WOOD1001 and WOOD1004. Offered: Fall.

### **WOOD1009 Selection and Application of Finishes 3 cr**

This course covers the identification and application of abrasives, stains, dyes, transparent coatings, translucent coatings, and opaque coatings used on furniture, cabinets, and other wooden objects. The study of solvent-based and water-based coatings including shellac, lacquer, varnish, urethane, and oils is included. Emphasis will also be placed on wood finishing terminology. Prerequisites: None. Offered: Fall.

### **WOOD1010 Wood and Finishing Technology 5 cr**

Understand the application of coloring agents and coatings for wood. This course also studies wood identification and wood as a material learning how it relates to abrasives, environmental fluctuation, coloring agents and coatings. This course is important to those who want to be able to problem solve wood and finishing defects.

### **WOOD1012 Color Theory 3 cr**

This course covers the application of stains and dyes necessary for creating and duplicating colors on wood. Students will be required to match several color samples on wood. The study of color and its relationship to light will also be covered. Prerequisites: None. Offered: Fall.

### **WOOD1015 Spot Repair I 3 cr**

This course covers the basic techniques used for furniture spot repair. Students learn basic color theory and the repairing of small nicks, dents, and scratches in wood. Prerequisites: WOOD1012 is suggested. Offered: Fall.

**WOOD1019    Advanced Spot Repair    5 cr**  
This course covers advanced techniques used for spot repair. Larger and more difficult repairs will be worked on as performed in WOOD1015. Polyester fills, leather repair, vinyl repair, toners, blockouts, and other types of materials will be used to make cosmetic repairs. Prerequisites: WOOD1015. Offered: Spring.

**WOOD1021    Wood Refinishing    6 cr**  
This class covers the total removal and replacement of the existing coating and color on wooden furniture. Surface preparation, including hand stripping, emersion systems, and bleaches, will be covered. Students in this class will be required to refinish several pieces of furniture. Emphasis will be placed on the safety and terminology of finishing procedures and finishing schedules used. Also emphasized is the understanding of how to give a customer a bid for these services. Prerequisites: WOOD1001, WOOD1004, WOOD1007, WOOD1009, WOOD1012, WOOD1015, and WOOD1019. Offered: Spring.

**WOOD1024    Advanced Finishing/ Refinishing    5 cr**  
This course covers advanced wood finishing techniques on new wood products and advanced wood restoration techniques. New wood product techniques involve spraying dyes, mixing color into the finish, production spray systems, using industrial coatings, including transparent and opaque coatings, using power sanders throughout the finishing schedule, and evaluating coating performance. Restoration techniques include hand caning, machine caning, rushing, advanced color matching techniques, and advanced restoration techniques, with an emphasis on problem solving finishing defects. Prerequisites: None.

**WOOD1026    Advanced Finishing Techniques    5 cr**  
This course covers advanced wood finishing techniques on new wood products and advanced wood restoration techniques. New wood product techniques involve spraying dyes, mixing color into the finish, production spray systems, using industrial coatings including transparent and opaque coatings, using power sanders throughout the finishing schedule and evaluating coating performance. Restoration techniques include hand caning, rushing, advanced color matching techniques, advanced restoration techniques, with an emphasis on problem solving finishing defects. Prerequisites: WOOD1000, WOOD1003, WOOD1006, WOOD1009, WOOD1012, WOOD1015, WOOD1018, and WOOD1021. Offered: Spring.

**WOOD1032    Antique Furniture Conservation    3 cr**  
This course covers conservation techniques used on fine wooden antiques and their attachments in order to maintain their value. Preserving the existing finish, solvent cleaning, french polishing, consolidating techniques and plastic mold duplicating will be covered. Prerequisites: All previous WOOD courses. Offered: Spring.

**WOOD1500    Color Matching    2 cr**  
This is a three day "hands on" class to help you advance your knowledge of color matching and creating custom colors. Using the Prang Coloring system you will learn how to use primary and secondary colors to make the color you are looking for. Shading, tinting and extending will also be covered. You will learn how to add primary and secondary colors to pre-made cans of stain to "tweak" them in the correct direction. This color knowledge will be applied with dyes and stains being applied directly to the wood as well as glazing and toning techniques with any type of coating. Offered: Summer.

**WOOD1505    Advanced Finishing    2 cr**  
This is a five day "hands on" workshop focusing on existing excellent finishing formulas for excellent looking wood. Starting with raw wood samples you will proceed with step by step processes, keeping a written record of each step. Finishing techniques used include water base dyes, stain on dye, bleaching, clear and opaque coatings. Special effects such as crackle lacquer, full-filled pore, satin rub outs and high gloss polishing will also be covered. Each student will keep all of the samples they make. Offered: Summer.

**WOOD1510    Shellac    2 cr**  
Shellac has long been one of the standard traditional finishes in the woodworking and furniture restoration trades. Don Williams, finisher, conservator and author will personally conduct a three day session on the understanding and application of shellac. The program will be part classroom lecture, part participant-driven symposium, but mostly work shop demonstrations and practices. Offered: Summer.

**WOOD1515    Achieving a Closed Pore Piano Finish    2 cr**  
This class is designed to achieve a professional closed pore high gloss piano finish every time. It will be a "hands on" class from start to finish. Panels with cured lacquer coatings will be made available for students to achieve the final high gloss rubout by hand and with power equipment. Offered: Summer.

**WOOD1520    Spraying Equipment and Techniques    1 cr**  
Upon completion of this class the student will understand the dynamics of hand held spraying equipment. Turbine, compressed air, conventional, HVLP, LVLP, gravity feed, pressure pot and air assisted airless systems will be discussed and used. The curriculum consists of understanding the importance of wet mill thickness, calculating dry mill thickness, equipment maintenance, problem solving, finishing defects and spraying techniques such as making and spraying toners. Offered: Summer.

**WOOD1525    Spot Repair    1 cr**  
This is a "hands on" class that will teach a variety of ways to repair nicks, dents and scratches. Techniques for repairing ranging from "burn ins" to polyester repair, padding, graining, glazing and toning will be taught. Color matching will be emphasized. Offered: Summer.

**WOOD1530    Finishing New Wood    2 cr**  
This is a five day "hands on" wood finishing class. Sessions include: The proper preparation of wood, methods of using stains, dyes, glazes and toners to color wood. Understanding why and how to apply oils, shellac, lacquer, varnish, polyurethane and water base coatings using rags, brushes and spraying equipment. How to create the desired sheen and maintain that sheen will also be covered. Problem solving and repairing finishing defects such as blotching, orange peel and fish eye will be explained. Students will keep all of the panels they make. Offered: Summer.



# APPLICATION FOR ADMISSION

## DAKOTA COUNTY TECHNICAL COLLEGE

**Note:** You are not legally required to provide the information the college is requesting; however the college may not be able to effectively process your application if you do not provide sufficient information. With some exceptions, unless you consent to further release of private information, access to this information will be limited to school officials, including faculty who have legitimate educational interests in the information. Under certain circumstances, federal and state laws authorize release of private information without your consent:

- to other schools in which you seek or intend to enroll, if you are first notified of the release;
- to federal, state, or local officials for purposes of program compliance, audit, or evaluation;
- as appropriate in connection with your application for, or receipt of, financial aid;
- to your parents, if your parents claim you as a dependent student for tax purposes;
- if the information is sought with a subpoena, court order, or otherwise permitted by other state or federal law, and
- to an institution engaged in educational research of an accrediting agency.

*DCTC abides by the provisions of Title IX, federal legislation forbidding discrimination on the basis of sex, race, color, national origin or handicap and all other state and federal laws regarding equal opportunity. This document can be made available in alternative formats, such as large print or cassette tape, upon request.*

PERSONAL DATA				
Name (Last, First, Middle)			Date of Application	
Name used in high school records or in other educational records and transcripts if different from above (Optional) (Last, First, Middle)				
Social Security Number		Many colleges/universities use social security numbers for student identification purposes on student records. Providing your Social Security number is voluntary. If you do not provide this number, your application will still be processed. This data is requested for purposes of administration, program evaluation and consumer and alumni data. Your number also may be used to create summary information about MnSCU programs through data matches with other state agencies.		
_____ - _____ - _____				
Current Mailing Address (House/Apt. Number, Street, P.O. Box/Rural Route)		City	State	ZIP Code County
Permanent Address, If Different From Above		City	State	ZIP Code County
Home Phone ( )		Cell Phone ( )		E-mail Address
Are you a resident of Minnesota?		If yes, how long?		If no, what state are you a resident of?
<input type="checkbox"/> YES <input type="checkbox"/> NO		_____ years _____ months		
Are you a U.S. citizen?		Are you a Permanent Resident?		
<input type="checkbox"/> YES <input type="checkbox"/> NO (If no, complete the following)		<input type="checkbox"/> YES <input type="checkbox"/> NO (If yes, check the correct status) <input type="checkbox"/> Permanent resident alien <input type="checkbox"/> Refugee <input type="checkbox"/> Asylee		
If you are not a citizen or permanent resident alien, indicate the type of visa you have: _____				<input type="checkbox"/> Other
<i>(Students who will require school sponsorship for an F, M or J visa must complete a separate application obtained from the college.)</i>				

ADMISSIONS DATA	
Name of program, major, or curriculum you plan to follow; e.g. automotive technology, nursing, graphic design, etc.	
What is your current educational intent at Dakota County Technical College?	
<input type="checkbox"/> Earn an certificate	<input type="checkbox"/> Earn an associates (two-year) degree
<input type="checkbox"/> Earn a diploma	<input type="checkbox"/> Earn an associates (two-year) degree and transfer
<input type="checkbox"/> Complete courses but not a degree	
<input type="checkbox"/> Complete courses and transfer without a degree	
What term do you intend to begin taking courses? (Check one and indicate the year)	
<input type="checkbox"/> Fall _____ year	<input type="checkbox"/> Spring _____ year
<input type="checkbox"/> Summer _____ year	
Do you plan to attend:	
<input type="checkbox"/> Full-time? (12 or more credits) <input type="checkbox"/> Part-time? (fewer than 12 credits)	
Have you attended Dakota County Technical College before? <input type="checkbox"/> YES <input type="checkbox"/> NO If yes, last date attended: _____	
Activities/Interests: (optional, please list) _____	

## EDUCATIONAL DATA

Do you have a high school diploma?  
If no, do you have a GED?

☐ YES ☐ NO  
☐ YES ☐ NO

High school graduation date: \_\_\_\_\_  
Are you currently in high school? ☐ YES ☐ NO

High school attended

City

State

ZIP Code

List any other post-secondary institutions attended:

College/University/Institute

City

State

Dates attended

College/University/Institute

City

State

Dates attended

Are you a high school student planning to take college courses under the Minnesota Post-Secondary Enrollment Options program (PSEO)? ☐ YES ☐ NO  
If yes, please contact your high school counselor and also the admissions office at Dakota County Technical College.

## REQUEST FOR CONFIDENTIAL INFORMATION

Providing the following information is voluntary. This information will assist Minnesota State Colleges and Universities in evaluating student recruitment and retention policies; it will not be used as a basis for admission.

Gender: ☐ Male ☐ Female

Are you Hispanic or Latino (a person of Cuban, Mexican, Chicano, Puerto Rican, South or Central American, or other Spanish culture, regardless of race)?  
☐ YES ☐ NO

Race and ethnic background (select any that apply)

- ☐ American Indian or Alaska Native - A person having origins in any of the original peoples of North, Central or South America and who maintains tribal affiliation or community attachment
- ☐ Asian - A person having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent
- ☐ Black or African American - A person having origins in any of the black racial groups of Africa
- ☐ Native Hawaiian or Other Pacific Islander - A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands
- ☐ White - A person having origins in any of the original peoples of Europe, the Middle East or North Africa

What is the highest level of education for your parent(s)/guardian(s)?

Please respond for the parent(s), step-parent(s), adoptive parent(s), or guardian(s) who raised you. Check only one box for each parent/guardian.

Parent/Guardian #1

☐ No high school diploma ☐ High school diploma ☐ Some college ☐ Two-year college degree/diploma ☐ Bachelor's degree or higher

Parent/Guardian #2

☐ No high school diploma ☐ High school diploma ☐ Some college ☐ Two-year college degree/diploma ☐ Bachelor's degree or higher

## SIGNATURE REQUIRED BY ALL APPLICANTS

All of the information included is true and complete to the best of my knowledge. Misrepresentation of information is sufficient grounds for canceling admission.

Applicant's Signature

Date

 DAKOTA COUNTY TECHNICAL COLLEGE

### Office of Admissions

1300 145th Street East, Rosemount, MN 55068

E-mail: admissions@dctc.edu • Web site: www.dctc.edu • Phone: 651-423-8301

Toll-Free: 877-937-3282 • TTY: 651-423-8621 • Fax: 651-423-8775

A member of the Minnesota State Colleges & Universities System  
DCTC is an affirmative action, equal opportunity employer and educator.

This document is available in alternative formats to individuals with disabilities by calling 877-YES-DCTC or TTY: 651-423-8621.

# campus visit

Why not see it for yourself? Come for a **Tuesday Campus Visit** and find out everything you want to know about our facilities, instructors, courses - you name it! If you can't attend during the day, visit [dctc.edu/campusvisit](http://dctc.edu/campusvisit) for a list of scheduled Tuesday **evening** Campus Visits, or call to schedule an appointment with a Recruiter or Enrollment Advisor.

## Tuesday Campus Visit

*Every Tuesday, 12:45 p.m. - no appointment necessary.*

- Get college information
- Visit with an instructor, recruiter or advisor
- Tour classrooms, shops and labs

## Questions?

[call] 651.423.8301  
877.YES.DCTC

[click] [www.dctc.edu](http://www.dctc.edu)

[send] [admissions@dctc.edu](mailto:admissions@dctc.edu)

We're close to the Twin Cities, its airport, the Mall of America, and everything that makes the Twin Cities metro area one of the best in the country. Our main campus in Rosemount offers a beautiful, convenient campus, just 15 minutes from Burnsville, and just a short drive in the countryside for those traveling from Hastings and Northfield, Minnesota, or from Hudson and Prescott, Wisconsin.

## MAP LEGEND



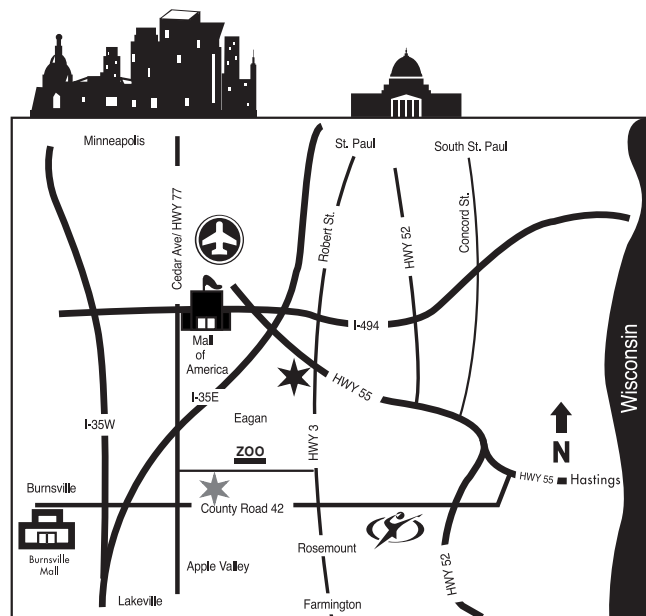
**Dakota County Technical College**  
1300 145th St. E. County Road 42  
Rosemount (651) 423-8301



**DCTC Apple Valley Site**  
14200 Cedar Avenue  
Apple Valley (952)-997-9530



**DCTC IT Training Center (Eagan)**  
3140 Neil Armstrong Boulevard  
Eagan (651) 406-4754



*Disclaimer: This publication is not an offer to contract or a contract. DCTC reserves the right to change information without notice when circumstances warrant such action.*

*DCTC is an equal opportunity institution in accordance with civil rights legislation and does not discriminate on the basis of race, creed, color, gender, sexual orientation, national origin, age, marital status, status with regard to public assistance, religion, disability, or membership or activity in a local commission as defined by law prohibited in any of its educational programs, activities, admissions, or employment practices. Concerns regarding this policy should be referred to the Director of Human Resources, Dakota County Technical College, Rosemount, MN 55068, telephone 651-423-8205.*

*DCTC is fully equipped to meet the needs of students and employees as outlined in the Americans with Disabilities Act. See the Student Services Office for materials in alternative formats.*

## **Business and Information Systems**

*Accounting*  
*Administrative Assistant*  
*Executive Assistant*  
*Information Systems Management*  
*Legal Administrative Assistant*  
*Medical Administrative Assistant*  
*Medical Coding Specialist*  
*Networking Administration*  
*Software Development*

## **Business and Management (Apple Valley Campus)**

*Business*  
*Business Entrepreneur*  
*Casino Management*  
*Industrial Distribution*  
*Management for Technical/Airline Professionals*  
*Marketing and Sales*  
*Multicultural Supervision*  
*Meeting, Event, and Tourism Management*  
*Real Estate Property Management*  
*Supervisory Management*  
*Tourism and Travel*

## **Design**

*Applied Visual Arts*  
*Architectural Technology*  
*Graphic Design Technology*  
*Interior Design*  
*Landscape Horticulture*  
*Multimedia and Web Page Design*  
*Photography*  
*Wood Finishing Technology*

## **Health and Human Services**

*Child Development*  
*Dental Assistant*  
*Exercise and Sport Science*  
*Medical Assistant*  
*Nursing Assistant/Home Health Aide*  
*Practical Nursing*

## **Technical Careers**

*Biomedical Equipment Technology*  
*Concrete and Masonry*  
*Electrical Construction & Maintenance Technology*  
*Electrical Lineworker*  
*Nanoscience Technology*  
*Welding Technology*

## **Transportation**

*Auto Body Collision Technology*  
*Automotive Technician*  
*GM Automotive Service Education Program (ASEP)*  
*Heavy Construction Equipment Technology*  
*Heavy Duty Truck Technology*  
*Railroad Conductor Technology*

[[www.dctc.edu](http://www.dctc.edu)]



A MEMBER OF THE MINNESOTA STATE COLLEGES  
AND UNIVERSITIES SYSTEM