



# College Catalog

2019-2020

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Minnesota State Community and Technical College is committed to a policy of nondiscrimination in employment and education opportunity. No person shall be discriminated against in the terms and conditions of employment, personnel practices or access to and participation in programs, services and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, gender identity or gender expression or membership or activity in a local commission as defined by law. Inquiries regarding compliance, rights and other information may be addressed to Affirmative Action Officer Doug Andring, 1900 28th Avenue South, Moorhead, MN 56560, Office E113, 218.299.6870, fax: 218.299.6513. Inquiries regarding the education opportunities or equal employment policies of the Affirmative Action program should be directed to the:

**Minnesota State  
Community and Technical College**  
Compliance Officer  
Doug Andring  
1900 28th Avenue South  
Office E113  
Moorhead, MN 56560  
Telephone: 218.299.6870  
Fax: 218.299.6513  
Email: [doug.andring@minnesota.edu](mailto:doug.andring@minnesota.edu)

**Office for Civil Rights  
U.S. Department of Health and Human Services**  
233 N. Michigan Ave., Suite 240  
Chicago, IL 60601  
Telephone: 800.368.1019  
Fax: 312.886.1807  
TDD: 800.537.7697  
Email: [OCRMail@hhs.gov](mailto:OCRMail@hhs.gov)

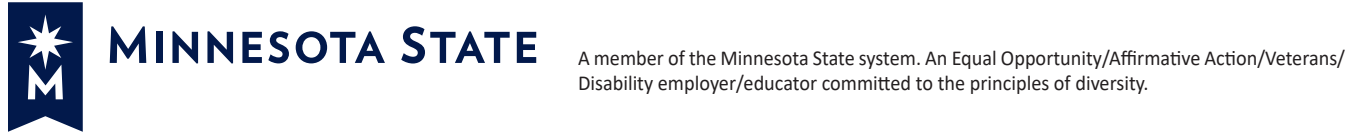
**Office for Civil Rights  
U.S. Department of Health and Human Services**  
200 Independence Avenue SW  
Room 509F HHH Bldg.  
Washington, D.C. 20201  
Telephone: 1.800.421.3481  
Fax: 202.205.9862  
TDD: 877.521.2172  
Email: [OCRMail@hhs.gov](mailto:OCRMail@hhs.gov)

Printed copies of the campus drug-free policy, security policy, athletic gender equity policy, and student right to know are available by contacting: Student Services Office; Minnesota State Community and Technical College; 1414 College Way; Fergus Falls, MN 56537-1000; 218.736.1500.

Minnesota State Community and Technical College is accredited by the Higher Learning Commission; Member of the North Central Association (NCA), with additional program-specific accreditation information found in the M State Catalog. Information about NCA can be found on its website at [www.ncahlc.org](http://www.ncahlc.org) or by writing to the association at 230 South LaSalle Street, Suite 7-500; Chicago, IL 60604; telephone 800.621.7440.

Information contained in this Catalog is periodically updated from time to time without notice. None of the information contained in this Catalog should be regarded as contractual in nature. Data contained in this Catalog is thought to accurately reflect information available at the time of publication (Fall Semester). However, Minnesota State Community and Technical College reserves the right to make substantial changes in curricula, course content and goals, procedures, policies, program requirements and tuition rates/costs at any time deemed necessary between editions. All revisions will take priority over the contents of this edition.

To reach M State with a TTY, contact the Minnesota Relay Service at 651.297.5353 or 1.800.627.3529 and ask to have a call placed to the college. Upon request this information will be made available in alternate formats.



The purpose of the Catalog is to provide students, advisors, counselors, faculty and college administration a convenient vehicle for viewing information about M State's programs and courses. While M State is committed to communicating in a timely and accurate manner, it is important for all Catalog users to understand that this publication is not intended to create any guarantees about current program/course offerings. M State reserves the right to change or vary the content of this publication, without notice to current or potential users, when in its sole discretion such changes, updates or variations are warranted. It is the user's responsibility to seek clarification and/or assistance from a college advisor or administrator regarding any content questions. The most current publication of M State's Online Catalog supersedes all prior print or online publications and can be found by visiting our website at [www.minnesota.edu](http://www.minnesota.edu).

# Welcome to Minnesota State Community and Technical College!

Congratulations on your decision to attend Minnesota State Community and Technical College. Whether you are attending one of our campuses in Detroit Lakes, Fergus Falls, Moorhead or Wadena, or attending online or at an off-site location, your success is our No. 1 priority.

You may be a student who knows exactly what you want to do for your career or where you want to be in life, or you may be a student who is hoping your experience at M State helps you find your path in life. We are ready to serve you, regardless of where you're at in your educational journey. We have created our processes, our systems and our educational opportunities to meet your goals.

At M State, "We are "all IN." You'll see our college's values of integrity, inclusion and innovation reflected in our programs and in the support we offer to our students.



We operate with these foundational values because we want you to be successful in all aspects of your college experience. I graduated from M State because of the dedication of the faculty and staff who taught and served me through the ups and downs of my educational experience. Today, I am certain that our employees believe in you and stand ready to help you in any way possible!

**We know that every M State student has a story.** Every student who attends M State brings their life experiences and journey, identity and dreams in to our classrooms. We are honored you have chosen M State. It is our privilege to guide you in the next phase of your life.

I look forward to hearing your success stories; please share them with me!

Carrie Brimhall, Ph.D  
President  
M State Alumnus 1997



Detroit Lakes

Academic and Student Services	
Academic Dean.....	218.846.3723
Campus Director of Student Services .....	218.846.3714
Dean of Student Success .....	218.299.6535
Support Center .....	877.450.3322
Vice President/ Chief Academic Officer.....	218.736.1504
Vice President/ Chief Student Development Officer .....	218.631.7810

Academic Advising .....	218.846.3670
Assessments/Accuplacer.....	218.846.3777
Bookstore.....	218.846.3727
Child Care .....	218.847.1145
Computer Help Center .....	218.846.3764
Disability Services .....	218.846.3756
English Language Learner.....	218.846.3734
Enrollment.....	218.846.3777
Facilities.....	218.631.7906
Financial Aid .....	218.846.3754
Food Service.....	218.847.2309
Foundation .....	218.846.3720
Housing .....	218.846.3670
Information .....	218.846.3670
Library .....	218.846.3772
Social Worker, Resources and Referrals.....	218.846.3687
Spartan Center .....	218.846.3734
Student Life .....	218.846.3768

Student Records .....	218.846.3789
Veterans Services .....	218.299.6881

Fergus Falls

Academic and Student Services	
Academic Dean.....	218.736.1507
Campus Director of Student Services ....	218.736.1530
Dean of Student Success .....	218.299.6535
Support Center .....	877.450.3322
Vice President/ Chief Academic Officer.....	218.736.1504
Vice President/ Chief Student Development Officer .....	218.631.7810

Academic Advising .....	218.736.1533
Assessments/Accuplacer.....	218.736.1529
Athletics .....	218.736.1648
Bookstore.....	218-736.1556
Box Office/Fine Arts .....	218.736.1600
Computer Help Center .....	218.736.1655
Counseling.....	218.736.1539
Disability Services .....	218.736.1595
Enrollment.....	218.736.1549
Facilities.....	218.736.1560
Financial Aid .....	218.736.1534
Food Service.....	218.736.1760
Foundation .....	218.736.1514
Housing .....	218.736.1635

Information .....	218.736.1533
Library .....	218.736.1650
Multicultural Services/ Diversity and Inclusion .....	218.736.1512
Security .....	218.770.9861
Spartan Center .....	218.736.1619
Student Life .....	218.736.1537
Student Records .....	218.736.1529
Veterans Services .....	218.299.6881

Moorhead

Academic and Student Services	
Academic Dean/Liberal Arts .....	218.299.6544
Academic Dean/Career and Technical.....	218.299.6594
Academic Dean/Health Careers .....	218.846.3866
Campus Director of Student Services ....	218.299.6620
Dean of Academic Quality and Support....	218.299.6853
Dean of Student Success .....	218.299.6535
Support Center .....	877.450.3322
Vice President/ Chief Academic Officer.....	218.736.1504
Vice President/ Chief Student Development Officer .....	218.631.7810

Academic Advising .....	218.299.6880
Assessments/Accuplacer.....	877.450.3322
Bookstore.....	218.299.6570
Computer Help Center .....	218.299.6568

Counseling.....	218.299.6618
Disability Services .....	218.299.6882
Enrollment.....	877.450.3322
Facilities.....	218.299.6522
Financial Aid .....	218.299.6511
Foundation .....	218.299.6826
Information .....	218.299.6500
Library .....	218.299.6530
Multicultural Services/ Diversity and Inclusion .....	218.736.1512
Spartan Center .....	218.299.6882
Student Life .....	218.299.6529
Student Records .....	218.299.6593
Veterans Services .....	218.299.6925

Wadena

Academic and Student Services	
Academic Dean.....	218.631.7936
Campus Director of Student Services .....	218.631.7832
Dean of Student Success .....	218.299.6535
Support Center .....	877.450.3322
Vice President/ Chief Academic Officer.....	218.736.1504
Vice President/ Chief Student Development Officer .....	218.631.7810

Academic Advising .....	218.631.7827
Assessments/Accuplacer.....	218.631.7818

Bookstore.....	218.631.7825
Child Care .....	218.632.2348
Computer Help Center .....	218.631.7873
Disability Services .....	218.631.7832
English Language Learner.....	218.632.2450
Enrollment.....	218.631.7818
Facilities.....	218.631.7906
Financial Aid .....	218.631.7922
Foundation .....	218.631.7819
Information .....	218.631.7821
Library .....	218.631.7865
Social Worker .....	218.631.3689
Spartan Center .....	218.631.7862
Student Life .....	218.631.7827
Student Records .....	218.631.7808
Veterans Services .....	218.299.6881

### K12 Collaborations

Career Articulation Agreements .....	218.846.3867
Concurrent Enrollment .....	218.846.3867
eCampus in the High School .....	218.846.3867

### Mission

Minnesota State Community and Technical College specializes in affordable and exceptional education, service and workforce training. We welcome all students and engage them in shaping their futures and their communities.

### Vision

A success story for every student.

### Values

- “We are all IN!”

**Integrity**  
As dedicated professionals, we act with purpose in everything we do. We are sincere and honest in our relationships andcommunications, and hold ourselves accountable to doing the right thing even when no one is watching.
- Inclusion**  
We welcome, respect and accept people for who they are and celebrate the power of our collective differences in creatingand shaping more robust, energized communities.
- Innovation**  
Through the power of our four campuses, strategic partnerships, and creative problem-solving, we enhance communities.We incorporate technology to improve the student experience and we see continuous improvement as a constant.

### Strategic Pillars

- I. Student Success** - Encompasses academic readiness for college, successful course completion, documented learning improvement, student persistence toward degree completion, graduation, placement, exam/certification/pass rates,transfer rates and/or student awards and honors in curricular and/or co-curricular experiences.
- II. Culture of Excellence** - Where employees are engaged in what matters to them at their very core, whether that be excellence in teaching, in service to education, or in service of the institution. We believe in teamwork and individual action, in opportunities for professional growth, in community leadership, and in the recognition of continuous improvement and notable achievement.
- III. Equity and Inclusion** - M State will be a vibrant inclusive body of diverse students and employees who challenge, inspire and support each other.
- IV. Financial Sustainability** - The prudent management of the College resources, as well as the enhancement of alternate revenue sources. Renewal of college facilities, repair and replacement of equipment and maintaining a sound technological and information infrastructure. Also includes developing strong development initiatives and relationships with the purpose of securing funding for college projects, scholarships, and initiatives, as well as enhancing community relations.
- V. Strategic Partnerships** - Developing and maintaining a diverse array of organizational relationships that help M State to most effectively deliver on our mission.





**Detroit Lakes**  
900 Highway 34 East  
Detroit Lakes, MN 56501-2698  
218.846.3700 • 877.450.3322  
Fax: 218.846.3794



**Fergus Falls**  
1414 College Way  
Fergus Falls, MN 56537-1000  
218.736.1500 • 877.450.3322  
Fax: 218.736.1510



**Moorhead**  
1900 28th Avenue South  
Moorhead, MN 56560-4899  
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Fax: 218.299.6810



**Wadena**  
405 SW Colfax Avenue  
Wadena, MN 56482-1447  
218.631.7800 • 877.450.3322  
Fax: 218.631.7904

About the Campus

The Detroit Lakes campus, serves more than 1,000 students in online and campus program, offering degrees in a range of fields, including business, design, early childhood education, engineering, health care, information technology, transportation and transfer. The campus offers unique programs including PowerSports Technology – fitting for a campus in the heart of Minnesota lakes and recreation country. Additional programs prepare students for high demand careers in architectural drafting, civil engineering technology, nursing, and radiologic technology. Small class sizes, flexible delivery, and an understanding of your prior learning experience creates a more personal education. A structured, cohortbased transfer program prepares students for an easy transition to a four-year college or university. The Workforce Development Solutions division provides customers with consulting, assessment, education and customized training services. The campus provides food service, child care, student organizations, a veteran’s resource center, and support services to promote academic success. Housing options are available near the campus. Scholarship opportunities available through the M State Foundation and Alumni.

About the Community

Detroit Lakes is located just 40 minutes east of Fargo-Moorhead in beautiful Minnesota lake country. With the combination of adjacent prairie, abundant woodlands, and 412 lakes within a 25-mile radius, it makes an ideal place to live and work. In addition to the wonderful setting, Detroit Lakes features a top-rated school system, excellent medical facilities, and numerous park and recreational facilities. Our economic base has an entrepreneurial spirit that is solid and stable with a good mix of manufacturing, tourism, agriculture and retail. Residents and visitors enjoy Detroit Lakes for Northwest Water Carnival, WE Fest Country Music Festival, the Pine to Palm Golf Tournament and the Polar Fest, averaging one special event per week throughout the year. The Detroit Lakes Cultural & Community Center features opportunities for swimming, physical activities, including two gyms and an 800 seat theatre for cultural events. In addition to the golf courses and our famous mile long City beach, Detroit Mountain Recreation Area offers mountain biking, hiking, downhill and cross-country skiing, and an amazing lodge.

About the Campus

The Fergus Falls campus, with a total enrollment of approximately 750, has been providing high-quality academic programs in the liberal arts and health sciences for more than 55 years. Degree options include Associate in Arts; Associate in Fine Arts in Music, Theater and Visual Arts; Associate of Science in Accounting and Business, Biological Sciences, Chemistry, Environmental Science, Medical Laboratory Technology, Nursing and Sport Management and a diploma and AAS in Equine Science and Business; AAS in Business Administration, Business and Banking and certificates in Business Administration and Phlebotomy Technician. The college is recognized for its rich tradition in the arts, music and athletics. Varsity athletic teams compete in the National Junior College Athletic Association and the Minnesota College Athletic Conference in eight sports: football, volleyball, men’s and women’s golf and basketball, baseball and softball. Visitors are amazed by the extensive art collection displayed across the campus, making art an everyday part of the student experience. The music program is renowned for both vocal and instrumental excellence, and student musicians enjoy multiple chorale and instrumental rehearsal rooms, along with computers and software for music composition. The campus offers food service for on-campus residential program and many scholarship opportunities through Fergus Area College Foundation, which has an endowment of over \$5 million.

About the Community

Fergus Falls is located in west central Minnesota, less than three hours from Minneapolis-St. Paul and an hour from the Fargo-Moorhead metropolitan area. The city of 14,000 is home to an active arts community and has a wide array of outdoor recreational opportunities, including the trailhead of the 55-mile Central Lakes Trail for bikers and snowmobilers. With more than 1,000 lakes in Otter Tail County, there is no shortage of outdoor and water activities. A Center for the Arts and the Kaddatz Galleries, both located in downtown Fergus Falls, are venues for theater, concerts, independent films and rotating art exhibits. Otter Tail Power Company has its headquarters in Fergus Falls, and the city is a regionally-recognized health care provider through Lake Region Healthcare and new Cancer Care and Research Center.

About the Campus

The Moorhead campus is a vibrant, comprehensive community and technical college, offering in-demand technical/career programs and liberal arts and sciences to 2,928 enrolled students. Students have the option of completing Associate in Science transfer degrees in Accounting, Biological Sciences, Business, Chemistry, Criminal Justice, Engineering, Environmental Science, Human Resources, Information Technology and Nursing or an Associate in Arts transfer degree with the intent of earning a bachelor’s degree or beyond. Innovative programs allow students to prepare for careers in exciting and expanding sectors including transportation, construction trades, human services, graphic and mechanical design, business and health. Industry sponsorships provide students in the transportation, construction trades and health career areas with the opportunity to combine work and school in a synergistic approach giving students needed skills and industry qualified workers. The Moorhead campus proudly supports one of the area’s most extensive and robust art collections. Food service is created by the Culinary Arts students. Academic and technical skill competitions such as SkillsUSA provide opportunities for students to compete on a national level. M State - Moorhead Campus students have a history of placing in the top 15 regionally and the top 10 nationally. Student services supports students with financing, tutoring, academic advising, counseling and a myriad of opportunities for success. Scholarships abound through Moorhead Community and Technical College Foundation.

About the Community

The Fargo-Moorhead metro area, with a population of 228,300, is a college town, small enough to feel comfortable yet offering all the benefits of a larger metropolitan area with its cultural, sports, recreational and commercial diversity. Arts and culture flourish, where local talent supports a community theater, symphony and civic opera company. The cities boast numerous parks, bike trails, ice facilities, playgrounds, swimming pools, ball diamonds, cross country ski trails and golf courses. The business community is thriving as a center for agri-business, marketing, technology, research, health and construction in the heart of the Red River Valley. The metropolitan area is a regionally recognized health care provider whose members are in the process of constructing a state-of-the-art hospital complex.

About the Campus

The Wadena campus, with an enrollment of nearly 500 students, offers degrees in a range of fields including:

- Health Science: Nursing, including Generic RN and Advanced Standing RN
- Human Services: Cosmetology and Massage Therapy
- Service Technology: Gas Utility Construction and Service, Electrical Technology, Heating, Ventilation and Air Conditioning/Refrigeration, and Electrical Lineworker Technology.

Students also can earn an Associate of Arts degree, completing the first two years of a four-year degree at an affordable cost. The college and the M State Foundation have many options for scholarships and grants that help lower the cost of college, including many for students in specific programs. M State’s small class sizes mean a more personal education, and most programs offer the kind of hands-on classroom and real-life experiences that are ideal for preparing students for careers. The college also offers courses and programs online to accommodate busy student lifestyles. A strong interest in the highly regarded Electrical Line Worker Technology program prompted the college to open a satellite site for the program in Baudette, near the Canadian border. The Electrical Lineworker Club has won numerous awards at the annual Powerline Rodeo in Nebraska. The campus provides food service, student organizations, a bookstore and tutoring support services to promote academic success. Housing options are available near the campus through public rentals. There is an on-site day care available and Adult Basic Education services.

About the Community

The welcoming community of Wadena, with a population of 4,500, is located at the gateway of Minnesota lake country. It offers many opportunities for outdoor recreation with 1,000 lakes within 50 miles and more than 300 acres of parks. Attractions in Wadena and the surrounding area include the community fitness center, a historic movie theater, shopping, unique restaurants and beautiful parks. If you love outdoor activities and a strong community presence, Wadena has something for everyone!



## 2019-2020 M State Student Academic Calendar

August 2019							September 2019							October 2019							November 2019						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7			1	2	3	4	5						1	2
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
25	26	27	28	29	30	31	29	30						27	28	29	30	31			24	25	26	27	28	29	30

December 2019							January 2020							February 2020							March 2020						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7				1	2	3	4							1	1	2	3	4	5	6	7
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8	8	9	10	11	12	13	14
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15	15	16	17	18	19	20	21
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22	22	23	24	25	26	27	28
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	29	29	30	31				

April 2020							May 2020							June 2020							July 2020						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						1	2		1	2	3	4	5	6				1	2	3	4
5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30					26	27	28	29	30	31	

### ▶▶▶ AUGUST 2019

Aug. 21: Welcome Day  
Aug. 21: Fall semester begins  
Aug. 28: Last day to add courses for fall semester  
Aug. 30: Last day to drop courses for fall semester

### ▶▶▶ SEPTEMBER 2019

Sept. 2: Labor Day **COLLEGE CLOSED**  
Sept. 12: Constitution Day  
Sept. 20: Application deadline for fall commencement ceremony

### ▶▶▶ OCTOBER 2019

Oct. 14: Spring 2020 registration begins  
Oct. 17-18: Fall break **No Classes/Collage Open**

### ▶▶▶ NOVEMBER 2019

Nov. 11: Veterans Day **COLLEGE CLOSED**  
Nov. 28-29: Thanksgiving break **COLLEGE CLOSED**  
Nov. 22: Last day to withdraw from full-term fall semester courses

### ▶▶▶ DECEMBER 2019

Dec. 16-20: Final exams  
Dec. 20: Fall commencement for all campuses; ceremony in Moorhead  
Dec. 20: Fall semester ends  
Dec. 23-Jan. 10: Semester break **No Classes/Collage Open**  
Dec. 25: Christmas **COLLEGE CLOSED**

### ▶▶▶ JANUARY 2020

Jan. 1: New Year's Day **COLLEGE CLOSED**  
Jan. 13: Spring semester begins  
Jan. 15: Last day to add courses for spring semester  
Jan. 17: Last day to drop courses for spring semester

### Jan. 28: Martin Luther King Jr. Day **COLLEGE CLOSED**

### ▶▶▶ FEBRUARY 2020

Feb. 7: Application deadline for spring graduates/spring commencement ceremony  
Feb. 17: Presidents Day **COLLEGE CLOSED**

### ▶▶▶ MARCH 2020

March 2: Summer/Fall 2020 registration opens  
March 6: Application deadline for summer graduates/spring commencement ceremony  
March 9-13: Spring break **No Classes/Collage Open**

### ▶▶▶ APRIL 2020

April 18: No Classes/Collage Open  
April 25: Last day to withdraw from full-term spring semester courses

### ▶▶▶ MAY 2020

May 4-6: Final exams  
May 7: Detroit Lakes and Fergus Falls campus commencement  
May 8: Moorhead and Wadena campus commencement  
May 8: Spring semester ends  
May 11: Summer term begins  
May 25: Memorial Day **COLLEGE CLOSED**

### ▶▶▶ JUNE 2020

June 1: Summer term general education/online courses begin

### ▶▶▶ JULY 2020

July 3: Independence Day observed **COLLEGE CLOSED**  
July 24: Summer term ends

■ No classes ■ Final exams

## MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

## Accreditation and Approvals

**Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education.**

230 South LaSalle Street, Suite 7-500, Chicago, IL 60604  
Website: [www.hlcommission.org](http://www.hlcommission.org)  
Email: [info@hlcommission.org](mailto:info@hlcommission.org)  
Phone: 800.612.7440 or 312.263.0456

Programs accredited/approved/licensed by additional agencies include:

### Automotive Service Technology

National Automotive Technicians Education Foundation (NATEF)  
101 Blue Seal Drive, Suite 101, Leesburg, VA 20175  
Phone: 703.669.6650 | Email: [webmaster@natef.org](mailto:webmaster@natef.org)  
Website: [www.asealliance.org/natef-accreditation](http://www.asealliance.org/natef-accreditation)

### Cardiovascular Technology - Invasive

Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
25400 US Highway 19 North, Suite 158, Clearwater, FL 33763  
Phone: 727.210.2350 | Email: [mail@caahep.org](mailto:mail@caahep.org)  
Website: [www.caahep.org](http://www.caahep.org)

Upon the recommendation of the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT)  
1449 Hill St., Whitesville, MA 01588  
Phone: 978.456.5594 | Email: [office@jrcvt.org](mailto:office@jrcvt.org)  
Website: [www.jrcvt.org](http://www.jrcvt.org)

### Cosmetology

Minnesota Board of Cosmetology  
1000 University Ave. West, Suite 100, St. Paul, MN 55104  
Phone: 651.201.2742 | Email: [cosmetology@state.mn.us](mailto:cosmetology@state.mn.us)  
Website: <https://mn.gov/boards/cosmetology>

### Criminal Justice

Minnesota Board of Peace Officer Standards and Training (POST)  
1600 University Avenue, Suite 200, St. Paul, MN 55104  
Phone: 651.643.3060 | Email: [postboard.agency.docs@state.mn.us](mailto:postboard.agency.docs@state.mn.us)  
Website: <https://dps.mn.gov/entity/post/Pages/default.aspx>

### Dental Hygiene and Dental Assisting

Commission on Dental Accreditation (CODA)  
211 East Chicago Avenue, Chicago, IL 60611  
Phone: 800.621.8099  
Website: [www.ada.org/en/coda](http://www.ada.org/en/coda)

### Electrical Line Worker Technology

Minnesota Rural Electric Association (MREA)  
11640 73rd Ave. N., Maple Grove, MN 55369  
Phone: 763.424.1020  
Website: [www.mrea.org](http://www.mrea.org)

### Electrical Technology

Approved as one year of credit toward journeyman's license by the Minnesota Department of Labor and Industry - Board of Electricity  
443 Lafayette Road N., St. Paul, MN 55155  
Phone: 651.284.5005 or 800.342.5354  
Website: [www.dli.mn.gov/BOE.asp](http://www.dli.mn.gov/BOE.asp)

### Health Information Technology

Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

233 N. Michigan Ave, 21st Floor, Chicago, IL 60601-5800  
Phone: 312.233.1166 | Email: [info@cahiim.org](mailto:info@cahiim.org)  
Website: [www.cahiim.org](http://www.cahiim.org)

### Massage Therapy

National Certification Board for Therapeutic Massage and Bodywork (NCBTMB)  
1333 Burr Ridge Parkway, Suite 200, Burr Ridge, IL 60527  
Phone: 630.627.8000 or 800.296.0664  
email: [info@ncbtmb.org](mailto:info@ncbtmb.org)  
Website: [www.ncbtmb.org](http://www.ncbtmb.org)

### Medical Laboratory Technology

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)  
5600 N. River Rd., Suite 720, Rosemont, IL 60018  
Phone: 773.714.8880  
Website: [www.naacls.org](http://www.naacls.org)

### Nursing (AS)

Minnesota Board of Nursing  
2829 University Avenue Southeast, Suite 200, Minneapolis, MN 55414  
Phone: 612.317.3000 | Email: [nursing.board@state.mn.us](mailto:nursing.board@state.mn.us)  
Website: <https://mn.gov/boards/nursing/>

### Pharmacy Technology

American Society of Health-System Pharmacists (ASHP)  
4500 East-West Highway, Suite 900, Bethesda, MD 20814  
Phone: 866.279.0681  
Website: [www.ashp.org](http://www.ashp.org)

### Plumbing Technology

32-credit program approved as 800 hours toward student apprenticeship card in Minnesota and 1,600-2,000 hours in North Dakota.  
Minnesota Department of Labor and Industry - Construction Codes and Licensing Division  
443 Lafayette Road North, St. Paul, MN 55155  
Phone: 651.284.5005 or 800.657.3944  
Website: <http://www.dli.mn.gov/ccld.asp>

### Practical Nursing (Diploma/AAS)

2829 University Ave. Southeast, Suite 200, Minneapolis, MN 55414  
Phone: 612.617.2190  
Email: [nursing.board@state.mn.us](mailto:nursing.board@state.mn.us)  
Website: <https://mn.gov/boards/nursing/>

### Radiologic Technology

Joint Review Committee on Education in Radiologic Technology (JRCERT)  
20 North Wacker Drive, Suite 2850, Chicago, IL 60606-3182  
Phone: 312.704.5300  
Email: [mail@jrcert.org](mailto:mail@jrcert.org)  
Website: [www.jrcert.org](http://www.jrcert.org)

### Surgical Technology

Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
25400 US Highway 19 North, Suite 158, Clearwater, FL 33763  
Phone: 727.210.2350  
Email: [mail@caahep.org](mailto:mail@caahep.org)

in cooperation with the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA)  
6 West Dry Creek Cir, Suite 110, Littleton, CO 80120  
Phone: 303.694.9262  
Email: [info@arcsta.org](mailto:info@arcsta.org)

Visit [minnesota.edu/calendar](http://minnesota.edu/calendar) for more information.

[minnesota.edu](http://minnesota.edu)

Minnesota State Community and Technical College  
Course Catalog 2018-2019

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Associate of Arts (AA) Degree:

REQUIREMENTS

The Liberal Arts and Sciences AA degree forms the foundation of a traditional liberal arts education and will satisfy a large portion of the general education course requirements for bachelor’s degrees at four-year colleges and universities. The degree is the basic graduation award toward which most students will work if they intend to transfer. It emphasizes a broad general education. In order to obtain an AA degree, students must complete the following requirements:

- Successful completion of a minimum of 60 semester credits numbered 1000 or above.
- Achieve an overall GPA of 2.00 and a GPA of 2.00 within the Minnesota Transfer Curriculum (MnTC).
- Earn at least 20 of the 60 credits at M State.
- Complete a minimum of 40 credits from the MnTC and fulfill individual requirements in each of the ten MnTC goal areas.

Students may satisfy the MnTC requirement with a variety of courses and credits. Some courses will meet more than one of the ten (10) required goal areas. Fulfilling the minimum requirements in each goal area may not satisfy the 40 credit minimum. Some additional credits beyond the minimum requirements in goals 1-10 could be needed to achieve the overall 40 credit MnTC requirement. Students should carefully review and monitor their progress.

In order to be certified as having met all the requirements of the college’s Minnesota Transfer Curriculum (MnTC), a student must successfully complete courses as prescribed in the following Liberal Arts and Sciences education distribution areas with a minimum GPA of 2.00. Transfer courses with grades of A-D will be included in the GPA calculation for the MnTC

ANTH	1100	Introduction to Anthropology	5, 8
ART	1101	Drawing I	2, 6
ART	1107	Foundations of Art, 2-D	2, 6
ART	1109	Foundations of Art, 3-D	2, 6
ART	1110	Introduction to Art	6
ART	1114	Painting I	2, 6
ART	1117	Printmaking I	2, 6
ART	1118	Watercolor I	6
ART	1123	Global Art History: Asian, Islamic, African, Mesoamerican	2, 6
ART	1124	American Art	6, 7
ART	1127	World of Art I	2, 6, 8
ART	1128	World of Art II	2, 6, 8
ART	1140	Handbuilt Ceramics	6
ART	1141	Ceramics I	6
ART	1142	Introduction to Ceramics	2, 6
ART	2000	Intermediate Art Studio	2, 6
ART	2111	Drawing II	2
ART	2112	Painting II	2
ART	2114	Photographic Art I	2
ART	2115	Introduction to Digital Photography	2, 6
ART	2116	Mixed Media I	2, 6
ART	2201	Foundation Digital Imaging	2, 6
ART	2241	Advanced Ceramics	6
ART	2260	Art, Portfolio Design and Professional Development	6
ART	2261	Art, Portfolio Design and Professional Development Internship	6
ART	2999	AFA-Visual Art Capstone Exhibition	2, 6
ASL	1100	Introduction to Deaf Studies	7
ASL	1101	American Sign Language and Deaf Culture I	8
ASL	1102	American Sign Language and Deaf Culture II	8
BIOL	1102	Introduction to Horticulture	3
BIOL	1104	Biology of Human Concerns	2, 3
BIOL	1107	Environmental Science Issues	2, 3, 10
BIOL	1108	Environmental Science Issues Lab	2, 3, 10
BIOL	1115	Introduction to Biotechnology	3

BIOL	1122	General Biology I	2, 3
BIOL	1123	General Biology II	3, 10
BIOL	1152	Food Science	3
BIOL	1161	Introduction to Freshwater Biology	3, 10
BIOL	1170	Essentials of Human Anatomy and Physiology	3
BIOL	2010	General Ecology	3, 10
BIOL	2202	Principles of Nutrition	2, 3
BIOL	2220	General Microbiology	3
BIOL	2240	Genetics	3
BIOL	2260	Human Anatomy and Physiology I	3
BIOL	2261	Human Anatomy and Physiology I Lab	3
BIOL	2262	Human Anatomy and Physiology II	3
BIOL	2263	Human Anatomy and Physiology II Lab	3
BIOL	2267	Medical Microbiology	3
BIOL	2268	Medical Microbiology Lab	3
CHEM	1100	Fundamental Concepts of Chemistry	2, 3
CHEM	1101	Principles of General Chemistry	2, 3
CHEM	1111	General Inorganic Chemistry I	2, 3
CHEM	1112	General Inorganic Chemistry II	2, 3
CHEM	1115	Introduction to Organic and Biochemistry	2, 3
CHEM	2224	Organic Chemistry I	2, 3
CHEM	2225	Organic Chemistry II	2, 3
CHIN	1101	Introduction to Chinese	8
COMM	1100	Communication and Effective Human Relations	1, 2
COMM	1120	Introduction to Public Speaking	1
COMM	1130	Small Group Communication	1, 2
COMM	1140	Interpersonal Communication	1
COMM	2220	Oral Interpretation	6
COMM	2230	Intercultural Communication	7
COMM	2240	Family Communication	2
COMM	2250	Gender Communication	7
COMM	2260	Computer-Mediated Communication	1
ECON	1150	Essentials of Economics	2, 5
ECON	2210	Macroeconomics	2, 5
ECON	2222	Microeconomics	2, 5, 9
ENGL	1101	College Writing	1
ENGL	1205	Writing About Literature	1
ENGL	1210	Writing About Current Issues	1
ENGL	1215	Professional and Technical Writing	1
ENGL	2200	Introduction to Creative Writing	6
ENGL	2221	Creative Writing: Poetry	6
ENGL	2222	Creative Writing: Fiction	6
ENGL	2223	Creative Writing: Personal Narrative	6
ENGL	2228	A Well Examined Life: Reading and Writing Memoir	6, 7
ENGL	2230	Environmental Literature	2, 6, 10
ENGL	2234	Introduction to Literature: Short Stories	2, 6, 7
ENGL	2235	Introduction to Literature: Drama	2, 6, 8
ENGL	2236	Introduction to Literature: Novel	2, 6, 7
ENGL	2237	Introduction to Literature: Short Prose	2, 6, 9
ENGL	2238	Literature, Illness and the Human Condition	6, 9
ENGL	2239	Nature Writers	2, 6, 10
ENGL	2302	American Ethnic Literature	6, 7
ENGL	2304	Introduction to Literature, Native American Focus	2, 6
ENGL	2310	Introduction to Mythology	6
ENGL	2314	Introduction to Shakespeare	6
ENGL	2321	Women in Literature	6, 7
ENGL	2322	Banned Literature	2, 6, 7
ENGL	2323	Horror and Supernatural Fiction	2, 6
ENGL	2324	Travel Literature	2, 6, 10
ENGL	2325	Contemporary World Literature	6, 8
ENGL	2372	Children's Literature	2, 6, 7
ENGL	2374	The Poetics of Rock Lyrics	2, 6
GEOG	1110	World Geography	5, 8
GEOG	1160	Global Physical Geography	8, 10
GLST	1510	Global Studies: Natural Science	3, 8
HIST	1101	Western Civilization: Ancient to 1600s	5, 8
HIST	1102	Western Civilization: 1600s to the Present	5, 8
HIST	1110	Western Civilization: Ancient-1400's	5, 8
HIST	1111	Western Civilization: 1400's-1600's	5, 8
HIST	1112	Western Civilization: 1600's-1800's	5, 8
HIST	1113	Western Civilization: 20th Century	5, 8

HIST	1201	American History to 1877	5, 7
HIST	1202	American History since 1877	5, 7
HIST	1500	European Experience	5, 8
HIST	1600	History of Baseball	5
HIST	1700	The History of America's National Parks	5, 10
HIST	2211	American History: the Colonial Period	5, 7
HIST	2212	American History 19th Century	5, 7
HIST	2213	American History: 20th Century	5, 7
HIST	2220	Minnesota and Northern Plains History	5, 10
HONS	1101	Introduction to Honors	2
HONS	2900	Honors Capstone Seminar	2
HUM	1101	Introduction to the Humanities	2, 6
HUM	1105	Religion in the Humanities	6, 8
HUM	1110	Native American Culture	2, 6, 7
HUM	1120	Culture of Italy	6, 8
HUM	1132	Women in the Humanities	6, 7
HUM	1134	Global Perspectives for Women	6, 8
HUM	1201	Religion and the American Experience	6, 7
HUM	2210	Introduction to Film	2, 6
HUM	2230	World Cinema	6, 8
HUM	2236	Technology in the Humanities	2, 6, 8
HUM	2281	Culture of the British Isles	6, 8
HUM	2293	Field Experience: Europe	6, 8
HUM	2295	Field Experience: The East	6, 8
HUM	2301	Heroes, Moral and Cultural	2, 6
ILS	1100	Integrative Learning Seminar I	2
ILS	2100	Integrative Learning Seminar II	2
MATH	1100	World of Math	2, 4
MATH	1101	Mathematical Reasoning	2, 4
MATH	1102	Finite Math	2, 4
MATH	1114	College Algebra	2, 4
MATH	1115	Functions/Trigonometry	2, 4
MATH	1116	College Trigonometry	2, 4
MATH	1118	Precalculus	2, 4
MATH	1122	Applied Calculus and Linear Algebra	2, 4
MATH	1134	Calculus I	2, 4
MATH	1135	Calculus II	2, 4
MATH	1207	Elementary Statistics	2, 4
MATH	1213	Introduction to Statistics	2, 4
MATH	2200	Principles of Arithmetic	2, 4
MATH	2231	Calculus III	2, 4
MATH	2257	Linear Algebra	2, 4
MCOM	1122	Introduction to Mass Communication	5, 9
MCOM	1142	Popular Culture and Social Media	7
MCS	2230	Multicultural America	7
MUSC	1113	Beginning Class Voice	6
MUSC	1114	Beginning Class Piano	6
MUSC	1115	America's Musical Heritage	6, 7
MUSC	1116	World Music	6, 8
MUSC	1117	Beginning Class Guitar	6
MUSC	1118	Rock and Pop Music	6
MUSC	1118	Rock and Pop Music	6
MUSC	1120	Introduction to Music Technology	6
MUSC	1121	Basic Theory and Musicianship I	2, 6
MUSC	1122	Basic Theory and Musicianship II	6, 2
MUSC	1123	Sight Singing and Ear Training I	6
MUSC	1124	Sight Singing and Ear Training II	6
MUSC	1131	Civic Orchestra	6
MUSC	1135	Voice Ensemble	6
MUSC	1141	Concert Choir	6
MUSC	1145	Chamber Chorale	6
MUSC	1150	History of Jazz	6
MUSC	1151	Individual Voice Lessons	6
MUSC	1160	Music Business: Creating and Promoting Music	6
MUSC	1162	Jazz Ensemble	6
MUSC	1164	Concert Band	6
MUSC	1168	Pep Band	6
MUSC	1181	Private Instrumental Lessons	6
MUSC	1185	Private Music Composition Lessons	6
MUSC	1191	Individual Piano Lessons	6
MUSC	2214	Class Piano II	6
MUSC	2223	Sight Singing and Ear Training III	6
MUSC	2224	Sight Singing and Ear Training IV	6
MUSC	2231	Advanced Theory and Musicianship III	2, 6
MUSC	2232	Advanced Theory and Musicianship IV	2, 6
MUSC	2251	Individual Voice Lessons	6
MUSC	2281	Private Instrumental Lessons	6

MUSC	2285	Advanced Music Composition	6
MUSC	2291	Individual Piano Lessons	6
PHIL	1130	Critical Thinking	2
PHIL	1200	Applied and Professional Ethics	2, 9
PHIL	1201	Ethics	2, 6, 9
PHIL	1211	Introduction to Philosophy	2, 6
PHIL	2220	Environmental Ethics	9, 10
PHIL	2224	Philosophy of Religion	2, 6, 8
PHIL	2225	Bioethics	2, 9
PHIL	2230	Existentialism	2, 6
PHIL	2235	Symbolic Logic	4
PHIL	2240	Non-Western Philosophical Perspectives	6, 8
PHIL	2300	Political and Social Philosophy	5, 7
PHYS	1105	Fundamental Concepts in Physics	3
PHYS	1106	Fund of Physics - Mechanics	3
PHYS	1107	Physics of Music	3, 6
PHYS	1108	Physics of Flight	3
PHYS	1120	Introduction to Astronomy	3
PHYS	1401	College Physics I	3
PHYS	1402	College Physics II	3
PHYS	1411	University Physics I	3
PHYS	1412	University Physics II	3
POLS	1120	American National Government	5, 9
POLS	1130	State and Local Government	5, 9
POLS	2204	Comparative Government	5, 8
POLS	2206	Global Politics	5, 8
POLS	2220	Introduction to Constitutional Theory	2, 5, 9
POLS	2310	Ideas and Ideologies	7, 9
POLS	2950	Introduction to Social Research	2, 5
PSYC	1101	Human Interaction	2, 5
PSYC	1200	General Psychology	5, 9
PSYC	1202	Introduction to Autism Spectrum Disorders	5
PSYC	1500	Positive Psychology	5, 9
PSYC	2220	Abnormal Psychology	5
PSYC	2222	Lifespan Development	5, 9
PSYC	2224	Social Psychology	5, 7
PSYC	2226	Behavior and Environmental Management	2, 5, 10
PSYC	2230	Personality Psychology	5
PSYC	2302	Cross-Cultural Psychology	5, 7
PSYC	2900	Statistics for Behavioral and Social Sciences	5
PSYC	2950	Introduction to Social Research	2, 5
SOC	1111	Introduction to Sociology	2, 5, 7
SOC	1113	Social Problems	5, 9
SOC	1114	Sociology Service Learning	5
SOC	2210	Social Deviance	5, 7
SOC	2213	Sociology of the Family	5, 7
SOC	2215	Criminology	2, 5
SOC	2216	Minority Group Relations	5, 7
SOC	2217	Rural Sociology	5, 7
SOC	2220	Food, Culture and Society	5, 7
SOC	2222	Sociology of Agriculture	5
SOC	2950	Introduction to Social Research	2, 5
SPAN	2211	Intermediate Spanish I	8
SPAN	2212	Intermediate Spanish II	8
THTR	1100	Introduction to Theatre	6
THTR	1105	Acting I	6
THTR	1120	Theatre Performance Practicum	6
THTR	1125	Theatre Technical Practicum	6
THTR	1130	Stage Make-up	6
THTR	1140	Stagecraft	6
THTR	2120	Script Analysis	6
THTR	2130	Design for the Stage	6
WMST	1130	Introduction to Women's Studies	5, 7
WMST	1136	Global Perspectives of Women	6, 8



Liberal Arts & Sciences — Associate of Arts Degree ( AA) — 60 credits					
Minnesota Transfer Curriculum (MnTC) — 40 credits					
The AA and/or the MnTC satisfy the general education requirements of Minnesota State system.					
Associate in Arts Degree (AA)					
● Requires completion of all 10 goal areas below with a minimum of 40 credits from MnTC and elective credits to bring the total to 60. A degree is awarded after successful completion of the 60 required credits.					
For certification of Minnesota Transfer Curriculum (MnTC)					
● Requires completion of all 10 goal areas below with the 40 credit minimum from MnTC. Additional electives are not required. While a degree is not awarded at the completion of the 40 credits, a student’s transcript will indicate completion of the MnTC.					
Area 1:	Communication (9 credits)	Area 7:	Human Diversity (3 credits)		
	Prep courses may be needed; see your advisor.				
	ENGL 1101 (3 cr) _____				
	ENGL 1205, 1210 or 1215 (3 cr) _____	Area 8:	Global Perspective (3 credits)		
	COMM 1120, 1130 or 1140 (3 cr) _____				
Area 2:	Critical Thinking (select 6 credits from 2 disciplines)	Area 9:	Ethical and Civic Responsibility (3 credits)		
	_____				
	_____				
	_____	Area 10:	People and the Environment (3 credits)		
Area 3:	Natural Sciences (6 credits, at least one course must include a lab)				
	_____		A minimum of 40 credits required to this point. *Important: Fulfilling the minimum requirements for each area will total 36 credits only. 4 additional credits in Areas 1-10 are required		
	_____				
	_____		Elective credits to bring total to 60		
	_____				
Area 4:	Mathematics/Logical Reasoning (3 credits)				
	Prep courses may be needed; see your advisor.				
	_____				
	_____				
	_____				
	_____				
Area 5:	History and the Social and Behavioral Sciences				
	(9 credits from 2 or more disciplines)				
	_____				
	_____				
	_____				
	_____				
			Elective Credits		
			General Education Credits		
			Total Credits (60 required)		
Area 6:	The Humanities and Fine Arts	Notes			
	(9 credits from 3 different disciplines. A maximum of 3 Fine Arts credits may be used. Fine Arts credits are denoted as 6F on the schedule.)				
	_____				
	_____				
	_____				
	_____				
	Subtotal				

## Accounting AAS

Associate of Applied Science (AAS) - 60 credits  
M O

This major provides the knowledge and skills necessary to examine, analyze, interpret and correct accounting data for the purpose of preparing financial statements, budgets, forecast accounting reports, payroll reports and individual state and federal income tax returns. Computerized accounting concepts are included in this area of study.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
3 credits from the following:		
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
9 credits from the following:		
ACCT2256	Income Tax-Business.....	3
ACCT2630	Fund/Nonprofit Accounting .....	3
ACCT2640	Accounting Internship .....	1 - 4
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
HRES1122	Human Resource Management.....	3
HRES1130	Benefits Administration.....	3
3 credits from the following:		
CPTR1104	Introduction to Computer Technology .....	3
MIS1100	Business Computers .....	3
ACCT1101	Payroll.....	3
ACCT1120	Business Law .....	3
ACCT1124	Spreadsheet Applications.....	3
ACCT2210	Managerial Accounting .....	4
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
ACCT2218	QuickBooks.....	2
ACCT2219	Microsoft Dynamics - GP .....	2
ACCT2255	Income Tax-Individual.....	3
ACCT2616	Intermediate Accounting I.....	3
ACCT2618	Intermediate Accounting II.....	3
COMM1120	Introduction to Public Speaking .....	3
ENGL1101	College Writing.....	3
PDEV1102	Contemporary Career Search .....	1

## Accounting Clerk

Diploma - 33 credits  
D M O

This program provides the knowledge and skills necessary to perform routine calculating, journalizing, posting and verifying duties to maintain accounting records and to prepare payroll reports and individual state and federal tax returns. Both manual and computerized accounting concepts and applications are included.

Course #	Course Title	Crds
Goal Area	1. Communication .....	3
9 credits from the following:		
ACCT1120	Business Law .....	3
ACCT2210	Managerial Accounting.....	4

ACCT2219	Microsoft Dynamics - GP .....	2
ACCT2256	Income Tax-Business.....	3
ACCT2616	Intermediate Accounting I.....	3
ACCT2630	Fund/Nonprofit Accounting .....	3
ACCT2640	Accounting Internship .....	1 - 4
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
HRES1122	Human Resource Management.....	3
HRES1130	Benefits Administration.....	3
ACCT1101	Payroll.....	3
ACCT1124	Spreadsheet Applications.....	3
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
ACCT2218	QuickBooks.....	2
ACCT2255	Income Tax-Individual.....	3
MIS1100	Business Computers .....	3
PDEV1102	Contemporary Career Search .....	1

## Accounting Transfer Pathway

Associate of Science (AS) - 60 credits  
F M O

The Accounting Transfer Pathway AS offers students a powerful option: the opportunity to complete an Associate of Science degree with course credits that directly transfer to designated accounting bachelor’s degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree and transferring to one of the seven Minnesota State universities enter the university with junior-year status. All courses in the transfer pathway associate degree will directly transfer and apply to the designated bachelor’s degree programs in a related field.

Course #	Course Title	Crds
Crs Subject	ACCT .....	8
Goal Area	1. Communication .....	3
Goal Area	3. Natural Sciences .....	4
Goal Area	6. The Humanities and Fine Arts .....	3
ACCT1120	Business Law .....	3
ACCT2210	Managerial Accounting .....	4
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
COMM1120	Introduction to Public Speaking .....	3
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
ENGL1101	College Writing .....	3
MATH1114	College Algebra.....	4
MATH1213	Introduction to Statistics .....	4
MIS1100	Business Computers .....	3

## Administrative Office Assistant-Finance

Certificate - 18 credits  
O

This program covers the basic fundamentals of office assisting and offers an introduction to finance, providing students with the skills needed to obtain entry-level jobs as member service representatives, customer relations associates, office assistants and front desk agents. The Administrative Office Assistant - Finance certificate provides students with additional options to obtain a diploma, if desired.

Course #	Course Title	Crds
3 credits from the following:		
ADMS1120	Administrative Office Procedures.....	3
ADMS1128	Records Management .....	3
9 credits from the following:		
BUS1300	Financial Statement Analysis.....	3
FNCS1110	Introduction to Financial Services .....	3
FNCS1119	Personal Finance Products/Customer Service.....	3
FNCS2221	Real Estate Lending .....	3
ADMS1110	Word Processing.....	3
ADMS1116	Business Communications I.....	3

## Administrative Office Assistant-Human Resources

Certificate - 18 credits  
O

This program is designed to provide the basics of human resource functions and services to individuals who are interested in working in entry-level administrative support positions with a human resources emphasis.This certificate will provide a basic understanding of the professional skills and language/vocabulary needed to perform duties in this role. This certificate may be stacked with other courses and certificates to obtain a diploma or AAS degree.

Course #	Course Title	Crds
3 credits from the following:		
ADMS1120	Administrative Office Procedures.....	3
ADMS1130	Office Software Applications .....	3
9 credits from the following:		
HRES1122	Human Resource Management.....	3
HRES1126	Talent Acquisition .....	3
HRES1134	Training and Development .....	3
HRES2204	Policy Administration .....	3
HRES2224	Employee/Labor Relations .....	3
ADMS1110	Word Processing.....	3
ADMS1116	Business Communications I.....	3

## Administrative Office Assistant-Legal

Certificate - 18 credits  
O

This program prepares students for entry-level administrative duties in law offices and other legal settings by providing a basic understanding of the terminology used and professional skills required in the field through specialized coursework unique to the legal profession.

Course #	Course Title	Crds
3 credits from the following:		
ADMS1120	Administrative Office Procedures.....	3
ADMS1130	Office Software Applications .....	3
ADMS1110	Word Processing.....	3
ADMS1116	Business Communications I.....	3
PARA1101	Introduction to Paralegal.....	3
PARA1102	Legal Research and Writing I .....	3
PARA1105	Criminal Law for Paralegals .....	3

## Administrative Support

Diploma - 44 credits  
O

The Administrative Support diploma program prepares students for the workforce by focusing on the administrative and technical skills needed to meet the demands of the current and emerging office environment. The program provides both the theory and practice needed in order for students to succeed in an office environment. After successful completion of the program, students will be knowledgeable in business office software, administrative procedures, communication, teamwork and problem solving.

Course #	Course Title	Crds
3 credits from the following:		
COMM1100	Power and Communications in Human Relations .....	3
COMM1140	Interpersonal Communication.....	3
ENGL1215	Professional and Technical Writing.....	3
3 credits from the following:		
ADMS2212	Integrated Office Software Applications.....	3
BUS1300	Financial Statement Analysis.....	3
FNCS1110	Introduction to Financial Services .....	3
FNCS1119	Personal Finance Products/Customer Service.....	3
FNCS2221	Real Estate Lending .....	3
HRES1122	Human Resource Management.....	3
HRES1126	Talent Acquisition .....	3
HRES1134	Training and Development .....	3
HRES2204	Policy Administration .....	3
HRES2224	Employee/Labor Relations .....	3
PARA1101	Introduction to Paralegal.....	3
PARA1102	Legal Research and Writing I .....	3
PARA1105	Criminal Law for Paralegals .....	3
3 credits from the following:		
ADMS2124	Emerging Office Technologies .....	3
BUS1300	Financial Statement Analysis.....	3

FNCS1110	Introduction to Financial Services .....	3
FNCS1119	Personal Finance Products/Customer Service.....	3
FNCS2221	Real Estate Lending .....	3
HRES1122	Human Resource Management.....	3
HRES1126	Talent Acquisition .....	3
HRES1134	Training and Development .....	3
HRES2204	Policy Administration .....	3
HRES2224	Employee/Labor Relations .....	3
PARA1101	Introduction to Paralegal.....	3
PARA1102	Legal Research and Writing I .....	3
PARA1105	Criminal Law for Paralegals .....	3
3 credits from the following:		
ADMS2216	Business Communications II.....	3
BUS1300	Financial Statement Analysis.....	3
FNCS1110	Introduction to Financial Services .....	3
FNCS1119	Personal Finance Products/Customer Service.....	3
FNCS2221	Real Estate Lending .....	3
HRES1122	Human Resource Management.....	3
HRES1126	Talent Acquisition .....	3
HRES1134	Training and Development .....	3
HRES2204	Policy Administration .....	3
HRES2224	Employee/Labor Relations .....	3
PARA1101	Introduction to Paralegal.....	3
PARA1102	Legal Research and Writing I .....	3
PARA1105	Criminal Law for Paralegals .....	3
ACCT1012	Principles of Bookkeeping CK .....	3
ACCT2216	.....	3
ADMS1100	Keyboarding I.....	3
ADMS1110	Word Processing.....	3
ADMS1112	Desktop Publishing.....	3
ADMS1116	Business Communications I.....	3
ADMS1120	Administrative Office Procedures.....	3
ADMS1128	Records Management .....	3
ADMS1130	Office Software Applications .....	3
ADMS1190	Keyboarding II.....	1
ADMS2205	Advanced Word Processing .....	1
ADMS2240	Administrative Office Professional Internship II .....	3

Track: FNCS Track

Course #	Course Title	Crds
Crs Subject	FNCS .....	9
3 credits from the following:		
COMM1100	Power and Communications in Human Relations .....	3
COMM1140	Interpersonal Communication.....	3
ENGL1215	Professional and Technical Writing.....	3
ACCT1012	Principles of Bookkeeping CK .....	3
ACCT2216	.....	3
ADMS1100	Keyboarding I.....	3
ADMS1110	Word Processing.....	3
ADMS1112	Desktop Publishing.....	3
ADMS1116	Business Communications I.....	3
ADMS1120	Administrative Office Procedures.....	3
ADMS1128	Records Management .....	3
ADMS1130	Office Software Applications .....	3
ADMS1190	Keyboarding II.....	1
ADMS2205	Advanced Word Processing .....	1
ADMS2240	Administrative Office Professional Internship II .....	3

Track: HRES Track

Course #	Course Title	Crds
Crs Subject	HRES .....	9
3 credits from the following:		
COMM1100	Power and Communications in Human Relations .....	3
COMM1140	Interpersonal Communication.....	3
ENGL1215	Professional and Technical Writing.....	3
ACCT1012	Principles of Bookkeeping CK .....	3
ACCT2216	.....	3
ADMS1100	Keyboarding I.....	3
ADMS1110	Word Processing.....	3
ADMS1112	Desktop Publishing.....	3
ADMS1116	Business Communications I.....	3
ADMS1120	Administrative Office Procedures.....	3
ADMS1128	Records Management .....	3
ADMS1130	Office Software Applications .....	3
ADMS1190	Keyboarding II.....	1
ADMS2205	Advanced Word Processing.....	1
ADMS2240	Administrative Office Professional Internship II .....	3

Track: PARA Track

Course #	Course Title	Crds
Crs Subject	PARA .....	9
3 credits from the following:		
COMM1100	Power and Communications in Human Relations .....	3
COMM1140	Interpersonal Communication.....	3
ENGL1215	Professional and Technical Writing.....	3
ACCT1012	Principles of Bookkeeping CK .....	3
ACCT2216	.....	3
ADMS1100	Keyboarding I.....	3
ADMS1110	Word Processing.....	3
ADMS1112	Desktop Publishing .....	3
ADMS1116	Business Communications I.....	3
ADMS1120	Administrative Office Procedures.....	3
ADMS1128	Records Management .....	3
ADMS1130	Office Software Applications .....	3
ADMS1190	Keyboarding II.....	1
ADMS2205	Advanced Word Processing.....	1
ADMS2240	Administrative Office Professional Internship II .....	3

## American Sign Language Studies

Certificate - 17 credits  
M

The American Sign Language (ASL) Studies certificate provides students with a basic knowledge of American Sign Language and Deaf Culture. The curriculum provides a foundation for entry into a career in a deafness-related field and prepares students for continued educational studies in more advanced preparation for ASL interpreter certification. This program does not prepare students to become interpreters.

Course #	Course Title	Crds
ASL1111	American Sign Language and Deaf Culture I .....	3
ASL1112	American Sign Language and Deaf Culture II .....	3

ASL1113	American Sign Language and Deaf Culture III .....	4
ASL1114	American Sign Language and Deaf Culture IV .....	4
COMM2230	Intercultural Communication .....	3

## Architectural Drafting

Diploma - 35 credits  
D

Students completing this program will be prepared to obtain employment with architectural and engineering firms, contractors and a variety of manufacturing and distributing companies related to the construction industry. Computer-aided drafting is an important tool for the construction industry and the design professions and is an important part of the Architectural Drafting program. This program teaches students the principles of residential and commercial building technology, as well as the drafting skills to apply them.

Course #	Course Title	Crds
ARCH1122	Computer Aided Drafting for Architecture .....	4
ARCH1126	Residential Project I.....	3
ARCH2248	CADD Alternatives .....	3
BLDG1114	Blueprint Reading I.....	2
CADD1000	AutoCAD Basics .....	3
CIVL1100	Survey I: Fundamentals of Surveying .....	3
CONM1124	Building Systems.....	3
CONM2206	Building Codes.....	2
ENGL1101	College Writing.....	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics.....	3
ENGT1134	Office Systems and Equipment.....	3

## Architectural Drafting and Design

Associate of Applied Science (AAS) - 72 credits  
D

Students completing this program will be prepared to obtain employment with architectural and engineering firms, contractors and a variety of manufacturing and distributing companies related to the construction industry. Computer-aided drafting is an important tool for the construction industry and design professions and is an important part of the Architectural Drafting and Design program. This program teaches students the principles of residential and commercial building technology, as well as the drafting skills to apply them. Students also will be enrolled in general education courses selected to complement their technical education. This degree can allow students to continue their education in a number of baccalaureate programs at four-year institutions.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	9
ARCH1122	Computer Aided Drafting for Architecture .....	4
ARCH1126	Residential Project I.....	3
ARCH2226	Residential Project II.....	4
ARCH2232	Civil and Structural Integration.....	3

ARCH2236	Architectural Presentation .....	2
ARCH2242	Mechanical and Electrical Integration .....	3
ARCH2244	Commercial Projects .....	4
ARCH2248	CADD Alternatives .....	3
ARCH2250	Project Administration .....	2
BLDG1114	Blueprint Reading I.....	2
CADD1000	AutoCAD Basics .....	3
CIVL1100	Survey I: Fundamentals of Surveying .....	3
COMM1120	Introduction to Public Speaking .....	3
CONM1108	Principles of Estimating.....	4
CONM1124	Building Systems.....	3
CONM2206	Building Codes.....	2
ENGL1101	College Writing.....	3
ENGT1100	Introduction to Building Information Modeling .....	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics.....	3
ENGT1134	Office Systems and Equipment.....	3

## Art Transfer Pathway

Associate of Fine Arts (AFA) - 60 credits  
F

The 60-credit AFA in Art provides students with the skills to help them develop into professional artists. Students will explore multiple areas in the visual arts including design, painting, drawing, ceramics, mixed media, printmaking and photography. In addition, students will explore artistic intent and exhibition opportunities. The degree ensures that students will have the necessary coursework to prepare for transfer and advanced studies in the visual arts.

Course #	Course Title	Crds
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3 credits from the following:

HIST2213	American History: 20th Century .....	3
PSYC1200	General Psychology .....	3
PSYC2220	Abnormal Psychology .....	3
PSYC2224	Social Psychology.....	3
SOC1111	Introduction to Sociology .....	3

3 credits from the following:

ART1140	Handbuilt Ceramics .....	3
ART2114	Photographic Art I .....	3
ART2116	Mixed Media I.....	3
ART2241	Advanced Ceramics .....	3

3 credits from the following:

COMM1120	Introduction to Public Speaking .....	3
COMM1140	Interpersonal Communication.....	3

3 credits from the following:

ENGL2239	Nature Writers.....	3
ENGL2324	Travel Literature .....	3
HIST1700	The History of America's National Parks .....	3
ART1101	Drawing I .....	3
ART1107	Foundations of Art, 2-D .....	3
ART1109	Foundations of Art, 3-D .....	3
ART1114	Painting I.....	3
ART1117	Printmaking I .....	3
ART1127	World of Art I.....	3
ART1128	World of Art II.....	3

ART1142	Introduction to Ceramics.....	3
ART2000	Intermediate Art Studio.....	3
ART2115	Introduction to Digital Photography.....	3
ART2201	Foundation Digital Imaging .....	3
ENGL1101	College Writing.....	3
ENGL1210	Writing About Current Issues .....	3
ENGL2321	Women in Literature .....	3
HUM1110	Native American Culture .....	3
PHIL1201	Ethics .....	3

## Associate of Arts Degree: Social Science Emphasis

Associate of Arts (AA) - 60 credits  
D F M O

The Associate of Arts degree with Emphasis in Social Science provides the necessary lower division coursework for transfer to a four-year major in sociology, social work or human services. Transferability of courses from Minnesota State Community and Technical College (M State) to public higher education systems in Minnesota is enhanced by transfer agreements that are in place. Coursework will transfer in its entirety to the Bachelor of Social Work at Minnesota State University Moorhead and may transfer in part or entirety to other programs and/or post-secondary institutions.

Track: Associate of Arts Degree: Social Science Emphasis - Associate of Arts (AA) (Social Work)

Course #	Course Title	Crds
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3 credits from the following:

ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
Goal Area	1. Communication .....	3
Goal Area	3. Natural Sciences .....	3
Goal Area	4. Mathematics/Logical Reasoning.....	3
Goal Area	6. The Humanities and Fine Arts .....	9
Goal Area	8. Global Perspective.....	3
Crs Type	General Education w/MnTC Goals.....	9
BIOL1104	Biology of Human Concerns .....	3
COMM1120	Introduction to Public Speaking .....	3
ECON1150	Essentials of Economics.....	3
ENGL1101	College Writing.....	3
POLS1120	American National Government.....	3
PSYC1200	General Psychology .....	3
PSYC2222	Lifespan Development.....	3
SOC1111	Introduction to Sociology .....	3
SW2250	Introduction to Social Work/Social Welfare .....	3

Track: Associate of Arts Degree: Social Science Emphasis - Associate of Arts (AA) (Sociology)

Course #	Course Title	Crds
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3 credits from the following:

ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3

Goal Area	1. Communication .....	3
Goal Area	3. Natural Sciences .....	3
Goal Area	4. Mathematics/Logical Reasoning.....	3
Goal Area	6. The Humanities and Fine Arts .....	9
Goal Area	8. Global Perspective .....	3
Crs Type	General Education w/MnTC Goals.....	15
BIOL1104	Biology of Human Concerns .....	3
COMM1120	Introduction to Public Speaking .....	3
ECON1150	Essentials of Economics.....	3
ENGL1101	College Writing .....	3
POLS1120	American National Government.....	3
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3

## Autism Spectrum Disorder

Certificate - 16 credits  
O

This certificate provides the learner with basic knowledge for understanding the characteristics associated with autism spectrum disorder (ASD). Coursework centers on current research and applied theory relevant to the specific communication and developmental needs of individuals with ASD as well as behavior and intervention strategies for serving this population. These opportunities are appropriate for entry-level workers and others caring for individuals with ASD, as well as students interested in learning about ASD. This certificate does not lead to teacher licensure.

Course #	Course Title	Crds
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4 credits from the following:

ED2232	Strategies for Working With Individuals With Autism Spectrum Disorders.....	4
PSYC2232	Strategies for Working With Individuals With Autism Spectrum Disorders .....	4
CPTR1103	Introduction to Assistive Technology.....	3
PSYC1202	Introduction to Autism Spectrum Disorders.....	3
PSYC2226	Behavior and Environmental Management.....	3
PSYC2235	Special Topics for Autism Spectrum Disorders .....	3

## Automotive Service Technology

Associate of Applied Science (AAS) - 72 credits  
M

The automotive service technician works in an exciting and rapidly changing industry. Students in this program will receive training in the many service and diagnostic procedures necessary to maintain our nation on wheels. Students are trained in modern laboratories equipped with current service and testing equipment. Students in Automotive Service Technology have the option of choosing between diploma and AAS degree programs. Students entering this program should have good mechanical aptitude, good communication skills and the ability to read and comprehend service literature. Graduates of this program will have a variety of opportunities including drive line technician, drivability technician, alignment and suspension specialist, transmission



specialist, service adviser and manager. A student with an AAS degree will be better prepared for advancement, including positions as factory and dealer representatives, management and self-employment.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
Crs Subject	COMM .....	3
Crs Subject	ECON .....	3
Crs Subject	HUM .....	3
AMST1101	Automotive Equipment Fundamentals .....	2
AMST1102	Alignment and Suspension I .....	3
AMST1105	Brakes I .....	3
AMST1110	Batteries, Starting and Charging Systems .....	2
AMST1111	Automotive Electronics .....	3
AMST1122	Engines I .....	3
AMST1126	Engines II .....	3
AMST1132	Drivetrains I .....	3
AMST1136	Drivetrains II .....	3
AMST2201	Alignment and Suspension II .....	3
AMST2206	Body Electrical and Mechanical I.....	3
AMST2210	Body Electrical and Mechanical II.....	2
AMST2211	Exhaust Analysis and Fuel Systems.....	3
AMST2214	Electronic Powertrain Control I .....	3
AMST2218	Electronic Powertrain Control II .....	3
AMST2220	Ignition Systems .....	3
AMST2225	Brakes II .....	3
AMST2233	Automatic Transmissions I.....	3
AMST2237	Automatic Transmissions II.....	3
AMST2240	Heating, Ventilation and Air Conditioning.....	3

## Automotive Service Technology

Diploma - 66 credits  
M

Automotive service technicians work in an exciting and rapidly changing industry. Students in this program will receive training in the many service and diagnostic procedures necessary to maintain our nation on wheels. Students are trained in modern laboratories equipped with current service and testing equipment. Students entering this program should have good mechanical aptitude, good communication skills and the ability to read and comprehend service literature. Graduates of this program will have a variety of opportunities including driveline technician, driveability technician, alignment and suspension specialist, transmission specialist and service writer.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	9
AMST1101	Automotive Equipment Fundamentals .....	2
AMST1102	Alignment and Suspension I .....	3
AMST1105	Brakes I .....	3
AMST1110	Batteries, Starting and Charging Systems .....	2
AMST1111	Automotive Electronics .....	3
AMST1122	Engines I .....	3
AMST1126	Engines II .....	3
AMST1132	Drivetrains I .....	3
AMST1136	Drivetrains II .....	3
AMST2201	Alignment and Suspension II .....	3
AMST2206	Body Electrical and Mechanical I.....	3

AMST2210	Body Electrical and Mechanical II.....	2
AMST2211	Exhaust Analysis and Fuel Systems.....	3
AMST2214	Electronic Powertrain Control I .....	3
AMST2218	Electronic Powertrain Control II .....	3
AMST2220	Ignition Systems .....	3
AMST2225	Brakes II .....	3
AMST2233	Automatic Transmissions I.....	3
AMST2237	Automatic Transmissions II.....	3
AMST2240	Heating, Ventilation and Air Conditioning.....	3

## Biology (Minnesota State Transfer Pathway) - Associate of Science

Pathway (AS-P)

Associate of Science (AS) - 60 credits  
F M

An Associate of Science-Pathway degree (AS-P) is awarded upon completion of an academic program in scientific, technological or other professional fields and is titled “Biology (Minnesota State Transfer Pathway).” Transfer pathway programs are designed to provide transfer of all courses within the AS pathway into designated baccalaureate degree programs identified by system universities. This degree is designed for students interested in the various fields of biological sciences such as cell biology, bioengineering, environmental science, fish and wildlife management, forestry, genetics and microbiology. Students majoring in biological sciences may also be interested in the following program areas: biochemistry, chemistry, pre-chiropractic, pre-dentistry, pre-medicine, pre-medical technology, pre-optometry, pre-pharmacy and pre-veterinary medicine. The curriculum should be used as a guide since required courses vary considerably among four-year institutions and professional schools. Students planning a degree in biological sciences or one of the above fields should contact the biology department and work with an advisor. A visit to the intended transfer institution by the spring of the first year is highly recommended.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	12
Goal Area	5. History and the Social and Behavioral Sciences .....	3
Goal Area	6. The Humanities and Fine Arts .....	3
4 credits from the following:		
BIOL2010	General Ecology.....	4
BIOL2220	General Microbiology.....	4
3 credits from the following:		
MATH1115	Functions/Trigonometry.....	4
MATH1116	College Trigonometry .....	3
MATH1122	Applied Calculus and Linear Algebra .....	3
MATH1134	Calculus I .....	5
MATH1135	Calculus II .....	5
MATH1213	Introduction to Statistics .....	4
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
BIOL1122	General Biology I .....	4
BIOL1123	General Biology II .....	4
BIOL2240	Genetics.....	4
CHEM1111	General Inorganic Chemistry I .....	5

CHEM1112	General Inorganic Chemistry II .....	5
COMM1120	Introduction to Public Speaking .....	3
ENGL1101	College Writing.....	3
MATH1114	College Algebra.....	4

## Business Administration

Associate of Applied Science (AAS) - 60 credits  
F

The AAS in Business Administration is a two-year degree designed to prepare students for a career in business at an entry level of management. The degree is designed for the student who wishes to enter the workforce upon graduation. The program offers some general education courses but is concentrated on courses specific to preparing the student for a career in business management.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
ACCT1108	Business Math and Calculators.....	3
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
ACCT2213	Managerial Accounting .....	3
ACCT2215	Computerized Acct App.....	3
ACCT2255	Income Tax-Individual.....	3
BUS1120	Spreadsheet and Database Concepts .....	3
BUS1141	Introduction to Business.....	3
BUS1143	Office Procedures .....	3
BUS1146	Personal Finance .....	3
BUS2150	Legal Environment of Business.....	3
BUS2202	Management Information Systems .....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
CSCI1155	Computer Utilization in Business and Society .....	3
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
ENGL1101	College Writing.....	3

## Business Administration

Certificate - 30 credits  
F

This one-year certificate in Business Administration is designed for the student who wants to prepare for an introductory-level position in the business world. This will give students the opportunity to explore the field of business through select courses.

Course #	Course Title	Crds
ACCT1108	Business Math and Calculators.....	3
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
ACCT2215	Computerized Acct App.....	3
ACCT2255	Income Tax-Individual.....	3
BUS1120	Spreadsheet and Database Concepts .....	3
BUS1141	Introduction to Business.....	3

BUS1143	Office Procedures .....	3
BUS1146	Personal Finance .....	3
CSCI1155	Computer Utilization in Business and Society .....	3

## Business Entrepreneurship

Associate of Applied Science (AAS) - 60 credits  
O

Entrepreneurs create their own path to success and work to make their dreams a reality. This program teaches students the skills and behaviors that contribute to personal and business success. It also prepares students to assess new enterprise opportunities, obtain financial resources, prepare a business plan and market a venture for success. Students will gain the confidence and skills to launch a new venture in an area of expertise, grow an existing business or pursue an advanced degree.

Course #	Course Title	Crds
Crs Type	Career .....	6
Crs Type	General Education w/MnTC Goals.....	3
Goal Area	5. History and the Social and Behavioral Sciences .....	3
ACCT1108	Business Math .....	3
ACCT1124	Spreadsheet Applications.....	3
ACCT2211	Financial Accounting I.....	3
ADMS1116	Business Communications I.....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
COMM1120	Introduction to Public Speaking .....	3
CPTR1104	Introduction to Computer Technology .....	3
ECON2210	Macroeconomics .....	3
ENGL1101	College Writing .....	3
ENTR1100	Introduction to Entrepreneurship .....	3
ENTR1400	Opportunity Analysis .....	3
ENTR2200	Entrepreneurial Field Studies .....	3
ENTR2220	Business Ethics/Professionalism.....	3
ENTR2222	Business Plan Development .....	3
MKTG1110	Customer Service .....	3

## Business Entrepreneurship

Diploma - 33 credits  
O

The primary purpose of this program is to prepare students for management or ownership of a small business. The program not only will prepare students for business management but also enable them to better manage their own personal affairs. It especially will help individuals who may have some of the skills and competencies needed but lack the organization and understanding of business management that is necessary to be successful. Upon completing the classroom work, students will be assisted in finding jobs with business firms offering employment suited to their individual career objectives or in starting their own businesses. This program will help students cultivate their entrepreneurial spirit: that is, a strong desire to be their own boss and a willingness to expend above-average time and energy toward goal accomplishment.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
ACCT1108	Business Math .....	3
ACCT1124	Spreadsheet Applications .....	3
ACCT2211	Financial Accounting I.....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
CPTR1104	Introduction to Computer Technology .....	3
ENTR1400	Opportunity Analysis.....	3
ENTR2200	Entrepreneurial Field Studies .....	3
ENTR2222	Business Plan Development .....	3
MKTG1110	Customer Service .....	3

## Business Transfer Pathway

Associate of Science (AS) - 60 credits

F M O

The Business Transfer Pathway AS offers students a powerful option: the opportunity to complete an Associate of Science degree with course credits that directly transfer to designated business bachelor’s degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree and transferring to one of the seven Minnesota State universities enter the university with junior-year status. Emphasis is on contemporary business practices through coursework in management, marketing, economics, accounting, technology and communications. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor’s degree programs in a related field.

Course #	Course Title	Crds
Goal Area	1. Communication .....	3
Crs Type	General Education w/MnTC Goals.....	3
3 credits from the following:		
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3
3 credits from the following:		
PHIL1200	Applied and Professional Ethics.....	3
PHIL1201	Ethics .....	3
6 credits from the following:		
Crs Type Career .....		
Crs Type General Education w/MnTC Goals.....		
ACCT2210	Managerial Accounting .....	4
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
BUS2150	Legal Environment of Business.....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
COMM1120	Introduction to Public Speaking .....	3
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
ENGL1101	College Writing .....	3
MATH1114	College Algebra.....	4
MATH1213	Introduction to Statistics .....	4
MIS1100	Business Computers .....	3

## Business: Management, Marketing and Sales

Associate of Applied Science (AAS) - 66 credits

D M O

The Business: Management, Marketing and Sales AAS major includes business and general education courses. This major is designed to provide students with the skills necessary for success in a variety of careers in the sales, marketing and management fields. Curriculum includes instruction in areas such as sales, marketing, research, customer service and small business planning. Emphasis is on developing skills in management decision making, communication, problem solving and technology.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
3 credits from the following:		
MKTG1040	Consumer Behavior .....	3
MKTG1110	Customer Service .....	3
3 credits from the following:		
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
3 credits from the following:		
HRES1122	Human Resource Management.....	3
MKTG2250	Strategic Selling and Account Management.....	3
3 credits from the following:		
ACCT1012	Principles of Bookkeeping CK .....	3
ACCT2211	Financial Accounting I.....	3
3 credits from the following:		
ENTR1400	Opportunity Analysis .....	3
MKTG2230	Marketing Research.....	3
3 credits from the following:		
CPTR1104	Introduction to Computer Technology .....	3
CSCI1155	Computer Utilization in Business and Society .....	3
MKTG2234	Computer Marketing Applications .....	3
3 credits from the following:		
ENTR1100	Introduction to Entrepreneurship .....	3
MKTG2236	Small Business Management.....	3
3 credits from the following:		
ACCT1108	Business Math .....	3
BUS1300	Financial Statement Analysis .....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
BUS2220	Global Business .....	3
COMM1120	Introduction to Public Speaking .....	3
ENGL1101	College Writing .....	3
MKTG1106	Professional Selling.....	3
MKTG1116	Advertising and Promotion.....	3
MKTG2204	Advanced Professional Selling .....	3
MKTG2214	E-Marketing .....	3
MKTG2218	Retail Management .....	3
MKTG2290	Management, Marketing and Sales Internship .....	3
MKTG2410	Management and Marketing and Sales Capstone .....	3

## Business: Marketing and Sales

Diploma - 33 credits

D M O

This program prepares students to enter sales and marketing careers. Positions are available in marketing, merchandising, selling, retailing and service businesses. This major includes courses in computer technology, selling strategies, customer service, telemarketing, and retailing and marketing concepts.

Course #	Course Title	Crds
Goal Area	1. Communication .....	3
3 credits from the following:		
CPTR1104	Introduction to Computer Technology .....	3
CSCI1155	Computer Utilization in Business and Society .....	3
MKTG2234	Computer Marketing Applications .....	3
3 credits from the following:		
ENTR1400	Opportunity Analysis.....	3
MKTG2230	Marketing Research.....	3
ACCT1108	Business Math and Calculators.....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
MKTG1106	Professional Selling.....	3
MKTG1110	Customer Service .....	3
MKTG1116	Advertising and Promotion.....	3
MKTG2204	Advanced Professional Selling.....	3
MKTG2218	Retail Management .....	3

## Cardiovascular Technology - Invasive

Associate of Applied Science (AAS) - 60 credits

M

The Cardiovascular Technology - Invasive program prepares the graduate to be a competent entry-level cardiovascular technologist in the cognitive (knowledge), psychomotor (skill) and affective (behavior) learning domains for invasive cardiovascular technology. Students will learn to assist physicians in diagnosing and treating cardiac, peripheral vascular, neurovascular and electrophysiological conditions using current technology, physiological and diagnostic equipment, and therapeutic procedures.

Course #	Course Title	Crds
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2261	Human Anatomy and Physiology I Lab .....	1
BIOL2262	Human Anatomy and Physiology II.....	3
BIOL2263	Human Anatomy and Physiology II Lab .....	1
BIOL2267	Medical Microbiology .....	3
BIOL2268	Medical Microbiology Lab .....	1
COMM1130	Small Group Communication .....	3
CVRI1100	Cardiovascular Technology Survey .....	2
CVRI1105	Introduction to Cardiovascular Technology .....	2
CVRI1110	Cardiovascular Anatomy and Physiology .....	3
CVRI1120	Principles of Patient Care .....	4
CVRI1130	Cardiovascular Technology I .....	3
CVRI1136	Cardiovascular Technology Clinical.....	2

CVRI2130	Cardiovascular Technology II .....	5
CVRI2141	Pharmacology for Cardiovascular Technology .....	2
CVRI2145	Intravenous Therapy.....	1
CVRI2250	Radiation Safety .....	2
CVRI2262	Cardiovascular Technology Practicum I .....	5
CVRI2263	Cardiovascular Technology Practicum II .....	5
CVRI2264	Cardiovascular Technology Practicum III .....	5
MATH1114	College Algebra.....	4

## Child and Adolescent Therapeutic Behavioral Health

Certificate - 17 credits

O

This certificate prepares learners to enter the mental health workplace as a Mental Health Behavioral Aide II (MHBAll). This program provides foundational knowledge for entry-level workers (beyond the level of Mental Health Behavioral Aide I) under the supervision of psychiatrists, psychologists, nurses and other mental health professionals to provide direct patient care for children with mental illnesses and perform related functions.

Course #	Course Title	Crds
Special requirement .. Students must earn a grade of 'C' or better in all program courses to graduate with the MHBA II certificate		
MCS2230	Multicultural America.....	3
PSYC1201	Introduction to Mental Health Behavioral Aide .....	4
PSYC2220	Abnormal Psychology .....	3
PSYC2222	Lifespan Development.....	3
PSYC2226	Behavior and Environmental Management.....	3
PSYC2300	Internship Experience.....	1

## Child Care and Education

Certificate - 24 credits

D M

This certificate program includes coursework in child development (birth through age 8), behavior guidance, development of environments and curriculum for young children and relationships with families, as well as on-site experiences in a variety of programs.

Course #	Course Title	Crds
CDEV1105	Development/Guidance .....	3
CDEV1107	Intro to Early Educ .....	3
CDEV2200	Integrating Play.....	3
CDEV2229	Imaginative Learning .....	3
CDEV2236	Occupational Experience.....	1
CDEV2244	Parent Professional Relations .....	3
CDEV2246	Foundations in Literacy .....	3
CPTR1104	Introduction to Computer Technology .....	3
HLTH1122	CPR-First Aid .....	1
PDEV1102	Contemporary Career Search .....	1



## Cisco Networking

Certificate - 12 credits  
O

This 12-credit certificate will prepare students to take the Cisco Certified Network Associate (CCNA) certification and also the CompTIA Network+ certification. The coursework includes Cisco semesters 1-4. Skill development covers LAN/WAN networking technology and concepts, networking math, networking media, router configuration, switching, VLANs, routing protocols and WAN links and services. The instructor will evaluate computer skills necessary to enter this certificate program. Students should have good reading and study skills, basic computer literacy and awareness of the Internet. Prior experience with computer hardware, binary math and basic electronics is desired but not required. Background in cabling is beneficial. Upon completion of this certificate the student will be able to take the Cisco CCNA and CompTIA Network+ certification exams offered though VUE or Prometric testing centers.

Course #	Course Title	Crds
CPTR1108	CISCO I.....	3
CPTR1118	CISCO II.....	3
CPTR2200	CISCO III.....	3
CPTR2208	CISCO IV.....	3

## Civil Engineering Technology

Associate of Applied Science (AAS) - 60 credits  
D

Students completing the Civil Engineering Technology program are prepared for employment in the civil engineering field. Civil engineering technicians plan, design and monitor construction and maintain public or private works systems with the collaboration and direction of engineers. They gather preliminary data, plan, budget, survey, design, prepare construction documents and administer contracts to provide safe and convenient facilities including highways, bridges, airports, structures, water treatment and distribution systems, and waste water collection and treatment systems. Opportunities are available with state, county and local government public works departments, as well as consulting engineering firms. Students will learn graphic communication skills, advanced surveying techniques and a variety of skills related to engineering technologies. Students also will be enrolled in general education classes selected to build a foundation for their technical courses. This AAS degree can prepare students to continue their education in a number of baccalaureate programs at four-year institutions.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	9
CADD1000	AutoCAD Basics .....	3
CIVL1100	Survey I: Fundamentals of Surveying .....	3
CIVL1119	Survey II: Land Surveys.....	3
CIVL1138	CADD II: Plan Layout.....	3
CIVL2209	Construction Inspection .....	3
CIVL2210	Road Design.....	3
CIVL2230	Civil Engineering Technology Internship.....	3
CIVL2234	Utility Design .....	3

CIVL2238	CADD III: Project Design .....	3
CIVL2240	Introduction to Geographic Information Systems .....	3
CIVL2246	Introduction to Hydrology .....	3
COMM1120	Introduction to Public Speaking .....	3
CONM2204	Materials Testing .....	3
ENGL1101	College Writing.....	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics.....	3
ENGT1134	Office Systems and Equipment.....	3

## Commercial Refrigeration

Diploma - 35 credits  
M

Students in this program will gain the skills and knowledge to be able to service and maintain commercial refrigeration equipment, which includes walk-in coolers and freezers, grocery store coolers and ice-makers. Students will gain skills in layout, installation and repair. Employment opportunities exist with manufacturers, engineers, contractors and specialized service firms. Students learn to research and develop applications of more-efficient, cost-effective equipment and procedures. The knowledge to design, install and maintain these special environments for people, products and perishables is essential today.

Course #	Course Title	Crds
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
REFR2202	Commercial Refrig and A/C Prin.....	4
REFR2204	Commercial Refrig and A/C Lab.....	3
REFR2206	Commercial Electrical Principles .....	3
REFR2208	Commercial Electrical Lab .....	3
REFR2211	Advanced Refrigeration Principles.....	4
REFR2212	Advanced Refrigeration Lab .....	3
REFR2213	Advanced Electrical Theory .....	3
REFR2215	Advanced Electrical Applications.....	3
REFR2216	Refrigeration Internship .....	3
REFR2217	Commercial Grocery Store Refrigeration.....	3

## Computer Programming

Associate of Applied Science (AAS) - 60 credits  
M O

This program provides the programming skills needed in computer application development, database management, computer systems and data communications. Students learn to design, write, code, document and implement computer programs for various computer platforms. They learn at least one operating system, one command-level language, one database management system and other high-level programming languages. The program prepares students to design and develop computer software systems and to design information management systems. It includes the study of languages, software design, information flow and processing. Students study the design of mathematical and simulation models and large-scale programs used for pro-

cessing and retrieving information.

Course #	Course Title	Crds
Special requirement . CPTR1100 and CPTR1104 will NOT be counted as technical electives in the Computer Programming AAS.		
Crs Type	General Education w/MnTC Goals.....	6
Goal Area	4. Mathematics/Logical Reasoning.....	3
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
6 credits from the following:		
Crs Subject CPTR	.....	
Crs Subject CSCI	.....	
Crs Subject CSEC	.....	
Crs Subject CTEC	.....	
Crs Subject CVNP	.....	
Crs Subject INTD	.....	
Crs Subject ITSS	.....	
Crs Subject WEBD	.....	
CPTR1001	Introduction To Programming and Scripting.....	3
CPTR1106	Microcomputer Databases .....	3
CPTR1110	Visual Basic Program I .....	3
CPTR1115	COBOL Programming.....	4
CPTR1129	RPG Programming .....	4
CPTR1170	Web Engineering I .....	3
CPTR2000	Mobile Application Development.....	3
CPTR2230	Structured Query Language .....	3
CPTR2238	Database Integration .....	3
CPTR2242	Java Programming .....	3
CSCI1110	Informatics .....	3
CSCI1121	Computer Science I .....	4
ENGL1101	College Writing.....	3

## Construction Management

Associate of Applied Science (AAS) - 66 credits  
M

The Construction Management program prepares graduates for a variety of careers in construction including management, supervision, estimating, testing and safety. The program focuses on the flow of labor, material, equipment, time and finances from the conception of a project through completion. Students are trained in a combination of skills in construction, business and management. This degree also allows students to continue their education in a baccalaureate program at participating four-year institutions.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
3 credits from the following:		
CPTR1104	Introduction to Computer Technology .....	3
CSCI1110	Informatics .....	3
3 credits from the following:		
ACCT1120	Business Law .....	3
ENGT1100	Introduction to Building Information Modeling .....	3
3 credits from the following:		
ECON2210	Macroeconomics.....	3
ECON2222	Microeconomics .....	3

3 credits from the following:

COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
BUS2204	Principles of Management .....	3
CADD1000	AutoCAD Basics .....	3
CONM1101	Construction Documents and Codes .....	3
CONM1102	Site/Building Layout .....	2
CONM1104	Construction Management Principles .....	2
CONM1108	Principles of Estimating.....	4
CONM1124	Building Systems.....	3
CONM2204	Materials Testing .....	3
CONM2210	Construction Scheduling.....	3
CONM2212	Site Management .....	3
CONM2213	Safety Management .....	2
CONM2217	Computer Estimating and Bidding.....	3
CONM2222	Construction Management Internship .....	2
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics.....	3
MCDD2220	Mechanical Engineering Drawing IV.....	3

## Correctional Officer

Certificate - 25 credits  
M

Students interested in a criminal justice career other than law enforcement may enroll in the Correctional Officer certificate program. The certificate program is designed to provide pre-employment education for the student who desires a position as a correctional officer. The program also provides continuing education for employed correctional officers. Students who complete the certificate program articulate into the two-year Criminal Justice AS degree for peace officer licensing.

Course #	Course Title	Crds
ACCT1012	Principles of Bookkeeping CK .....	3
CPTR1100	Fund Computer Concepts.....	1
CRJU1101	Introduction to Criminal Justice .....	3
CRJU1108	Physical Control Tactics for Corrections.....	3
CRJU1109	Law Enforcement Behavioral Science.....	3
CRJU2201	Criminal Law.....	3
CRJU2206	Police Report Writing .....	3
ENGL1101	College Writing .....	3
SOC2216	Minority Group Relations .....	3

## Cosmetology

Diploma - 58 credits  
W

Cosmetology is the art, science and business of beauty care and thus offers students a variety of career opportunities. Students completing the program can choose to be general cosmetologists or to excel in an area of expertise such as perming and cutting, hair care and coloring, or skin and nail care. Students of the Cosmetology program will re-



ceive a combination of classroom and laboratory work with the opportunity to practice their skills on mannequins and actual customers in the campus salon. Acquired cosmetology hours or credits earned and documented from other licensed colleges, whether in- or out-of-state, may be accepted upon approval of the Minnesota Board of Cosmetologists. Graduates holding a valid cosmetology license are eligible for employment in salons and many other unique employment settings. The Board of Cosmetologists, which is the cosmetology licensing body, requires 1,550 hours of clinical time in order to become licensed in Minnesota. Upon completion of 1,550 hours and passing of the state exam, a license will be issued. (Note: 33 credits in Salon Practicum is the maximum number of credits which can be applied toward the diploma.)

Course #	Course Title	Crds
Special requirement: COSM1200-Salon Practicum, COSM2800-Alexandria Body Sugaring.....		
		30
COSM1000	Principles and Practices .....	3
COSM1002	Client Consultations .....	1
COSM1003	License Preparation .....	1
COSM1004	Cosmetic Chemistry and Makeup Applications .....	1
COSM1005	Hair Reformation .....	1
COSM1006	Spa Therapies .....	1
COSM1007	Gel Nail Applications .....	1
COSM1010	Eyelash Extensions .....	1
COSM1100	Salon Safety .....	1
COSM1109	Skin Analysis .....	1
COSM1117	Shampooing and Rinsing .....	1
COSM1119	Haircutting.....	1
COSM1129	Hairstyling.....	1
COSM1130	Properties of the Hair and Scalp.....	1
COSM1157	Histology of the Skin.....	1
COSM1159	Facials, Make-Up, and Hair Removal .....	1
COSM1161	Nail Structure and Growth .....	1
COSM1163	Hair Color .....	1
COSM1171	Principles of Hair Design.....	1
COSM1179	Minnesota Cosmetology Laws and Rules .....	1
COSM2000	Artistry in Hairstyling.....	1
COSM2100	Chemical Texture Services .....	1
COSM2200	Manicuring/Pedicuring.....	1
COSM2300	Cosmetology Anatomy .....	1
COSM2400	Advanced Nail Techniques.....	1
COSM2500	Salon Business .....	1

## Cosmetology (North Dakota)

Certificate - 9 credits  
W

This program provides the student with the 250 additional hours and educational requirements needed to satisfy the North Dakota cosmetology licensure guidelines. Students must have completed 1550 hours for licensure in Minnesota or already have a current license and have worked in Minnesota less than 3000 hours.

Course #	Course Title	Crds
COSM1153	North Dakota Laws and Rules.....	1
COSM1200	Salon Practicum.....	8

## Criminal Justice

Associate of Science (AS) - 60 credits  
M

The Associate of Science degree in Criminal Justice prepares students for careers in law enforcement. M State's Criminal Justice program has been designated a Professional Peace Officer Education Program by the Minnesota Board of Peace Officer Standards and Training. Students seeking a career in law enforcement will be prepared for and offered the opportunity to complete all educational and practical requirements necessary to apply for peace officer licensing. The internship program provides students with comprehensive training to develop additional skills in critical thinking, communications and practical application. Criminal Justice faculty have extensive academic and practical experience within the field. Students seeking an AS in Criminal Justice are required to declare that intention prior to the second semester of coursework. Acceptance into the program is contingent on the student's completion of at least 12 credits of required general education courses. Achievement of a cumulative grade point average of 2.5 or higher. Successful completion of a personality assessment provided and evaluated through M State. [^Approximate cost = \$140] Completion of a criminal background check through the State of Minnesota or applicable state. [^Approximate cost = \$15] Achievement of at least a C in all Criminal Justice classes. Completion of a required initial advising session with the program coordinator. Note that expenses listed in brackets above and marked by ^ are not eligible for financial aid. If there are more applicants who meet the above criteria than the program can accommodate, applicants will be selected based on program application date. Registration to some Criminal Justice courses is restricted to AS degree students unless approved by the program coordinator.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	21
Crs Subject	CRJU .....	6
COMM1140	Interpersonal Communication.....	3
CRJU1101	Introduction to Criminal Justice .....	3
CRJU1102	Policing and Practices .....	3
CRJU1104	Juvenile Justice and Delinquency .....	3
CRJU1109	Law Enforcement Behavioral Science.....	3
CRJU2201	Criminal Law.....	3
CRJU2202	Criminal Procedures .....	3
CRJU2206	Police Report Writing .....	3
CRJU2209	Criminal Investigations .....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3

## Cybersecurity

Associate of Applied Science (AAS) - 60 credits  
M

This program provides the skills to support and maintain information technology (IT) systems including overall computer knowledge, networking skills, application software and IT security. Students will gain hands-on experience working with routing and switching, server virtualization and private cloud computing environments. Students will explore the concepts of risk, threats, vulnerabilities, attack vectors and

exploits while analyzing known security incidents. Students will write policies and apply policies and recommended security framework controls and countermeasures to decrease risk. Courses in this degree program prepare students for the CompTIA Security + and Cisco CCENT certifications.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
3 credits from the following:		
CPTR2200	CISCO 3 .....	3
CPTR2208	CISCO 4 .....	3
CPTR2234	Linux II .....	3
CPTR2250	IT Supervised Occupational Experience .....	3
CPTR2260	Advanced Structured Query Language.....	3
CPTR2294	Internship .....	3
CPTR2296	Topics in Computers .....	3
CSCI1122	Computer Science II .....	4
3 credits from the following:		
CPTR1170	Web Engineering I .....	3
CPTR1178	Robotics.....	3
CPTR2230	Structured Query Language .....	3
CSCI1121	Computer Science I .....	4
CSEC2212	Web Security .....	3
COMM1120	Introduction to Public Speaking .....	3
CPTR1001	Introduction To Programming and Scripting.....	3
CPTR1106	Microcomputer Databases .....	3
CPTR1108	CISCO 1 .....	3
CPTR1118	CISCO 2 .....	3
CPTR1122	Microcomputer Maintenance .....	3
CPTR2224	Linux I .....	3
CPTR2236	Network Security.....	3
CPTR2245	Enterprise Network Technologies.....	3
CPTR2272	Network Operating Systems.....	3
CSCI1110	Informatics .....	3
CSEC2204	Managing Directory Services.....	3
CSEC2210	Security Breaches and Countermeasures.....	3
CSEC2228	Network Defense.....	3
ENGL1101	College Writing .....	3
HUM2236	Technology in the Humanities .....	3

## Cybersecurity

Certificate - 30 credits  
M O

This certificate is designed for individuals looking to add technical skills in IT security. A person earning this certificate will develop skills to manage and secure the Linux operating system, develop and query an information database, and create simple scripts. Areas of cybersecurity focus include vulnerability assessment, penetration testing, perimeter defense, incident response and applying security measures to reduce risk of a security breach. Content included in the certificate will prepare students for the CompTIA Security+ and Cisco CCENT certifications.

Course #	Course Title	Crds
CPTR1001	Introduction To Programming and Scripting.....	3
CPTR1106	Microcomputer Databases .....	3
CPTR1108	CISCO 1 .....	3
CPTR1118	CISCO 2 .....	3

CPTR2224	Linux I .....	3
CPTR2230	Structured Query Language .....	3
CPTR2234	Linux II .....	3
CPTR2236	Network Security .....	3
CSEC2210	Security Breaches and Countermeasures.....	3
CSEC2228	Network Defense.....	3

## Dental Assisting

Associate of Applied Science (AAS) - 63 credits  
M

The Dental Assisting program provides the knowledge necessary for the dental assistant to assist in performing general clinical assisting and support functions, intraoral clinical procedures, business office procedures and laboratory tasks. The curriculum includes content in general studies; biomedical, dental and clinical sciences; clinical practice; and additional intraoral clinical functions. Certain biomedical and dental science courses offered in the curriculum are common to both Dental Assisting and Dental Hygiene majors. Graduates are eligible to write the Dental Assisting National Board Certification Exam and the Minnesota State Board of Dentistry Registration Exam.

Course #	Course Title	Crds
BIOL2202	Principles of Nutrition .....	3
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2262	Human Anatomy and Physiology II.....	3
BIOL2267	Medical Microbiology.....	3
CHEM1100	Fundamental Concepts of Chemistry .....	3
DENT1100	Biomaterials .....	3
DENT1102	Dental Anatomy.....	2
DENT1103	Introduction for Dental Health Care Providers.....	2
DENT1104	Dental Health Care Providers II .....	1
DENT1106	Dental Radiology Lecture .....	3
DENT1122	Dental Ethics and Jurisprudence .....	1
DNAS1103	Clinical Assisting I .....	6
DNAS1105	Clinical Assisting II .....	5
DNAS1106	Biodental Science .....	3
DNAS1114	Dental Practice Management.....	2
DNAS1119	Advanced Functions .....	5
DNAS1144	Dental Assisting Clinical Affiliations.....	6
DNAS1210	Dental Assisting Radiology Lab I .....	1
DNAS1212	Dental Assisting Radiology Lab II .....	1
DNAS1215	Dental Specialties .....	1
ENGL1101	College Writing .....	3
PSYC1200	General Psychology .....	3

## Dental Assisting

Diploma - 48 credits  
M

The Dental Assisting program provides the knowledge necessary for the dental assistant to assist in performing general clinical assisting and support functions, intra-oral clinical procedures, business office procedures and laboratory tasks. The curriculum includes content in general studies; biomedical, dental and clinical sciences; clinical

practice; and additional intra-oral clinical functions. Certain biomedical and dental science courses offered in the curriculum are common to both Dental Assisting and Dental Hygiene majors. Graduates are eligible to write the Dental Assisting National Board Certification Exam and the Minnesota State Board of Dentistry Registration Exam.

Course #	Course Title	Crds
BIOL2260	Human Anatomy and Physiology I.....	3
DENT1100	Biomaterials .....	3
DENT1102	Dental Anatomy.....	2
DENT1103	Introduction for Dental Health Care Providers.....	2
DENT1104	Dental Health Care Providers II .....	1
DENT1106	Dental Radiology Lecture .....	3
DENT1122	Dental Ethics and Jurisprudence .....	1
DNAS1103	Clinical Assisting I.....	6
DNAS1105	Clinical Assisting II .....	5
DNAS1106	Biodental Science .....	3
DNAS1114	Dental Practice Management.....	2
DNAS1119	Advanced Functions .....	5
DNAS1144	Dental Assisting Clinical Affiliations.....	6
DNAS1210	Radiology Lab .....	1
DNAS1212	Radiology Lab II .....	1
DNAS1215	Dental Specialties .....	1
ENGL1101	College Writing.....	3

## Dental Hygiene

Associate of Applied Science (AAS) - 88 credits  
M

The Dental Hygiene program provides knowledge and skills to perform critical dental services that detect, prevent and treat diseases of the mouth while working as part of a dental team. Students who complete the program will leave with the skills to provide current, comprehensive dental hygiene services and may find employment in a variety of settings including private dental offices, schools, hospitals and public health clinics. Students interested in an advanced degree in dental hygiene or a related field have a number of transfer options to four-year colleges and universities. The Minnesota Board of Dentistry requires BCA and FBI criminal background checks and fingerprint analysis prior to initial licensure in the state of Minnesota.

Course #	Course Title	Crds
BIOL2202	Principles of Nutrition .....	3
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2262	Human Anatomy and Physiology II.....	3
BIOL2267	Medical Microbiology.....	3
CHEM1100	Fundamental Concepts of Chemistry .....	3
DENT1100	Biomaterials .....	3
DENT1102	Dental Anatomy.....	2
DENT1103	Introduction for Dental Health Care Providers.....	2
DENT1104	Dental Health Care Providers II .....	1
DENT1106	Dental Radiology Lecture .....	3
DENT1122	Dental Ethics and Jurisprudence .....	1
DNHY1104	Dental Anatomy Lab .....	1
DNHY1106	Head and Neck Anatomy.....	2
DNHY1108	Oral Histology and Embryology .....	2
DNHY1109	Dental Hygiene Radiology Lab.....	2
DNHY1110	Principles I.....	2

DNHY1112	Dental Hygiene Practice I.....	3
DNHY1118	Oral Pathology .....	2
DNHY1119	Dental Hygiene Principles II.....	4
DNHY1123	Dental Hygiene Practice II.....	5
DNHY1124	Pain Control Lab .....	2
DNHY1130	Dental Hygiene Principles III.....	1
DNHY1132	Dental Hygiene Practice III.....	1
DNHY1136	Dental Pharmacology .....	2
DNHY2210	Dental Hygiene Principle IV .....	2
DNHY2213	Dent Hygiene Prac IV .....	6
DNHY2219	Periodontology .....	2
DNHY2220	Dental Hygiene Principle V .....	1
DNHY2223	Dental Hygiene Practice V .....	6
DNHY2226	Community Dental Hygiene .....	4
DNHY2240	Clinical Affiliation I.....	1
DNHY2246	Clinical Affiliation II.....	1
ENGL1101	College Writing .....	3
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3

## Dialysis Technician

Certificate - 16 credits  
F M

This program prepares students to provide care for patients and participate as an active member of the dialysis team. Students will demonstrate proficiency with initiation, monitoring, termination and documentation of dialysis treatment, and with the preparation and use of dialysis equipment, instruments, dialysate and supplies. Graduates will be prepared to safely care for dialysis patients and families under the supervision of the registered nurse.

Course #	Course Title	Crds
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Special requirement: Students may be required to be register on the North Dakota Board of Nursing, Unlicensed Assistive Personnel Registry (UAP Registry).  
Special requirement: Clear National Background Check  
Special requirement: Current immunizations including a two-step Mantoux and influenza vaccination  
Special requirement: High school diploma or GED  
Special requirement: Clear Mn Department of Health Background Check  
Special requirement: Current certification in American Heart Association Health Care Provider CPR  
COMM1140 Interpersonal Communication..... 3  
DIAT1100 Role of the Dialysis Technician ..... 2  
DIAT1102 Anatomy and Physiology of the Urinary System ..... 2  
DIAT1105 Principles of Dialysis .....

3  
DIAT1115 Principles of Dialysis Lab ..... 3  
DIAT1205 Dialysis Technician Practicum..... 3

## Diesel Equipment Technology

Associate of Applied Science (AAS) - 79 credits  
M

The diesel equipment technician works in an exciting and rapidly changing industry. This program prepares individuals to diagnose and repair diesel engines, clutches and transmissions, starting and suspension systems, wheel alignment, air-conditioning and refrigeration systems, drive lines, differentials, hydraulic and air brake systems, electrical systems, electronically controlled fuel systems and transmissions, and involves instruction in the use of a wide variety of tools and diagnostic testing equipment. Students are prepared for careers in the maintenance of trucks and trailers, farm equipment, construction equipment, stationary diesel engines in electrical generators and other related equipment. About two-thirds of the instruction time is spent in the diesel lab working on live work and training models. Students learn to diagnose problems and disassemble, recondition and replace faulty parts, and get hands-on training in all program areas. This program is an Association of Diesel Specialists TechSmart program participant.

Track: CASE NEW HOLLAND sponsored

Course #	Course Title	Crds
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1 credits from the following:		
HLTH1122	CPR-First Aid .....	1
PDEV1102	Contemporary Career Search .....	1
CPTR1100	Fund Computer Concepts.....	1
DCNH1116	CNH (Case New Holland) Supervised Occupational Experience (SOE) I .....	3
DCNH1118	CNH (Case New Holland) Supervised Occupational Experience (SOE) II .....	7
DCNH2210	Mobile Hydraulics.....	4
DCNH2218	CNH (Case New Holland) Supervised Occupational Experience (SOE) III .....	3
DCNH2238	Transmissions and Drive Systems .....	4
DCNH2242	Advanced Engines and Fuel Systems .....	6
DSET1100	Diesel Equipment Fundamentals.....	2
DSET1101	Software Systems in Transportation.....	2
DSET1106	Fuel Systems .....	2
DSET1110	Power Train I.....	3
DSET1112	Hydraulics I.....	4
DSET1124	Diesel Shop Management .....	1
DSET1130	Trans Elec/Start/Charge.....	4
DSET1132	Introduction to Engine Theory .....	2
DSET1134	Introduction to Engines .....	3
DSET1144	Electrical Troubleshooting.....	3
DSET2204	Advanced Electrical and Emission Systems .....	3
DSET2206	Electronic Controls .....	3
ECON1150	Essentials of Economics.....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
SOC1111	Introduction to Sociology .....	3
TRNS1112	Heating Ventilation A/C.....	3

Track: GENERAL OPTION

Course #	Course Title	Crds
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1 credits from the following:		
HLTH1122	CPR-First Aid .....	1
PDEV1102	Contemporary Career Search .....	1
3 credits from the following:		
DSET1114	Vehicle Brakes.....	3
DSET1116	Fall Supervised Occupational Experience.....	3

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3 credits from the following:

COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
CPTR1100	Fund Computer Concepts.....	1
DSET1100	Diesel Equipment Fundamentals.....	2
DSET1101	Software Systems in Transportation .....	2
DSET1106	Fuel Systems.....	2
DSET1110	Power Train I.....	3
DSET1112	Hydraulics I.....	4
DSET1124	Diesel Shop Management .....	1
DSET1130	Trans Elec/Start/Charge.....	4
DSET1132	Introduction to Engine Theory .....	2
DSET1134	Introduction to Engines .....	3
DSET1140	Supervised Occupational Experience I .....	7
DSET1144	Electrical Troubleshooting .....	3
DSET2204	Advanced Electrical and Emission Systems .....	3
DSET2206	Electronic Controls .....	3
DSET2210	Mobile Hydraulics.....	4
DSET2238	Transmissions and Drive Systems .....	4
DSET2240	Supervised Occupational Experience II .....	3
DSET2242	Advanced Engines and Fuel Systems .....	6
ECON1150	Essentials of Economics.....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
SOC1111	Introduction to Sociology .....	3
TRNS1112	Heating Ventilation A/C.....	3

Track: TRUCK OPTION

Course #	Course Title	Crds
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1 credits from the following:		
HLTH1122	CPR-First Aid .....	1
PDEV1102	Contemporary Career Search .....	1
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
CPTR1100	Fund Computer Concepts.....	1
DSET1100	Diesel Equipment Fundamentals.....	2
DSET1101	Software Systems in Transportation .....	2
DSET1106	Fuel Systems.....	2
DSET1110	Power Train I.....	3
DSET1112	Hydraulics I.....	4
DSET1114	Vehicle Brakes.....	3
DSET1124	Diesel Shop Management .....	1
DSET1130	Trans Elec/Start/Charge.....	4
DSET1132	Introduction to Engine Theory .....	2
DSET1134	Introduction to Engines .....	3
DSET1144	Electrical Troubleshooting .....	3
DSET2204	Advanced Electrical and Emission Systems .....	3
DSET2206	Electronic Controls .....	3
DTRK1140	Supervised Occupational Experience 1 .....	7
DTRK2214	Suspension and Alignment .....	3
DTRK2238	Transmissions and Drive Systems .....	4
DTRK2240	Supervised Occupational Experience II .....	4
DTRK2242	Advanced Engines and Fuel Systems .....	6
ECON1150	Essentials of Economics.....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
SOC1111	Introduction to Sociology .....	3
TRNS1112	Heating Ventilation A/C.....	3



## Diesel Equipment Technology

Diploma - 65 credits  
M

The diesel equipment technician works in an exciting and rapidly changing industry. Students in this program receive the diagnostic and service training needed to be successful in their chosen field. Entering students should have good mechanical aptitude, good communication skills and the ability to comprehend service literature. The program prepares individuals to diagnose and repair all components, including diesel engines, transmissions, drive lines, differentials, hydraulic and air brake systems, electrical systems, electronically controlled fuel systems and transmissions. Students receive instruction in the use of a wide variety of tools and diagnostic testing equipment. Students are prepared for careers requiring them to inspect, diagnose, repair and maintain trucks, trailers, farming equipment, diesel and construction equipment, stationary diesel engines in electrical generators and related equipment. Instruction includes diagnosing, disassembling, repairing and adjusting systems and parts, vehicle service, air brake systems, brakes, starting and suspension systems, wheel alignment, fuel systems, differentials, electronic fuel control, clutch and transmissions, air conditioning and refrigeration. About two-thirds of the instruction time is spent in the diesel lab working on live work and training models. Students learn to diagnose problems and disassemble, recondition and replace faulty parts, and they get hands-on training on such components as electrical, transmissions, air conditioning, brakes, fuel system hydraulics and engines. This program is an Association of Diesel Specialists TechSmart program participant.

Course #	Course Title	Crds
3 credits from the following:		
DSET2214	Suspension and Alignment .....	3
DSET2218	Advanced Fuels .....	3
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
BIOL1107	Environmental Science Issues.....	3
CPTR1100	Fund Computer Concepts.....	1
DSET1100	Diesel Equipment Fundamentals.....	2
DSET1106	Fuel Systems.....	2
DSET1110	Power Train I.....	3
DSET1112	Hydraulics I.....	4
DSET1114	Vehicle Brakes.....	3
DSET1130	Trans Elec/Start/Charge.....	4
DSET1132	Introduction to Engine Theory .....	2
DSET1134	Introduction to Engines .....	3
DSET1144	Electrical Troubleshooting.....	3
DSET2204	Advanced Electrical and Emission Systems .....	3
DSET2206	Electronic Controls .....	3
DSET2210	Mobile Hydraulics.....	4
DSET2220	Internship .....	3
DSET2238	Transmissions and Drive Systems .....	4
DSET2242	Advanced Engines and Fuel Systems .....	6
ENGL1101	College Writing .....	3
TRNS1112	Heating Ventilation A/C.....	3

## Digital Marketing

Associate of Applied Science (AAS) - 60 credits  
M O

This program develops proficiency in the dynamic and rapidly growing field of digital marketing. Knowledge and skills in this field are in high demand as companies create marketing strategies through digital channels including search engines, websites, social media, email and mobile applications. This program provides a solid foundation in marketing and business, while teaching the strategies and techniques to succeed in a digital marketing career. Work environment/job skills: Digital marketers are involved in the creation, delivery and measurement of digital marketing campaigns through search engine optimization, paid search, social media, online advertising and email campaigns in order to drive engagement and customer conversion. Successful digital marketing practitioners have a strong aptitude for marketing and a deep passion for digital and social media, which drives them to continually seek out the latest technology, social platform or mobile app. Digital marketers need to be self-motivated, detail-oriented, problem solvers and analytical thinkers who thrive in a collaborative diverse work environment. Other core competencies include strong verbal, writing, grammar and presentation skills to effectively communicate across all media platforms and with company stakeholders. They are also expected to effectively manage multiple projects in a fast-paced work environment.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
3 credits from the following:		
Crs Subject	BUS .....	
Crs Subject	GDTC.....	
Crs Subject	MGMT .....	
Crs Subject	MKTG .....	
Crs Subject	SOMM .....	
3 credits from the following:		
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
BUS1141	Introduction to Business.....	3
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
DMKT2200	Introduction to Digital Marketing.....	3
DMKT2210	Social Media Marketing.....	3
DMKT2300	Content Marketing .....	3
DMKT2310	Digital Marketing UX Design.....	3
DMKT2320	Search Engine Marketing.....	3
DMKT2330	Email and MMS Marketing.....	3
DMKT2400	Digital Marketing Analytics.....	3
DMKT2410	Digital Marketing Capstone .....	3
ENGL1101	College Writing .....	3
MIS1100	Business Computers .....	3
MKTG1114	Customer Experience .....	3
MKTG1116	Advertising and Promotion.....	3

## Drafting and 3D Technologies

Associate of Applied Science (AAS) - 66 credits  
M

The Drafting and 3D Technologies program prepares students for employment in a wide variety of engineering-related disciplines. Students are trained across multiple two-dimensional and three-dimensional software platforms to generate drawings of parts, assemblies and layouts, as well as other manufacturing and construction-related documentation specifically required by employers. The curriculum incorporates 3D printing, 3D scanning and rapid prototyping as tools for taking student designs from computer models to three-dimensional solids. Graduates of the program enter the workforce as mechanical drafters, designers and engineering technicians. This degree also allows students to continue their education in a baccalaureate program at participating four-year institutions.

Course #	Course Title	Crds
CADD1000	AutoCAD Basics .....	3
CADD1400	Introduction to SolidWorks .....	3
CADD1410	Introduction to Autodesk Inventor .....	3
COMM1120	Introduction to Public Speaking .....	3
ECON2210	Macroeconomics.....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
ENGT1118	Construction and Manufacturing Math.....	3
MCDD1104	Mechanical Engineering Drawing I .....	4
MCDD1106	Mechanical Engineering Drawing II .....	4
MCDD1114	Manufacturing Processes .....	2
MCDD1124	Mechanical Drafting Applications I.....	3
MCDD2112	Geometric Dimensioning and Tolerancing .....	2
MCDD2200	Advanced Modeling with SolidWorks.....	3
MCDD2204	Mechanical Engineering Drawing III.....	4
MCDD2210	Advanced Modeling with Inventor .....	3
MCDD2220	Mechanical Engineering Drawing IV.....	3
MCDD2230	3D Printing and Prototyping.....	2
MCDD2246	Tool Design .....	3
MCDD2252	Mechanical Drafting Applications II.....	4
MCDD2254	Computer Numerical Control .....	2
SOC1111	Introduction to Sociology .....	3

## Drafting and 3D Technologies

Diploma - 60 credits  
M

The Drafting and 3D Technologies program prepares students for employment in a wide variety of engineering-related disciplines. Students are trained across multiple two-dimensional and three-dimensional software platforms to generate drawings of parts, assemblies and layouts, as well as other manufacturing and construction-related documentation specifically required by employers. The curriculum incorporates 3D printing, 3D scanning and rapid prototyping as tools for taking student designs from computer models to three-dimensional solids. Graduates of the program are prepared to enter the workforce as mechanical drafters, designers and engineering technicians.

Course #	Course Title	Crds
Crs Type	General Education w/out MnTC Goals .....	9
CADD1000	AutoCAD Basics .....	3
CADD1400	Introduction to SolidWorks .....	3
CADD1410	Introduction to Autodesk Inventor.....	3
ENGT1118	Construction and Manufacturing Math.....	3
MCDD1104	Mechanical Engineering Drawing I .....	4
MCDD1106	Mechanical Engineering Drawing II .....	4
MCDD1114	Manufacturing Processes .....	2
MCDD1124	Mechanical Drafting Applications I.....	3
MCDD2112	Geometric Dimensioning and Tolerancing .....	2
MCDD2200	Advanced Modeling with SolidWorks.....	3
MCDD2204	Mechanical Engineering Drawing III .....	4
MCDD2210	Advanced Modeling with Inventor .....	3
MCDD2220	Mechanical Engineering Drawing IV .....	3
MCDD2230	3D Printing and Prototyping.....	2
MCDD2246	Tool Design .....	3
MCDD2252	Mechanical Drafting Applications II.....	4
MCDD2254	Computer Numerical Control .....	2

## Early Childhood & Paraprofessional Education

Associate of Science (AS) - 60 credits  
D

This program includes coursework in child development for ages birth through 8, behavior guidance, children with special needs, development of environments and curriculum for infant/toddler, preschool- and primary school-age children, and the role of the paraprofessional, as well as on-site experiences in a variety of programs. Graduates will independently provide a healthy, safe and developmentally appropriate learning environment in support of families. Child development courses in combination with general education courses comprise the 60-credit degree program for students. The program meets the educational requirements for assistant teacher and paraprofessional in an educational setting as well as assistant teacher and teacher in a child care setting and/or family child care provider, and group family child care provider (based on program) as listed in Minnesota Department of Human Services Rule Numbers 9502 and 9503. Work experience, in addition to educational coursework, is required by Rule 3 for teacher positions in licensed child care facilities. Individuals with any prior record of child maltreatment or crime of violence will not be allowed to participate in lab or field experience coursework.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	12
ART1110	Introduction to Art .....	3
CDEV1105	Development/Guidance .....	3
CDEV1107	Intro to Early Educ .....	3
CDEV2200	Integrating Play.....	3
CDEV2229	Imaginative Learning .....	3
CDEV2236	Occupational Experience.....	1
CDEV2238	Integrating Children with Special Needs .....	3
CDEV2241	Observing and Assessing .....	2
CDEV2242	Infant/Toddler Program .....	3
CDEV2244	Parent Professional Relations .....	3
CDEV2246	Foundations in Literacy .....	3



CDEV2290	Internship .....	3
COMM1120	Introduction to Public Speaking .....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing .....	3
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3

## Electrical Line Worker Technology

**Associate of Applied Science (AAS) - 68 credits**  
**W**

The Electrical Line Worker Technology program provides trained personnel for the power industry. Coursework provides both theory and practical hands-on experience in all phases of power line construction and maintenance. Coursework includes electrical math, national electrical safety codes, construction of overhead and underground distribution systems, conductor applications, over-voltage and over-current protection, guying and pole grounding. The 90-acre training field located near the Wadena campus provides a site for hands-on experience in pole setting. The successful graduate is eligible for employment in rural electric and municipal utilities or with private contractors.

Course #	Course Title	Crds
Crs Type	General Education w/out MnTC Goals .....	3
3 credits from the following:		
ELWT1122	Field Construction III .....	3
ELWT1132	Electrical Line Worker Internship .....	3
BIOL1107	Environmental Science Issues.....	3
ELEC1102	Introduction to Electric Circuit Theory .....	4
ELEC2234	Hydraulics/Pneumatics.....	2
ELWT1102	Electrical Line Worker Theory I.....	4
ELWT1104	Electrical Structure Installation .....	5
ELWT1106	Climbing Electrical Structure .....	4
ELWT1108	Construction of Overhead Structures.....	3
ELWT1110	Line Worker Theory II .....	4
ELWT1112	Transformers .....	2
ELWT1114	Line Construction Reports .....	2
ELWT1116	Pole Top and Bucket Rescue .....	1
ELWT1118	Field Construction I .....	3
ELWT1120	Field Construction II .....	3
ENGL1101	College Writing .....	3
ENST2001	Fundamentals of Utilities .....	4
ENST2002	Energy Safety Principles .....	1
ENST2222	Blueprint Reading for Energy Industry .....	2
ENST2223	GPS Mapping .....	2
MATH1114	College Algebra.....	4
PSYC1101	Human Interaction .....	3
SUPL1118	Lead and Facilitate Teams.....	3

## Electrical Line Worker Technology

**Diploma - 36 credits**  
**W**

The Electrical Line Worker program provides trained personnel for the power industry. Coursework provides both theory and practical hands-on experience in all phases of power line construction and

maintenance. Coursework includes electrical math, national electrical safety codes, construction of overhead and underground distribution systems, conductor applications, over-voltage and over-current protection, guying and pole grounding. The 90-acre training field located near the campus provides a site for hands-on experience in pole setting. The successful graduate is eligible for employment in rural electric and municipal utilities or with private contractors.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
2 credits from the following:		
ELWT1122	Field Construction III .....	3
ELWT1130	Electrical Line Worker Internship .....	2
ELWT1102	Electrical Line Worker Theory I.....	4
ELWT1104	Electrical Structure Installation .....	5
ELWT1106	Climbing Electrical Structure .....	4
ELWT1108	Construction of Overhead Structures.....	3
ELWT1110	Line Worker Theory II .....	4
ELWT1112	Transformers .....	2
ELWT1114	Line Construction Reports .....	2
ELWT1116	Pole Top and Bucket Rescue .....	1
ELWT1118	Field Construction I .....	3
ELWT1120	Field Construction II .....	3

## Electrical Technology - Electrician

**Diploma - 74 credits**  
**M W**

This diploma program is designed to prepare the student to build, install, maintain and repair electrical systems that provide heat, light or power for residential, commercial and industrial structures. Courses provide students with a mix of theory and hands-on application in classroom and lab settings and at job sites. This comprehensive program includes maintenance of electrical equipment, wiring methods, blueprint reading, material selection, programmable controllers and National Electric Code.

Course #	Course Title	Crds
Crs Subject	ELEC.....	5
Crs Type	General Education w/out MnTC Goals .....	6
ELEC1100	Electrical Safety .....	1
ELEC1102	Introduction to Electric Circuit Theory .....	4
ELEC1104	Introduction to National Electrical Code .....	2
ELEC1107	Introduction to Residential Wiring .....	3
ELEC1108	Electrical Circuit Theory.....	4
ELEC1110	Electric Motors and Generators .....	4
ELEC1112	Residential Wiring .....	3
ELEC1114	National Electrical Code .....	2
ELEC1116	Conduit/Tool Applications .....	2
ELEC1118	Electrical Services .....	3
ELEC1122	Introduction to Electrical Materials.....	1
ELEC1124	Introduction to Electrical Blueprint Reading .....	2
ELEC1130	Electrical Blueprints.....	3
ELEC2202	Heating/Cooling Controls .....	3
ELEC2205	Introduction to Commercial Wiring.....	3
ELEC2206	Introduction to Motor Control Applications.....	3
ELEC2208	Programmable Logic Controllers .....	2

ELEC2211	Electronic Motor Control.....	3
ELEC2212	Commercial Wiring.....	3
ELEC2214	Industrial Wiring.....	2
ELEC2216	Motor Control Application .....	3
ELEC2225	Transformers .....	2
ELEC2248	Code Applications.....	2
MATH1000	Technical Mathematics.....	3

## Engineering

**Associate of Science (AS) - 60 credits**  
**M**

The Associate of Science in Engineering consists of sequential math, physics and other science courses that will transfer to either a BS in physics or to diverse engineering programs at many four-year colleges and universities. An AS in Engineering will also create options for technical jobs in the upcoming new energy sector. In general, a degree in engineering has been and will continue to be an excellent platform for success across a wide range of careers in the private sector and in government, schools, colleges and universities.

Course #	Course Title	Crds
Special requirement .....		
General Education w/MnTC Goals. A minimum of 2 additional goal areas must be met through elective general education courses. ....		
3		
Special requirement ..General Education w/MnTC goals OR ENGR2970 OR CADD1000 OR CADD2120.....		
6		
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
CHEM1111	General Inorganic Chemistry I.....	5
CHEM1112	General Inorganic Chemistry II .....	5
COMM1120	Introduction to Public Speaking .....	3
ENGL1101	College Writing .....	3
ENGR2210	Engineering Mechanics I .....	3
ENGR2220	Engineering Mechanics II .....	3
ENGR2230	Mechanics of Materials .....	3
MATH1134	Calculus I .....	5
MATH1135	Calculus II .....	5
MATH2231	Calculus III .....	4
MATH2259	Differential Equations .....	4
PHYS1412	University Physics II .....	5

## Entrepreneur Essentials

**Certificate - 9 credits**  
**D O**

Entrepreneurs create their own paths to success and work to make their dreams a reality. This certificate teaches students the necessary skills and behaviors that contribute to launching and managing a new business with a strong focus on business ethics. Students will learn to assess new enterprise opportunities, enhance management skills and prepare a business plan.

Course #	Course Title	Crds
BUS2204	Principles of Management .....	3
ENTR1100	Introduction to Entrepreneurship .....	3
ENTR2220	Business Ethics/Professionalism.....	3

## Entrepreneurial Fundamentals

**Certificate - 9 credits**  
**D O**

Entrepreneurs create their own paths to success and work to make their dreams a reality. This certificate teaches students the necessary skills and behaviors that contribute to launching a new business. Students will learn to assess new enterprise opportunities, obtain financial resources, understand the importance of customer service and prepare a business plan.

Course #	Course Title	Crds
ENTR1400	Opportunity Analysis .....	3
ENTR2222	Business Plan Development .....	3
MKTG1110	Customer Service .....	3

## Entrepreneurship

**Certificate - 18 credits**  
**C D O**

Entrepreneurs create their own paths to success and work to make their dreams a reality. This certificate was created to give a basic entrepreneurship education to someone who is technically proficient but has not taken business or entrepreneurship courses. Students will learn to assess new enterprise opportunities, obtain financial resources, prepare a business plan and market a venture for success.

Course #	Course Title	Crds
ACCT1108	Business Math and Calculators.....	3
ACCT2211	Financial Accounting I.....	3
BUS2206	Principles of Marketing .....	3
CPTR1104	Introduction to Computer Technology .....	3
ENTR1100	Introduction to Entrepreneurship .....	3
ENTR2222	Business Plan Development .....	3

## Environmental Science

**Associate of Science (AS) - 60 credits**  
**F M**

The Associate of Science in Environmental Science is designed to provide students an avenue to a four-year environmental science degree, preparing them for a career in an environmental field. The program emphasizes a broad background in natural sciences and mathematics, ensuring students are properly prepared for further study at an advanced level.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	8
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
3 credits from the following:		
SOC1111	Introduction to Sociology .....	3
SOC1113	Social Problems .....	3
BIOL1107	Environmental Science Issues.....	3
BIOL1108	Environmental Science Issues Lab .....	1
BIOL1122	General Biology I .....	4
BIOL1123	General Biology II .....	4
CHEM1111	General Inorganic Chemistry I .....	5
CHEM1112	General Inorganic Chemistry II .....	5
ENGL1101	College Writing .....	3
MATH1114	College Algebra.....	4
MATH1115	Functions/Trigonometry.....	4
MATH1134	Calculus I .....	5
MATH1213	Introduction to Statistics .....	4
PHYS1401	College Physics I .....	4

## Esthetist

Certificate - 24 credits  
W

Esthetics is the non-medical treatment of the skin, its disorders and function. Instruction includes the sciences of anatomy, dermatology and chemistry as related to skin care; sanitation and safety procedures; Minnesota statutes and laws which pertain to the regulation of the practice of skin care; and elementary service skills.The Board of Cosmetologists, which is the cosmetology licensing body, requires 600 hours of clinical time in order to become licensed in the State of Minnesota. Upon completion of 600 hours and passing of the state exam, a license will be issued.

Course #	Course Title	Crds
Special requirement: COSM1200- Salon Practicum,		
	COSM2800-Alexandria Body Sugaring.....	11
COSM1000	Principles and Practices .....	3
COSM1002	Client Consultations .....	1
COSM1003	License Preparation .....	1
COSM1004	Cosmetic Chemistry and Makeup Applications .....	1
COSM1006	Spa Therapies .....	1
COSM1010	Eyelash Extensions .....	1
COSM1100	Salon Safety .....	1
COSM1109	Skin Analysis .....	1
COSM1157	Histology of the Skin.....	1
COSM1159	Facials and Hair Removal.....	1
COSM1179	Minnesota Cosmetology Laws and Rules .....	1

## Fundamentals of Culinary Arts

Diploma - 31 credits  
M

The Fundamentals of Culinary Arts diploma program provides

students with the opportunity to learn hands-on in a working food service environment. The core program is designed to educate individuals seeking career opportunities in hotels, restaurants, clubs and institutional food service facilities. The program offers an alternative to longer, more traditional programs for career changers and individuals interested in entering into the food service business. Students will prepare classic, modern and global foods in active labs under the direction of experienced culinary arts faculty. Students will hone and apply their craft in team-oriented settings by preparing and serving a variety of menu items to be sold in the M State Café. Areas of study include Baking & Pastry, Hot Food Preparation, Butchery, Cold Kitchen/Pantry, A la Carte, Safety/Sanitation, Culinary Nutrition, Kitchen Math & Measurements, Knife Skills, Operating Commercial Equipment, Food Ingredient Identification and Product Evaluation. Special events provide students with additional experience in planning, executing and serving themed catered functions for large groups.

Course #	Course Title	Crds
CULN1200	Fundamentals of Baking and Pastry .....	6
CULN1205	Theories of Baking and Pastry .....	2
CULN1210	Fundamentals of Food Fabrication and Production ....	6
CULN1215	Theory of Food Fabrication and Production .....	2
CULN1220	Fundamentals of Pantry Production.....	3
CULN1230	Introduction to Professional Food Service .....	4
CULN1240	Sanitation Certification.....	2
CULN1250	Kitchen Math and Measurements.....	1
CULN1260	Meats .....	3
CULN1270	Culinary Nutrition .....	2

## Graphic Design

Certificate - 30 credits  
M

Graphic design is a highly competitive and rewarding career for those with a talent and/or interest in graphic communication. The Graphic Design certificate program focuses on the integration of technology with graphic design to train students to create communication materials such as branding, brochures, web interface design, magazine layout and other forms of visual communication. The 30-credit certificate is targeted specifically at advanced students, students possessing an advanced degree or students who have professional experience in a creative field. It is a two-semester fast-track curriculum with the intent of building on students’ existing skill sets and experience or accommodating the advanced students’ accelerated goals for employment.

Course #	Course Title	Crds
GDTC1100	Macintosh Production Processes .....	3
GDTC1105	Adobe Photoshop I.....	3
GDTC1113	Design and Layout I .....	3
GDTC1115	Design and Layout II .....	3
GDTC1120	Adobe InDesign I .....	3
GDTC1124	Interactive Design I.....	3
GDTC1135	Adobe Illustrator I.....	3
GDTC2120	Adobe InDesign II .....	3
GDTC2205	Adobe Photoshop II.....	3
GDTC2245	Adobe Illustrator II.....	3

## Graphic Design

Diploma - 60 credits  
M

Graphic design focuses on the integration of digital technology and graphic design to create communication materials for print, multimedia and online production. Students develop creatively and technically as they learn skills in the principles of design and related software, as well as production methods and specifications for a variety of industry products. Students are trained to be task-oriented by learning to meet deadlines, solve problems and work efficiently, along with learning industry expectations and best practices. They also are trained in the methods of compiling and presenting a personal portfolio of their work in both print and online forms to assist in the job search for entry-level employment.

Course #	Course Title	Crds
COMM1120	Introduction to Public Speaking .....	3
ENGL1101	College Writing .....	3
GDTC1100	Macintosh Production Processes .....	3
GDTC1105	Adobe Photoshop I.....	3
GDTC1113	Design and Layout I .....	3
GDTC1115	Design and Layout II .....	3
GDTC1120	Adobe InDesign I .....	3
GDTC1124	Interactive Design I.....	3
GDTC1126	Digital Photography .....	3
GDTC1135	Adobe Illustrator I.....	3
GDTC1150	Process Printing Theory.....	3
GDTC2120	Adobe InDesign II .....	3
GDTC2205	Adobe Photoshop II.....	3
GDTC2212	Design and Layout III .....	3
GDTC2224	Interactive Design II.....	3
GDTC2230	Design Portfolio .....	3
GDTC2245	Adobe Illustrator II.....	3
GDTC2250	Design Campaigns .....	3
GDTC2258	Graphic Dsgn Prof Prac.....	3
GDTC2278	Digital Preflight.....	3

## Health Information Technology/ Coding

Associate of Applied Science (AAS) - 64 credits  
O

The health information technician is an important member of the health care team who secures, analyzes, integrates and manages health information for patient care, performs diagnostic and procedure coding, utilizes electronic systems for reimbursement, planning and research activities, and maintains a legal patient record. This information steers the health care industry. The program is designed to combine general education and technical courses for a well-rounded and functional education. To further the student’s knowledge, the program utilizes Web-based educational electronic health record systems, and time is spent in health care facilities.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
3 credits from the following:		

COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2262	Human Anatomy and Physiology II.....	3
CPTR1104	Introduction to Computer Technology .....	3
ENGL1101	College Writing .....	3
HITM1150	Introduction to Health Care Delivery .....	3
HITM1152	Health Information Systems .....	3
HITM1155	Medicolegal Aspects.....	3
HITM1159	Professional Practice Experience Functions .....	2
HITM2204	Fundamentals of Electronic Health Records.....	3
HITM2216	Introduction to Procedure Coding.....	3
HITM2218	Intermediate Procedure Coding .....	3
HITM2230	Medical Science for Health Information Professionals	3
HITM2250	Supervisory Leadership in Health.....	3
HITM2253	Quality Management Studies.....	3
HITM2263	Reimbursement Systems .....	3
HITM2272	Professional Practice Experience III.....	2
HITM2282	Introduction to Diagnosis Coding .....	3
HITM2283	Intermediate Diagnosis Coding .....	3
HITM2290	Health Care Data Management and Analysis .....	3
HLTH1116	Medical Terminology .....	3

## History Transfer Pathway AA

Associate of Arts (AA) - 60 credits  
D F M O W

The History Transfer Pathway AA offers students the opportunity to complete an Associate of Arts degree with course credits that directly transfer to designated history bachelor’s degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree and transferring to one of the seven Minnesota State universities enter the university with junior-year status. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor’s degree programs in a related field.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	21
Goal Area	3. Natural Sciences .....	6
Goal Area	4. Mathematics/Logical Reasoning.....	3
Goal Area	5. History and the Social and Behavioral Sciences .....	3
Goal Area	6. The Humanities and Fine Arts .....	9
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
9 credits from the following:		
HIST1101	Western Civilization: Ancient to 1600s.....	3
HIST1102	Western Civilization: 1600s to the Present.....	3
HIST1201	American History to 1877.....	3
HIST1202	American History since 1877 .....	3
ENGL1101	College Writing .....	3



## Human Resources

Associate of Applied Science (AAS) - 60 credits  
M O

Human resources programs prepare students to provide support to companies and individual employees in the area of human resources. Associate of Applied Science graduates may assume duties in the following areas: communication with employees, employee data record-keeping, policies and administration, employer and labor relations, employee recruitment, selection and employment, training and development, wage and salary, and benefit administration.

Course #	Course Title	Crds
Crs Type	Career .....	9
3 credits from the following:		
PHIL1200	Applied and Professional Ethics.....	3
PHIL1201	Ethics .....	3
ADMS1110	Word Processing.....	3
ADMS1116	Business Communications I .....	3
ADMS1128	Records Management .....	3
COMM1120	Introduction to Public Speaking .....	3
CPTR1104	Introduction to Computer Technology .....	3
ENGL1101	College Writing .....	3
HRES1122	Human Resource Management.....	3
HRES1126	Talent Acquisition .....	3
HRES1130	Benefits Administration .....	3
HRES1134	Training and Development .....	3
HRES2204	Policy Administration .....	3
HRES2212	Strategic Compensation .....	3
HRES2224	Employee/Labor Relations .....	3
HRES2254	Human Resource Competency Evaluation.....	3
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3

## Human Resources

Associate of Science (AS) - 60 credits  
M O

Human resources programs prepare students to provide support to companies and to individual employees in the area of human resources. Associate of Science graduates may assume duties in the following areas: communication with employees, employee data record keeping, policies and administration, employer and labor relations, employee recruitment, selection and employment, training and development, wage and salary, and benefit administration. The AS program is specifically designed for more efficient course transfer to partner universities for students wishing to continue with additional education.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	12
3 credits from the following:		
PHIL1200	Applied and Professional Ethics.....	3
PHIL1201	Ethics .....	3
ADMS1110	Word Processing.....	3
COMM1120	Introduction to Public Speaking .....	3

CPTR1104	Introduction to Computer Technology .....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
HRES1122	Human Resource Management.....	3
HRES1126	Talent Acquisition .....	3
HRES1130	Benefits Administration.....	3
HRES1134	Training and Development .....	3
HRES2204	Policy Administration .....	3
HRES2212	Strategic Compensation .....	3
HRES2224	Employee/Labor Relations .....	3
HRES2254	Human Resource Competency Evaluation.....	3
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3

## HVAC/R - Heating, Ventilation, Air Conditioning and Refrigeration

Diploma - 36 credits  
M W

Students in this program work with both residential and light commercial heating, ventilation, ducting, air conditioning and refrigeration equipment. This extensive background, together with hands-on skills in layout, fabrication, installation and repair, qualifies graduates to enter one of the world's fastest-growing industries. Employment exists with manufacturers, engineers, contractors and specialized service firms. Students learn and develop applications skills of more efficient, cost-effective equipment and their application procedures. Many new, exciting and energy-saving innovations are being developed. Technicians train in this industry to provide the latest technologies to control the environment in any enclosed area, from residential homes to light commercial buildings. This includes controlling indoor air quality by utilizing mechanical means to remove pollutants and maintain desired humidity and temperature settings.

Course #	Course Title	Crds
HVAC1102	Duct Fitting Construction.....	3
HVAC1103	Electricity for Heating, Ventilating and Air Conditioning.....	4
HVAC1104	Heating, Ventilating and Air Conditioning Electrical Controls.....	3
HVAC1128	Heating, Ventilating, and Air Conditioning Design and Installation .....	5
HVAC1224	Gas and Oil Heating.....	3
HVAC2202	Air Handling.....	2
HVAC2212	.....	3
HVAC2221	Heat Pump Theory and Operation .....	3
HVAC2290	Heating, Ventilating, and Air Conditioning Internship. 1	
MATH1000	Technical Mathematics.....	3
REFR1110	Refrigeration, Air Conditioning and Heating Principles3	
REFR1112	Refrigeration, Air Conditioning and Heating Lab .....	3

## Individualized Studies

Associate of Applied Science (AAS) - 60 credits  
D F M O W

The Individualized Studies Associate in Applied Science (AAS) degree is designed for students who intend to update their skills and expand employment opportunities with a customized degree field. This 60-credit degree allows learners to develop a specific education plan to update their skills and gives them the opportunity and flexibility to focus on specialized career interests not offered in the college's structured degree programs. It integrates a number of subjects into a degree program and builds on a current area of study or expertise. Students work collaboratively with faculty and staff to create a degree plan that meets individualized educational needs. Students who enroll in the Individualized Studies program will complete 45 specialized career technical credits and 15 general education credits (in at least three Minnesota transfer goal areas).

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	9
Crs Type	Career .....	42
3 credits from the following:		
COMM1100	Power and Communications in Human Relations .....	3
COMM1120	Introduction to Public Speaking .....	3
COMM1140	Interpersonal Communication.....	3
CPTR1104	Introduction to Computer Technology .....	3
ENGL1101	College Writing .....	3

## Industrial Workplace Readiness

Certificate - 18 credits  
M

This certificate is designed to ensure that students are workplace-ready for the industrial workplace. This course of study will provide basic communication, computer, technical math and safety skills, as well as elective technical skills needed in the industrial workplace. In addition, students will be introduced to the work habits and attitudes that lead to success in the industrial workplace.

Course #	Course Title	Crds
3 credits from the following:		
COMM1100	Power and Communications in Human Relations .....	3
COMM1130	Small Group Communication .....	3
COMM2230	Intercultural Communication .....	3
9 credits from the following:		
BUS1120	Spreadsheet and Database Concepts.....	3
CADD1102	Fundamentals of CADD .....	4
CHEM1100	Fundamental Concepts of Chemistry .....	3
CPTR1104	Introduction to Computer Technology .....	3
ENGR1100	Project Management.....	1
IHS1293	OSHA 10-Hour General Industry Safety.....	1
IHS2292	OSHA 30-Hour General Industry Safety.....	2
IMMA1110	Introduction to Power and Mechancial Systems .....	3
IMMA1112	Mechanical Blueprint Reading.....	2
IND1160	Food Manufacturing Science.....	3
IND1501	Basic Steel Welding .....	4
METC1118		

METC2270		
OPT1100	Introduction to Fiber Optics .....	3
PHIL1201	Ethics .....	3
IND1110	Introduction to the Industrial Workplace.....	3
MATH1000	Technical Mathematics.....	3

## Information Technology

Associate of Applied Science (AAS) - 60 credits  
O

This program prepares students to work in information technology. Students learn to select appropriate systems, create necessary solutions, apply existing systems, integrate a variety of systems and administer systems. This career program prepares students to fulfill a variety of roles within the information technology field.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
3 credits from the following:		
CPTR2252	Microcomputer Systems Project .....	3
CPTR2294	Internship .....	3
CPTR1001	Introduction To Programming and Scripting.....	3
CPTR1106	Microcomputer Databases .....	3
CPTR1108	CISCO 1 .....	3
CPTR1118	CISCO 2 .....	3
CPTR1121	Information Technology Service Desk .....	3
CPTR1125	IT Essentials .....	3
CPTR1130	IT Essentials II .....	3
CPTR1135	Beginning Networking .....	3
CPTR1148	Microcomputer Operating System .....	3
CPTR2100	Supporting End-User Applications.....	3
CPTR2224	Linux I .....	3
CPTR2236	Network Security.....	3
CPTR2272	Network Operating Systems.....	3
CSCI1110	Informatics .....	3
ENGL1101	College Writing.....	3
HUM2236	Technology in the Humanities .....	3
SOC1111	Introduction to Sociology .....	3

## Information Technology

Associate of Science (AS) - 60 credits  
M

The Information Technology Associate of Science degree prepares students to continue to work toward a bachelor's degree or enter the workforce. Students learn to use various hardware and software systems to solve problems for people and organizations. Students work with networking technologies, applications, web technologies and database technologies. Students focus on the selection, application and administration of information technologies. The degree minimizes the number of credits required at selected institutions to complete a bachelor's degree. The degree is an ideal mix of practical experience and general education for a field that is constantly evolving.



Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	14
COMM1120	Introduction to Public Speaking .....	3
CPTR1001	Introduction To Programming and Scripting.....	3
CPTR1106	Microcomputer Databases .....	3
CPTR1108	CISCO 1 .....	3
CPTR1122	Microcomputer Maintenance .....	3
CPTR1170	Web Engineering I .....	3
CPTR1178	Robotics.....	3
CPTR2224	Linux I .....	3
CPTR2236	Network Security.....	3
CPTR2272	Network Operating Systems.....	3
CSCI1110	Informatics .....	3
ENGL1101	College Writing.....	3
HUM2236	Technology in the Humanities .....	3
MATH1114	College Algebra.....	4
PSYC1200	General Psychology .....	3

Information Technology - Database Administration

Associate of Applied Science (AAS) - 60 credits

M O

This program prepares students for careers in support, maintenance, and administration of database management systems in a wide variety of market segments. Students will learn how to implement security measures while performing database administration tasks, generate database-driven reports to support business intelligence, apply ethical and security practices in handling data, establish interconnectivity of databases and web services, use testing and debugging methods, devise backup and recovery measures in a database environment and learn the software development life cycle. This program teaches students the skills and knowledge for occupations such as database administrator, database analyst, data analyst or database support specialist.

Course #	Course Title	Crds
CPTR1001	Introduction To Programming and Scripting.....	3
CPTR1106	Microcomputer Databases .....	3
CPTR1108	CISCO 1 .....	3
CPTR1170	Web Engineering I .....	3
CPTR2210	Database Report Generation.....	3
CPTR2224	Linux I .....	3
CPTR2230	Structured Query Language .....	3
CPTR2234	Linux II .....	3
CPTR2240	Database Administration.....	3
CPTR2245	Enterprise Network Technologies.....	3
CPTR2260	Advanced Structured Query Language.....	3
CPTR2272	Network Operating Systems.....	3
CPTR2275	Data Analytics.....	3
CSCI1121	Computer Science I .....	4
ENGL1101	College Writing.....	3
HUM2236	Technology in the Humanities .....	3
MATH1100	World of Math .....	3
MATH1114	College Algebra.....	4
MATH1213	Introduction to Statistics .....	4

Liberal Arts and Sciences

Associate of Arts (AA) - 60 credits

D F M O W

The Associate in Arts is a liberal arts degree that includes the first two years of most bachelor’s degrees and is designed for transfer to a four-year university. Students who complete M State’s Associate in Arts degree, which includes the Minnesota Transfer Curriculum, are assured of a smooth transfer into Minnesota State Colleges and Universities system institutions as well as into specific majors at all the campuses of the University of Minnesota.

Course #	Course Title	Crds
Goal Area	1. Communication .....	3
Goal Area	2. Critical Thinking .....	6
Goal Area	3. Natural Sciences .....	3
Goal Area	4. Mathematics/Logical Reasoning.....	3
Goal Area	5. History and the Social and Behavioral Sciences .....	9
Goal Area	6. The Humanities and Fine Arts .....	9
Goal Area	7. Human Diversity .....	3
Goal Area	8. Global Perspective .....	3
Goal Area	9. Ethical and Civic Responsibility.....	3
Crs Type	General Education w/out MnTC Goals .....	6
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
ENGL1101	College Writing .....	3

Marine/Powersports Maintenance Specialist

Certificate - 16 credits

D

The purpose of this certificate is for the student to gain mechanical confidence in marine and powersport products.This will allow the student to attain an entry-level position at a local dealership. This certificate also can be applied to recreational outdoor powersport or boating enthusiasts who want to get a grasp on maintaining their own equipment. This is a beginners certificate to build the mechanical abilities needed when working on recreational products.

Course #	Course Title	Crds
TRNS1001	Fuel Systems I .....	3
TRNS1003	Off-Road Literature and Computer Systems .....	2
TRNS1005	Off-Road Electrical Systems.....	2
TRNS1006	Off-Road Vehicle Maintenance.....	4
TRNS1102	.....	2
TRNS1104	Transportation Electronics.....	3

Massage Therapy

Diploma - 31 credits

W

Massage therapists specialize in professional massage treatments designed to support the health and well-being of clients. Skillful massage also assists clients in recovery from physical ailments and reduces the negative effects of stress. Massage therapy students learn the fundamental techniques needed to perform effective massage treatments, as well as the theory behind delivering professional massage.

Course #	Course Title	Crds
BIOL1170	Essentials of Human Anatomy and Physiology .....	4
THPY1101	Nutrition and Wellness.....	2
THPY1110	Massage Techniques and Ethics .....	3
THPY1118	Kinesiology .....	3
THPY1123	Integrative Massage .....	2
THPY1130	Advanced Massage.....	2
THPY1135	Deep Tissue Massage .....	2
THPY1142	Practical Skills Clinic.....	3
THPY1146	Certification Preparation .....	2
THPY1148	Sports Massage and Hydrotherapy .....	2
THPY1151	Business Development .....	3
THPY1156	Massage Pathophysiology .....	3

Medical Administrative Assistant

Associate of Applied Science (AAS) - 60 credits

O

The Medical Administrative Assistant AAS program prepares students to work in a variety of medical settings, handling all types of administrative duties for private practices, hospitals and clinics. This program offers a broad foundation of knowledge and skills, expanding the traditional role of the medical secretary through the addition of liberal arts classes as preparation for leadership roles. Graduates of this program are highly trained office specialists who are prepared to accept responsibility for the coordination of medical office functions and patient billing processes. Successful medical administrative assistants have excellent communication skills and exhibit a high degree of professionalism. All courses in the program incorporate the skills needed for employment in the medical administrative assistant profession.

Course #	Course Title	Crds
3 credits from the following:		
PSYC1200	General Psychology .....	3
PSYC2220	Abnormal Psychology .....	3
PSYC2222	Lifespan Development.....	3
3 credits from the following:		
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
Crs Type	General Education w/MnTC Goals.....	9
ADMM1104	Medical Language Applications I .....	3
ADMM1110	Medical Documentation Fundamentals .....	4
ADMM1122	Medical Office Procedures .....	4
ADMM1150	Medical Billing/Insurance .....	4
ADMM1152	Outpatient Coding .....	4
ADMM1160	Beginning Medical Transcription .....	3

ADMM1200	Medical Office Technology Tools .....	2
ADMM2104	Medical Language Applications II .....	3
ADMM2122	Medical Office Management.....	3
ADMM2130	Medical Office Career Insight .....	2
ADMM2150	Medicare Coding and Billing Applications .....	3
ADMM2320	Medical Office Capstone .....	1
ADMM2500	Human Disease Applications for Administrative Health Professionals .....	3
ADMS1116	Business Communications I.....	3
HLTH1110	Introduction to Anatomy and Physiology .....	3

Medical Assistant

Diploma - 37 credits

D

Medical assistants are multi-skilled health professionals educated for both administrative and clinical duties within clinics, physicians’ offices and other health care organizations. The program requires mastery of knowledge and skills to positively affect patient care. The program culminates with a 160-hour clinical experience under the direct supervision of a physician.

Course #	Course Title	Crds
ADMM1122	Medical Office Procedures .....	4
ADMM1150	Medical Billing/Insurance.....	4
COMM1140	Interpersonal Communication.....	3
HLTH1110	Introduction to Anatomy and Physiology .....	3
HLTH1116	Medical Terminology .....	3
MEDA1150	Pathophysiology, Pharmacology and Nutrition .....	4
MEDA1240	.....	4
MEDA1260	.....	4
MEDA1601	Medical Assisting Externship .....	4
MEDA1602	Medical Assisting Capstone .....	1
PSYC2222	Lifespan Development.....	3

Medical Coding and Insurance

Diploma - 50 credits

O

The Medical Coding and Insurance diploma program prepares students in many of the procedures associated with billing for medical services. Students receive training in medical billing processes including patient account management, diagnosis and procedure coding, and medical insurance claim completion and processing. The program focuses on coding and insurance procedures for the medical office. Medical coding involves using nationally recognized coding systems to classify procedures and diagnoses related to medical treatment. The codes provide information that is used in insurance claims processing. Many different types of insurance programs are handled in the medical office. Students are trained in claims processes of many insurance programs/plans such as Medicare, Medicaid, Tricare, profit and nonprofit third-party payers, workers compensation packages and disability coverage. Graduates of the program may be eligible to take several of the national coding certification exams. Courses in the program incor-

porate the skills needed for employment in the coding and insurance departments of medical facilities.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
3 credits from the following:		
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
ADMM1104	Medical Language Applications I .....	3
ADMM1110	Medical Documentation Fundamentals .....	4
ADMM1122	Medical Office Procedures .....	4
ADMM1150	Medical Billing/Insurance .....	4
ADMM1152	Outpatient Coding.....	4
ADMM1200	Medical Office Technology Tools .....	2
ADMM2104	Medical Language Applications II .....	3
ADMM2130	Medical Office Career Insight .....	2
ADMM2150	Medicare Coding and Billing Applications .....	3
ADMM2152	Advanced Coding.....	4
ADMM2154	Hospital Billing.....	2
ADMM2256	Certified Professional Biller Examination .....	1
ADMM2258	Certified Professional Coder Examination Review.....	1
ADMM2320	Medical Office Capstone .....	1
ADMM2500	Human Disease Applications for Administrative Health Professionals .....	3
HLTH1110	Introduction to Anatomy and Physiology .....	3

## Medical Laboratory Technology

**Associate of Applied Science (AAS) - 60 credits**  
**F**

Medical laboratory technicians perform a wide range of routine laboratory procedures associated with blood and body-fluid analysis. In cooperation with affiliate health care facilities, the college offers a two-year hybrid program (online lectures, campus-based labs) for training medical laboratory technicians. The curriculum includes general education, science, medical laboratory technician courses and a 16-week clinical experience at an affiliate health care laboratory. Upon completion of the program, students are prepared for the American Society of Clinical Pathology (ASCP) Board of Certification exam and employment. The majority of Medical Laboratory Technology graduates work in hospital and clinic laboratories. Graduates may articulate to a four-year institution to receive a bachelor of science degree in Medical Laboratory Science.

Course #	Course Title	Crds
Goal Area	2. Critical Thinking .....	3
Goal Area	9. Ethical and Civic Responsibility.....	3
BIOL1170	Essentials of Human Anatomy and Physiology .....	4
ENGL1101	College Writing.....	3
ENGL1215	Professional and Technical Writing.....	3
MLT1110	Phlebotomy Skills .....	2
MLT1115	Basic Laboratory Techniques .....	2
MLT1123	Immunohematology.....	4
MLT1130	Laboratory Calculations.....	2
MLT1215	Hematology .....	3
MLT1225	Biological Fluids.....	2
MLT2130	Diagnostic Chemistry.....	4
MLT2150	.....	2

MLT2223	Clinical Urinalysis and Body Fluids.....	2
MLT2224	Clinical Immunohematology.....	3
MLT2227	Clinical Chemistry and Immunology .....	3
MLT2231	Clinical Microbiology .....	3
MLT2232	Clinical Hematology and Coagulation.....	3
MLT2265	Diagnostic Microbiology.....	4
MLT2315	Immunology .....	2
MLT2346	Clinical Applications.....	1
MLT2350	Professional Issues in Medical Laboratory Technology	2

## Medical Office Assistant

**Diploma - 44 credits**  
**O**

Medical office assistants are highly trained office specialists who participate in the coordination of medical office functions including patient appointment scheduling, telephone communications, medical record maintenance, medical transcription and patient billing processes. Successful medical office assistants have excellent communication skills and exhibit a high degree of professionalism. All courses in the program incorporate the skills needed for employment in the medical office assistant profession.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
3 credits from the following:		
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
ADMM1104	Medical Language Applications I .....	3
ADMM1110	Medical Documentation Fundamentals .....	4
ADMM1122	Medical Office Procedures .....	4
ADMM1150	Medical Billing/Insurance.....	4
ADMM1152	Outpatient Coding.....	4
ADMM1160	Beginning Medical Transcription .....	3
ADMM1200	Medical Office Technology Tools .....	2
ADMM2104	Medical Language Applications II .....	3
ADMM2130	Medical Office Career Insight .....	2
ADMM2500	Human Disease Applications for Administrative Health Professionals .....	3
ADMS1116	Business Communications I.....	3
HLTH1110	Introduction to Anatomy and Physiology .....	3

## Medical Receptionist

**Diploma - 34 credits**  
**O**

This program prepares individuals to work in a medical office setting. Medical receptionists greet patients, arrange appointments and provide informational services to patients. They possess excellent communication and technology skills. This position requires an excellent command of medical terminology, anatomy and physiology, as well as expertise in medical office procedures.

Course #	Course Title	Crds
3 credits from the following:		
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
ADMM1104	Medical Language Applications I .....	3
ADMM1110	Medical Documentation Fundamentals .....	4
ADMM1122	Medical Office Procedures .....	4
ADMM1150	Medical Billing/Insurance .....	4
ADMM1200	Medical Office Technology Tools .....	2
ADMM2104	Medical Language Applications II .....	3
ADMM2130	Medical Office Career Insight .....	2
ADMM2500	Human Disease Applications for Administrative Health Professionals .....	3
ADMS1116	Business Communications I.....	3
HLTH1110	Introduction to Anatomy and Physiology .....	3

## Music

**Associate of Fine Arts (AFA) - 68 credits**  
**F**

The Associate in Fine Arts in Music is designed to provide a means for music students to pursue a path with seamless transition to a four-year music degree and to be best prepared for a degree and/or career in music. The AFA emphasizes a fine arts focus within a discipline area of study and offers students preparation for fine arts study at the university level. The AFA in Music at M State allows for a choral or instrumental emphasis and ensures that students will have the necessary coursework to prepare for advanced studies in music.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	15
1 credits from the following:		
MUSC1151	Individual Voice Lessons.....	1
MUSC1181	Private Instrumental Lessons .....	1
MUSC1185	Private Music Composition Lessons .....	1
MUSC1191	Individual Piano Lessons.....	1
2 credits from the following:		
MUSC1135	Voice Ensemble .....	1
MUSC1141	Concert Choir .....	1
MUSC1162	Jazz Ensemble.....	1
MUSC1164	Concert Band.....	1
MUSC1168	Pep Band .....	1
2 credits from the following:		
MUSC1135	Voice Ensemble .....	1
MUSC1141	Concert Choir .....	1
MUSC1162	Jazz Ensemble.....	1
MUSC1164	Concert Band.....	1
MUSC1168	Pep Band .....	1
2 credits from the following:		
MUSC1135	Voice Ensemble .....	1
MUSC1141	Concert Choir .....	1
MUSC1162	Jazz Ensemble.....	1
MUSC1164	Concert Band.....	1
MUSC1168	Pep Band .....	1
2 credits from the following:		
MUSC1151	Individual Voice Lessons.....	1
MUSC1181	Private Instrumental Lessons .....	1
MUSC1185	Private Music Composition Lessons .....	1

MUSC1191	Individual Piano Lessons.....	1
MUSC2251	Individual Voice Lessons .....	2
MUSC2281	Private Instrumental Lessons .....	2
MUSC2285	Advanced Music Composition .....	2
MUSC2291	Individual Piano Lessons.....	2
2 credits from the following:		
MUSC1135	Voice Ensemble .....	1
MUSC1141	Concert Choir .....	1
MUSC1162	Jazz Ensemble.....	1
MUSC1164	Concert Band.....	1
MUSC1168	Pep Band .....	1
2 credits from the following:		
MUSC1151	Individual Voice Lessons .....	1
MUSC1181	Private Instrumental Lessons .....	1
MUSC1185	Private Music Composition Lessons .....	1
MUSC1191	Individual Piano Lessons.....	1
MUSC2251	Individual Voice Lessons.....	2
MUSC2281	Private Instrumental Lessons .....	2
MUSC2285	Advanced Music Composition .....	2
MUSC2291	Individual Piano Lessons.....	2
2 credits from the following:		
MUSC1114	Beginning Class Piano.....	2
MUSC2291	Individual Piano Lessons.....	2
2 credits from the following:		
MUSC1151	Individual Voice Lessons.....	1
MUSC1181	Private Instrumental Lessons .....	1
MUSC1185	Private Music Composition Lessons .....	1
MUSC1191	Individual Piano Lessons.....	1
MUSC2251	Individual Voice Lessons.....	2
MUSC2281	Private Instrumental Lessons .....	2
MUSC2285	Advanced Music Composition .....	2
MUSC2291	Individual Piano Lessons.....	2
ENGL1101	College Writing .....	3
ENGL1205	Writing About Literature .....	3
MUSC1115	America's Musical Heritage .....	3
MUSC1116	World Music .....	3
MUSC1117	Beginning Class Guitar.....	2
MUSC1120	Introduction to Music Technology.....	3
MUSC1121	Basic Theory and Musicianship I .....	3
MUSC1122	Basic Theory and Musicianship II .....	3
MUSC1123	Sight Singing and Ear Training I.....	1
MUSC1124	Sight Singing and Ear Training II.....	1
MUSC2223	Sight Singing and Ear Training III.....	1
MUSC2224	Sight Singing and Ear Training IV .....	1
MUSC2231	Advanced Theory and Musicianship III.....	3
MUSC2232	Advanced Theory and Musicianship IV .....	3
PHYS1107	Physics of Music .....	3

## Nail Technician

**Certificate - 16 credits**  
**W**

The Nail Technician program is designed to give students a thorough knowledge of dermatology, the structure, growth and health of the nail, and chemistry as it relates to manicuring, as well as sanitation and safety procedures related to the practice of manicuring. Instruction will cover applied studies and skills in cleaning, conditioning, shaping, reinforcing, coloring and enhancing nails, as well as the application and



repair of artificial nails.The Board of Cosmetology, which is the cosme-  
tology licensing body, requires 350 hours of clinical time in order to  
become licensed in the State of Minnesota. Upon completion of 350  
hours and passing of the state exam, a license will be issued.

Course #	Course Title	Crds
Special requirement: COSM1200-Salon Practicum .....		
		6
COSM1000	Principles and Practices .....	3
COSM1003	License Preparation .....	1
COSM1007	Gel Nail Applications .....	1
COSM1100	Salon Safety .....	1
COSM1161	Nail Structure and Growth .....	1
COSM1179	Minnesota Cosmetology Laws and Rules .....	1
COSM2200	Manicuring/Pedicuring.....	1
COSM2400	Advanced Nail Techniques.....	1

## Nursing - (Advanced Standing option)

**Associate of Science (AS) - 32 credits**  
**D F W**

The LPN to Associate Degree Nursing Advanced Standing option is de-  
signed for licensed practical nurses seeking to become registered nurs-  
es. This option is offered at the Detroit Lakes, Fergus Falls, and Wadena  
campuses. Students who have taken the required general education  
prerequisites and are accepted to the program take a two-credit Role  
Transition course in the semester prior to the start of their program  
and then join the Generic Associate Degree nursing students in the  
second year of their nursing program. The Associate Degree Nursing  
program is designed to prepare students to deliver nursing care in a va-  
riety of settings as registered nurses. The graduating nurse will be able  
to provide nursing care in hospitals, long-term care facilities, clinics,  
community health facilities and other health-related facilities. Upon  
completion of the nursing program, an Associate of Science degree  
is awarded by the college. Nursing graduates may apply to take the  
National Council Licensing Exam-RN (NCLEX-RN) following graduation.  
Individuals entering the program must pass the background check re-  
quired by the Minnesota Human Services licensing division and, de-  
pending upon particular clinical partner expectations, also may be re-  
quired to pass an annual National Background Check. The Minnesota  
Board of Nursing has officially approved the Associate Degree Nursing  
program at M State.

Course #	Course Title	Crds
Crs Type	General Education w/out MnTC Goals .....	3
BIOL2202	Principles of Nutrition .....	3
NURS2410	Role Transition.....	2
NURS2426	Reproductive Disorders .....	2
NURS2437	Nursing Clinical II .....	4
NURS2438	Restorative Nursing I .....	4
NURS2447	Nursing Clinical III .....	4
NURS2448	Restorative Nursing II .....	3
NURS2455	Advanced Intravenous Therapy .....	1
NURS2464	Nursing Leadership.....	1
NURS2466	Mental Health Nursing .....	2
SOC1111	Introduction to Sociology .....	3

## Nursing - (Generic Option)

**Associate of Science (AS) - 64 credits**  
**D F W**

The Associate Degree Nursing program is designed for students with  
no previous nursing experience who are seeking to become registered  
nurses. The Detroit Lakes, Fergus Falls and Wadena campuses offer the  
two-year Generic Option program. The Associate Degree Nursing pro-  
gram is designed to prepare students to deliver nursing care in a vari-  
ety of settings as registered nurses. The graduating nurse will be able  
to provide nursing care in hospitals, long-term care centers, clinics,  
community health and other health-related facilities. Upon completion  
of the nursing program, an Associate of Science degree is awarded by  
the college. Nursing graduates may apply to take the National Council  
Licensing Exam-RN (NCLEX-RN) following graduation. Individuals en-  
tering the program must pass the background check required by the  
Minnesota Human Services licensing division and, depending upon  
particular clinical partner expectations, also may be required to pass  
an annual national background check. The Minnesota Board of Nurs-  
ing has officially approved the Associate Degree Nursing program at  
M State.

Track: Nursing - (Generic Option) - Associate of Science (AS) on Detroit  
Lakes campus

Course #	Course Title	Crds
Crs Type	General Education w/out MnTC Goals .....	3
BIOL2202	Principles of Nutrition .....	3
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2261	Human Anatomy and Physiology I Lab .....	1
BIOL2262	Human Anatomy and Physiology II.....	3
BIOL2263	Human Anatomy and Physiology II Lab .....	1
BIOL2267	Medical Microbiology.....	3
BIOL2268	Medical Microbiology Lab .....	1
CHEM1100	Fundamental Concepts of Chemistry .....	3
ENGL1101	College Writing .....	3
NURS1400	Introduction to Professional Nursing.....	2
NURS1406	Nursing Fundamentals I.....	3
NURS1415	Nursing Clinical I .....	2
NURS1416	Nursing Fundamentals II.....	4
NURS1426	Reproductive Health.....	2
NURS2426	Reproductive Disorders .....	2
NURS2437	Nursing Clinical II .....	4
NURS2438	Restorative Nursing I .....	4
NURS2447	Nursing Clinical III .....	4
NURS2448	Restorative Nursing II .....	3
NURS2455	Advanced Intravenous Therapy .....	1
NURS2464	Nursing Leadership.....	1
NURS2466	Mental Health Nursing .....	2
PSYC2222	Lifespan Development.....	3
SOC1111	Introduction to Sociology .....	3

## Paralegal

**Associate of Applied Science (AAS) - 60 credits**  
**D O**

The Paralegal program provides graduates with a strong legal founda-  
tion that prepares them to work under the supervision of an attor-

ney. Students will gain knowledge in the areas of criminal law, civil law,  
family law, real property law and estate planning. Communication and  
critical thinking skills combined with real-world application will provide  
students with the legal knowledge and technical competencies needed  
for a successful legal career. Students will gain a strong background in  
legal research and writing using electronic research programs. Gradu-  
ates of the program find successful careers in legal firms, corporate  
offices and in nonprofit and government organizations

Course #	Course Title	Crds
Crs Subject	SOC .....	3
Crs Type	General Education w/MnTC Goals.....	3
3 credits from the following:		
ACCT1012	Principles of Bookkeeping CK .....	3
ACCT2211	Financial Accounting I.....	3
3 credits from the following:		
POLS1120	American National Government.....	3
POLS1130	State and Local Government .....	3
ACCT1120	Business Law .....	3
COMM1120	Introduction to Public Speaking .....	3
CPTR1104	Introduction to Computer Technology .....	3
ENGL1101	College Writing .....	3
HRES1122	Human Resource Management.....	3
PARA1101	Introduction to Paralegal.....	3
PARA1102	Legal Research and Writing I .....	3
PARA1104	Civil Law for Paralegals .....	3
PARA1105	Criminal Law for Paralegals .....	3
PARA1106	Wills, Trusts and Probate .....	3
PARA1112	Legal Ethics for the Paralegal.....	3
PARA2202	Legal Research and Writing II .....	3
PARA2204	Real Property.....	3
PARA2212	Family Law .....	3
PARA2216	Paralegal Internship .....	3
PSYC1200	General Psychology .....	3

## Payroll Specialist

**Diploma - 33 credits**  
**D M O**

This program provides the knowledge and skills necessary to perform  
routine calculating, journalizing, posting and verifying duties to main-  
tain accounting records and to prepare payroll reports and returns and  
employee records. Both manual and computerized accounting con-  
cepts and applications are included.

Track: Fall Start		
Course #	Course Title	Crds
Goal Area	1. Communication .....	3
6 credits from the following:		
ACCT1120	Business Law .....	3
ACCT2210	Managerial Accounting .....	4
ACCT2219	Microsoft Dynamics - GP .....	2
ACCT2255	Income Tax-Individual.....	3
ACCT2256	Income Tax-Business.....	3
ACCT2616	Intermediate Accounting I.....	3
ACCT2630	Fund/Nonprofit Accounting .....	3
ACCT2640	Accounting Internship .....	1 - 4
BUS2204	Principles of Management .....	3

BUS2206	Principles of Marketing .....	3
3 credits from the following:		
CPTR1104	Introduction to Computer Technology .....	3
MIS1100	Business Computers .....	3
ACCT1101	Payroll.....	3
ACCT1124	Spreadsheet Applications.....	3
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
ACCT2218	QuickBooks.....	2
HRES1122	Human Resource Management.....	3
HRES1130	Benefits Administration.....	3
PDEV1102	Contemporary Career Search .....	1

Track: Spring Start

Course #	Course Title	Crds
Goal Area		
1. Communication .....		
3 credits from the following:		
CPTR1104	Introduction to Computer Technology .....	3
MIS1100	Business Computers .....	3
6 credits from the following:		
ACCT1120	Business Law .....	3
ACCT2210	Managerial Accounting .....	4
ACCT2219	Microsoft Dynamics - GP .....	2
ACCT2255	Income Tax-Individual.....	3
ACCT2256	Income Tax-Business.....	3
ACCT2616	Intermediate Accounting I.....	3
ACCT2630	Fund/Nonprofit Accounting .....	3
ACCT2640	Accounting Internship .....	1 - 4
BUS2204	Principles of Management .....	3
BUS2206	Principles of Marketing .....	3
ACCT1101	Payroll.....	3
ACCT1124	Spreadsheet Applications.....	3
ACCT2211	Financial Accounting I.....	3
ACCT2212	Financial Accounting II.....	3
ACCT2218	QuickBooks.....	2
HRES1122	Human Resource Management.....	3
HRES1130	Benefits Administration.....	3
PDEV1102	Contemporary Career Search .....	1

## Phlebotomy Technician

**Certificate - 16 credits**  
**F**

The Phlebotomy Technician program provides students the training  
necessary for employment and advancement in the health care field.  
Upon satisfactory completion of the classroom training at the college,  
each student is assigned to an affiliating clinical site for five weeks of  
daytime phlebotomy clinical experience. During this period, the stu-  
dent performs phlebotomy and other related procedures under the  
direct supervision of a medical laboratory technician or technologist.  
Graduates of the one-semester Phlebotomy Technician program are  
eligible to take the Board of Certification examination of the American  
Society for Clinical Pathology.



Course #	Course Title	Crds
Special requirement: 3 Credits - Goal Area#1 - Communication..... 3		
HLTH1110	Introduction to Anatomy and Physiology .....	3
HLTH1116	Medical Terminology .....	3
MLT1110	Phlebotomy Skills .....	2
MLT1112	Clinical Phlebotomy .....	3
MLT1115	Basic Laboratory Techniques .....	2

## Plumbing Technology

Diploma - 36 credits  
M

The Plumbing Technology program is designed for apprentice plumbers and others entering a plumbing career. It begins with safety, tools and materials used in the industry with a strong emphasis on the Minnesota Plumbing Code and the North Dakota Plumbing Code, covering both residential and commercial installation practices and standards. An introduction to blueprints and isometric drawings will be presented, as well as backflow prevention theory and devices. Graduates will be eligible for applicable hours on their apprenticeship card.

Course #	Course Title	Crds
3 credits from the following:		
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
ENGL1101	College Writing.....	3
MATH1000	Technical Mathematics.....	3
PHIL1200	Applied and Professional Ethics.....	3
PHIL1201	Ethics .....	3
PSYC1101	Human Interaction .....	3
PSYC1200	General Psychology .....	3
PLBG1101	Piping and Job Safety.....	2
PLBG1103	Plumbing Trade Tools .....	2
PLBG1115	Faucets and Fixtures.....	2
PLBG1119	Materials and Fittings .....	4
PLBG1123	Plumbing Code I .....	3
PLBG1125	Plumbing Lab I .....	2
PLBG1131	Grade and Elevation .....	2
PLBG1133	Blueprint Reading.....	2
PLBG1135	Drainage, Waste and Venting .....	4
PLBG1137	Water Distribution.....	3
PLBG1139	Backflow Basics .....	2
PLBG1141	Plumbing Code II .....	3
PLBG1145	Plumbing Lab II .....	2

## Political Science Pathway

Associate of Arts (AA) - 60 credits  
D F M O W

The Political Science Transfer Pathway AA offers students the opportunity to complete an Associate of Arts degree with course credits that directly transfer to designated political science bachelor’s degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree

and transferring to one of the seven Minnesota State universities enter the university with junior-year status. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor’s degree programs in a related field.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	21
Goal Area	3. Natural Sciences .....	6
Goal Area	4. Mathematics/Logical Reasoning.....	3
Goal Area	5. History and the Social and Behavioral Sciences .....	3
Goal Area	6. The Humanities and Fine Arts .....	9
3 credits from the following:		
POLS2204	Comparative Government.....	3
POLS2206	Global Politics .....	3
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
3 credits from the following:		
POLS1130	State and Local Government .....	3
POLS2204	Comparative Government.....	3
POLS2206	Global Politics .....	3
POLS2950	Introduction to Social Research.....	3
ENGL1101	College Writing .....	3
POLS1120	American National Government.....	3

## PowerSports Technology

Certificate - 30 credits  
D

Students who wish to become skilled PowerSports mechanics must be capable of diagnosing mechanical failures quickly and accurately if they are to be in a position to repair the job at a fair salary return. Most types of two- and four-cycle small engines that are currently used to power lawn mowers, snowblowers, generators, garden tractors, rototillers, snowmobiles, ATVs and personal watercraft will be covered. Students who perform satisfactorily may find employment as service technicians, sales personnel and factory representatives, or they may wish to enter business for themselves.This program requires a mechanical aptitude and the ability to read and comprehend technical service manuals, understand and perform a variety of diagnostic procedures, and work well with fellow employees and customers. Many Industry training opportunities are available.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
PWST1302	Snowmobile I.....	5
TRNS1001	Fuel Systems I.....	3
TRNS1003	Off-Road Literature and Computer Systems.....	2
TRNS1005	Off-Road Electrical Systems .....	2
TRNS1006	Off-Road Vehicle Maintenance.....	4
TRNS1015	Ignition, Charging and Starter Systems Lab.....	2
TRNS1016	Ignition, Charging and Starter Systems Theory .....	1
TRNS1102	.....	2

TRNS1104	Transportation Electronics.....	3
TRNS1193	Fuel Systems II Lab .....	1
TRNS1194	Fuel Systems II Theory .....	2

## PowerSports Technology

Diploma - 60 credits  
D

Students who wish to become skilled PowerSports mechanics must be capable of diagnosing mechanical failures quickly and accurately if they are to be in a position to repair a job at a fair salary return. Most types of two- and four-cycle small engines that are currently used to power lawn mowers, snowblowers, generators, garden tractors, rototillers, snowmobiles, ATVs, personal watercraft and marine engines will be covered. Students who perform satisfactorily may find employment as service technicians, sales personnel and factory representatives, or they may wish to enter business for themselves.This program requires a mechanical aptitude and the ability to read and comprehend technical service manuals, understand and perform a variety of diagnostic procedures, and work well with fellow employees and customers. Many industry training opportunities are available.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	6
PWST1000	Introduction to PowerSports .....	3
PWST1002	Snowmobile, Off Road Vehicle and Motorcycle Maintenance .....	3
PWST1014	Personal Watercraft and Marine Engine Maintenance	3
PWST1015	Marine Engine Installation and Set Up .....	3
PWST1017	Fuel Systems I .....	3
PWST1021	Ignition, Charging and Starter Systems.....	3
PWST1025	Fuel Systems II .....	3
PWST1080	Snowmobile Engines .....	3
PWST1115	Electrical Foundations .....	3
PWST2013	Power Hydraulics .....	3
PWST2016	Outboard Engine Systems .....	3
PWST2017	Marine Drive Systems.....	3
PWST2115	All-Terrain Vehicles Systems .....	3
PWST2206	Chainsaws and Generators .....	3
PWST2210	Snowmobile Clutch and Drive Systems .....	3
PWST2304	Motorcycles I.....	3
PWST2308	Advanced Snowmobiles .....	3
PWST2312	Advanced Motorcycle Systems.....	3

## PowerSports Technology AAS

Associate of Applied Science (AAS) - 69 credits  
D

Powersport technicians maintain, troubleshoot and repair equipment found in the powersport industry, including marine, snowmobile, motorcycle, all-terrain vehicle (ATV) and lawn equipment. In this program, you will gain the knowledge and hands-on experience to perform competently at the dealership level and be trained to gain the soft skills to help you toward the goal of management, manufacturer technical

service representative or business ownership. Students will perform services on modern products using specialty tools and factory test equipment. Along with taking factory certification exams, students learn how to plan and perform repairs according to manufacturers’ recommended procedures.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
Crs Type	General Education w/MnTC Goals.....	3
Crs Subject	POLS .....	3
Crs Subject	PSYC.....	3
Crs Subject	ENGL.....	3
PWST1000	Introduction to PowerSports.....	3
PWST1002	Snowmobile, Off Road Vehicle and Motorcycle Maintenance .....	3
PWST1014	Personal Watercraft and Marine Engine Maintenance	3
PWST1015	Marine Engine Installation and Set Up .....	3
PWST1017	Fuel Systems I .....	3
PWST1021	Ignition, Charging and Starter Systems.....	3
PWST1025	Fuel Systems II .....	3
PWST1080	Snowmobile Engines .....	3
PWST1115	Electrical Foundations .....	3
PWST2013	Power Hydraulics .....	3
PWST2016	Outboard Engine Systems .....	3
PWST2017	Marine Drive Systems.....	3
PWST2115	All-Terrain Vehicles Systems .....	3
PWST2206	Chainsaws and Generators .....	3
PWST2210	Snowmobile Clutch and Drive Systems .....	3
PWST2304	Motorcycles I .....	3
PWST2308	Advanced Snowmobiles .....	3
PWST2312	Advanced Motorcycle Systems.....	3

## Practical Nursing

Diploma - 40 credits  
M

The Practical Nursing program prepares the student to practice within the scope of the practical nurse.The student is taught to use the nursing process in the maintenance of health and prevention of illness, the observation and nursing care of individuals experiencing changes in health status and the administration of prescribed medication and treatments. The student will receive supervised learning experiences in caring for individuals in a variety of health care settings such as hospitals, long-term care facilities and physician clinic settings. Practical Nursing graduates may apply to take the National Council Licensing Exam-PN (NCLEX-PN) following graduation. Individuals entering the program must pass the background check required by the Minnesota Human Services licensing division and an annual National Background Check. The Practical Nursing program is offered on the Moorhead campus. The Minnesota Board of Nursing has officially approved the Practical Nursing program at M State.

Course #	Course Title	Crds
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2261	Human Anatomy and Physiology I Lab .....	1
BIOL2262	Human Anatomy and Physiology II.....	3
BIOL2263	Human Anatomy and Physiology II Lab .....	1
ENGL1101	College Writing .....	3

PNSG1508	Foundations of Adult Nursing Care I.....	8
PNSG1514	Clinical I Practical Nurse Foundations.....	4
PNSG1518	Foundations of Adult Nursing Care II.....	5
PNSG1520	Nursing Care of Women, Newborns, and Children .....	2
PNSG1522	Transition to Practical Nursing Practice .....	1
PNSG1524	Practical Nursing Mental Health.....	2
PNSG1528	Clinical II Practical Nursing.....	4
PSYC2222	Lifespan Development.....	3

## Professional Sales Skills

**Certificate - 9 credits**  
**D O**

This certificate prepares students to enhance their selling, customer service and speaking skills. It also is designed to provide new sales professionals with the foundational skills for success. This certificate includes courses in public speaking, selling strategies and customer service.

Course #	Course Title	Crds
COMM1120	Introduction to Public Speaking .....	3
MKTG1106	Professional Selling.....	3
MKTG1110	Customer Service .....	3

## Psychology Transfer Pathway

**Associate of Arts (AA) - 60 credits**  
**D F M O W**

The Psychology Transfer Pathway AA offers students a powerful option: the opportunity to complete an Associate of Arts degree with course credits that directly transfer to designated psychology bachelor’s degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree and transferring to one of the seven Minnesota State universities enter the university with junior-year status. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor’s degree programs in a related field.

Course #	Course Title	Crds
Special requirement: 3 additional credits from the MnTC Goal 2.....		
Special requirement: 7 additional credits from the MnTC Goal 3, one lab course required.		
One Biology (BIOL) course required. ....		
Special requirement: 3 additional credits from the MnTC Goal 5 other than a Psychology (PSYC) course. ....		
Special requirement: 9 additional credits from the MnTC Goal 6 from three different areas.		
One Philosophy (PHIL) course required.....		
Special requirement: 3 additional credits from the MnTC Goal 7.....		
Special requirement: 3 additional credits from the MnTC Goal 8.....		
Special requirement: 3 additional credits from the MnTC Goal 9.....		
Special requirement: 3 additional credits from the MnTC Goal 10. ....		
3 credits from the following:		

COMM1120	Introduction to Public Speaking .....	3
COMM1140	Interpersonal Communication.....	3
3 credits from the following:		
PSYC1101	Human Interaction .....	3
PSYC1500	Positive Psychology .....	3
PSYC2220	Abnormal Psychology .....	3
PSYC2222	Lifespan Development.....	3
PSYC2224	Social Psychology.....	3
PSYC2226	Behavior and Environmental Management.....	3
PSYC2230	Personality Psychology .....	3
PSYC2302	Cross-Cultural Psychology .....	3
PSYC2950	Introduction to Social Research.....	3
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3
3 credits from the following:		
PSYC2220	Abnormal Psychology .....	3
PSYC2222	Lifespan Development.....	3
PSYC2224	Social Psychology.....	3
4 credits from the following:		
MATH1114	College Algebra.....	4
MATH1213	Introduction to Statistics .....	4
ENGL1101	College Writing .....	3
PSYC1200	General Psychology .....	3
PSYC2900	Statistics for Behavioral and Social Sciences .....	4

## Purchasing and Inventory Management

**Certificate - 30 credits**  
**M O**

The Purchasing and Inventory Management program teaches students how to manage a department by handling a large volume of information, serving customers and operating database computer systems. The program will teach students how to order and keep inventories, receive supplies in an organized system, update price lists and manage inventories.

Course #	Course Title	Crds
Crs Type	Career.....	9
BUS1130	Introduction to Inventory Control and Purchasing.....	3
BUS1300	Financial Statement Analysis.....	3
INTE1100	Industry Internship Experience .....	3
MIS1100	Business Computers .....	3
MKTG1040	Consumer Behavior .....	3
MKTG1106	Professional Selling.....	3
MKTG1110	Customer Service .....	3

## Radiologic Technology

**Associate of Applied Science (AAS) - 79 credits**  
**D**

The Radiologic Technology program prepares individuals to perform various radiologic procedures. The radiologic technologist instructs and positions patients, manipulates radiographic equipment, adjusts exposure factors, provides radiation protection for patient and self, develops radiographic images, evaluates the quality of finished radiographs and carries out activities associated with quality control. The student radiologic technologist carries out these functions under the supervision or upon the direction of a registered radiologic technologist. Graduates of the Radiologic Technology program are eligible for the national certification exam administered by the American Registry of Radiologic Technologists. Successful completion of this exam qualifies the graduate as a Registered Radiologic Technologist. The selection of students into the Radiologic Technology program is done on a point system using the Application Assessment Sheet to rank applicants comparatively based on course grades and GPA. Individuals entering the program must complete a background check required by the Minnesota Department of Human Services licensing division. Individuals who do not receive a clear background check may participate in the program but may not be allowed to participate in clinical and/or field experience courses.

Course #	Course Title	Crds
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2262	Human Anatomy and Physiology II.....	3
COMM1140	Interpersonal Communication.....	3
MATH1114	College Algebra.....	4
PHYS1105	Fundamental Concepts in Physics .....	3
RADT1102	Fundamental Concepts of Radiologic Technology .....	2
RADT1112	Introduction to Radiologic Technology and Patient Care .....	4
RADT1116	Radiographic Procedures I.....	5
RADT1124	Radiographic Procedures II.....	4
RADT1132	Principles of Radiobiology .....	4
RADT1140	Radiographic Imaging .....	4
RADT1146	Radiographic Procedures III.....	4
RADT1180	Radiographic Clinical I .....	5
RADT1190	Radiographic Clinical II .....	5
RADT2100	Radiographic Clinical III .....	5
RADT2110	Radiographic Clinical IV .....	5
RADT2120	Radiographic Clinical V .....	5
RADT2130	Radiographic Clinical VI .....	5
RADT2224	Imaging Equipment .....	4
RADT2280	Radiologic Technology Registry Review .....	2

## Sign Language Interpreter Preparation

**Associate of Applied Science (AAS) - 64 credits**  
**M**

The Sign Language Interpreter Preparation program prepares individuals to work as interpreters facilitating and mediating communication between deaf/hard of hearing and hearing people. Students will gain

sign language skills, an understanding of deaf culture, knowledge of the interpreter’s role and skill development for the profession of sign language interpreting. Students will experience a variety of learning environments including classroom work, laboratory practice and field placement.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	3
ASL1111	American Sign Language and Deaf Culture I .....	3
ASL1112	American Sign Language and Deaf Culture II .....	3
ASL1113	American Sign Language and Deaf Culture III .....	4
ASL1114	American Sign Language and Deaf Culture IV .....	4
ASL1115	American Sign Language and Deaf Culture V .....	3
ASL2000	Advanced Fingerspelling, Numbers and Classifiers .....	2
ASL2100	Linguistics of American Sign Language .....	3
COMM1120	Introduction to Public Speaking .....	3
COMM2230	Intercultural Communication .....	3
ENGL1101	College Writing .....	3
IPP1111	Introduction to Interpreting .....	3
IPP1112	Beginning American Sign Language to English .....	3
IPP1113	Beginning English to American Sign Language .....	3
IPP2112	Advanced American Sign Language to English .....	3
IPP2113	Advanced English to American Sign Language .....	3
IPP2114	Educational Interpreting.....	2
IPP2215	Topics in Interpreting.....	2
IPP2216	Practicum .....	1
IPP2217	Interpreting Internship .....	6
IPP2218	Internship Seminar .....	1
PSYC1200	General Psychology .....	3

## Sign Language Interpreting - Medical

**Certificate - 18 credits**  
**O**

The Sign Language Interpreting - Medical program provides specialized training for sign language interpreters interested in pursuing the field of medical interpreting. Students will be introduced to medical terminology, human body systems, medical interpreting and ethical decision making. Students will expand their existing interpreting skills and prepare to facilitate communication between patients who use American Sign Language (ASL) and their medical care providers.

Course #	Course Title	Crds
ASLM1110	Introduction to Medical Interpreting .....	3
ASLM1111	Ethical Decision Making for Medical Interpreters .....	2
ASLM1112	Medical Signs.....	2
ASLM1113	Special Topics in the Field of Medical Interpreting.....	2
ASLM1114	Introduction to Mental Health Interpreting .....	3
HLTH1110	Introduction to Anatomy and Physiology.....	3
HLTH1116	Medical Terminology .....	3



## Social Media Management

Certificate - 18 credits  
M O

The certificate in Social Media Management will provide entry-level skills necessary to plan, execute, analyze and maintain an effective social media program in today’s ever-evolving marketing and business environments. This program is structured to introduce students to foundational marketing principles that will provide the groundwork for further social media studies and applications. Graduates may work in a variety of industries in social media management; some may occupy this as a single role, while others may manage these responsibilities in addition to another role. Hands-on training will prepare students to perform a variety of essential skills necessary for this in-demand career: identifying strategies to achieve marketing and branding objectives, creating original digital content using diverse techniques and tools, employing measurement methodologies to capture and assess critical data, and launching and sustaining a social media program for organizations of all kinds.

Course #	Course Title	Crds
BUS2206	Principles of Marketing .....	3
MKTG1116	Advertising and Promotion.....	3
MKTG1200	Introduction to Social Media .....	3
SOMM1400	Social Media Visual Methods .....	3
SOMM2200	Social Media Management.....	3
SOMM2300	Social Media Campaigns.....	3

## Sport Management

Associate of Science (AS) - 60 credits  
F

The Sport Management program is designed to provide theoretical and practical preparation for sport management leaders in the business of sports. The program allows students to develop skills and knowledge in management, communication, public relations, facilities and finance as they relate to sports.

Course #	Course Title	Crds
Special requirement: Two credits in sports performance .....		
Goal Area	3. Natural Sciences .....	3
3 credits from the following:		
HIST2212	American History 19th Century .....	3
HIST2213	American History: 20th Century.....	3
3 credits from the following:		
ART1121	World of Art I.....	3
HUM1105	Religion in the Humanities .....	3
HUM2236	Technology in the Humanities .....	3
MUSC1116	World Music .....	3
WMST1136	Global Perspectives of Women .....	3
3 credits from the following:		
PE2112	Applied Coaching: Football.....	1
PE2114	Applied Coaching: Volleyball .....	1
PE2115	Applied Coaching: Basketball .....	1
PE2240	Athletic Injury, Care and Prevention.....	2
PE2241	Principles of Coaching .....	3
ACCT2211	Financial Accounting I.....	3

ACCT2212	Financial Accounting II.....	3
BIOL1107	Environmental Science Issues.....	3
BIOL1108	Environmental Science Issues Lab .....	1
BUS2204	Principles of Management .....	3
COMM1120	Introduction to Public Speaking .....	3
ECON2210	Macroeconomics .....	3
ECON2222	Microeconomics .....	3
ENGL1101	College Writing .....	3
ENGL1215	Professional and Technical Writing.....	3
MATH1114	College Algebra.....	4
MATH1213	Introduction to Statistics .....	4
PE2100	Introduction to Sport Management .....	3
PE2254	Sports in Society.....	3
PE2999	Athletic Leadership.....	1
PHIL1201	Ethics .....	3

## Surgical Technology

Associate of Applied Science (AAS) - 60 credits  
M

The Surgical Technology program prepares competent entry-level surgical technologists in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains. Graduates will have the entry-level knowledge to assist physicians, anesthesiologists and registered nurses throughout the perioperative experience while demonstrating proficiency with sterile techniques and the preparation and use of surgical equipment, instruments and supplies, and demonstrating an understanding of anatomy, physiology, pathophysiology and microbiology.

Course #	Course Title	Crds
Special requirement ... Test out or pass with a "C" or better Math 1020 Special requirement ..... Program Pre-requisites: American Heart Association Health Care Provider CPR MDH Background Check National Background Check Developmental Education with C or better Health Form/Immunization documentation		
Special requirement ..... Eligibility Criteria: GPA 2.0 or higher or a C in required courses		
BIOL2260	Human Anatomy and Physiology I.....	3
BIOL2261	Human Anatomy and Physiology I Lab .....	1
BIOL2262	Human Anatomy and Physiology II.....	3
BIOL2263	Human Anatomy and Physiology II Lab .....	1
BIOL2267	Medical Microbiology.....	3
BIOL2268	Medical Microbiology Lab .....	1
ENGL1101	College Writing .....	3
HLTH1116	Medical Terminology .....	3
HLTH2208	Pathophysiology .....	3
PHIL1200	Applied and Professional Ethics.....	3
PSYC2222	Lifespan Development.....	3
SURT1200	Introduction to Surgical Technology .....	3
SURT1210	Surgical Technology I .....	6
SURT1215	Surgical Pharmacology .....	3
SURT1220	Surgical Technology II .....	5
SURT1230	Surgical Technology III .....	4
SURT1250	Surgical Clinical I.....	6
SURT1255	Surgical Clinical II .....	6

## Survey Technician

Certificate - 30 credits  
D

This certificate program provides the student with a basic study of civil engineering surveying including survey equipment setup and training, surveying principles and an introduction to civil engineering survey practices and uses. The Survey Technician program includes knowledge and training in property and land surveys, construction project design, field training in level surveys, total station and global positioning equipment, and road design and construction principles.

Course #	Course Title	Crds
CADD1000	AutoCAD Basics .....	3
CIVL1100	Survey I: Fundamentals of Surveying .....	3
CIVL1119	Survey II: Land Surveys.....	3
CIVL1138	CADD II: Plan Layout .....	3
CIVL2209	Construction Inspection .....	3
CIVL2210	Road Design.....	3
ENGL1101	College Writing .....	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics.....	3
ENGT1134	Office Systems and Equipment.....	3

## Theatre Transfer Pathway

Associate of Fine Arts (AFA) - 60 credits  
F

The 60-credit Associate of Fine Arts (AFA) degree in Theatre provides students with the skills to help them develop into professional artists. Students will explore multiple areas of technical theatre including set building, design, lighting and sound, and makeup; in addition, students will explore performance and production. The degree ensures that students will have the necessary coursework to prepare for transfer and advanced studies in theatre. The Theatre Transfer Pathway AFA offers students a powerful option: the opportunity to complete an AFA degree with course credits that directly transfer to designated theatre bachelor’s degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing this pathway degree and transferring to one of the seven Minnesota State universities enter the university with junior-year status. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor’s degree programs in a related field.

Course #	Course Title	Crds
Special requirement .....		
Remaining MnTC Goal Areas - 31 credits (Goal areas to be covered: 2, 3, 4, 5, 7, 8, 9, and 10). Students are advised to take courses meeting multiple goal areas in order to fulfill MnTC requirements within 40 credits). [MnTC Goal Area 2: Critical Thi.....		
31		
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1140	Interpersonal Communication.....	3
3 credits from the following:		
ENGL1205	Writing About Literature .....	3
ENGL1210	Writing About Current Issues .....	3
ENGL1215	Professional and Technical Writing.....	3

ENGL1101	College Writing .....	3
THTR1100	Introduction to Theatre.....	3
THTR1105	Acting I.....	3
THTR1125	Theatre Technical Practicum .....	2
THTR1130	Stage Make-up.....	3
THTR1140	Stagecraft .....	3
THTR2120	Script Analysis.....	3
THTR2130	Design for the Stage .....	3

## Visual Art

Associate of Fine Arts (AFA) - 60 credits  
F

The 60-credit AFA in Art provides students with the skills to help them develop into professional artists. Students will explore multiple areas in the visual arts including design, painting, drawing, ceramics, mixed media, printmaking and photography. In addition, students will explore artistic intent and exhibition opportunities. The degree ensures that students will have the necessary coursework to prepare for transfer and advanced studies in the visual arts.

Course #	Course Title	Crds
Crs Type	General Education w/MnTC Goals.....	12
Goal Area	3. Natural Sciences .....	3
Goal Area	3. Natural Sciences .....	1
3 credits from the following:		
ART1140	Handbuilt Ceramics .....	3
ART1141	Ceramics I .....	3
3 credits from the following:		
COMM1120	Introduction to Public Speaking .....	3
COMM1130	Small Group Communication .....	3
COMM1140	Interpersonal Communication.....	3
3 credits from the following:		
PSYC1200	General Psychology .....	3
SOC1111	Introduction to Sociology .....	3
9 credits from the following:		
ART1112		
ART1117	Printmaking I .....	3
ART2111	Drawing II .....	3
ART2112	Painting II.....	3
ART2114	Photographic Art I .....	3
ART2116	Mixed Media I.....	3
ART2241	Advanced Ceramics .....	3
GLST1121	Humanities Italy .....	3
GLST1126		
HUM1120	Culture of Italy.....	3
HUM2210	Introduction to Film.....	3
ART1107	Foundations of Art, 2-D .....	3
ART1108		3
ART1111		3
ART1121		3
ART1122	World of Art II.....	3
ART2260	Art, Portfolio Design and Professional Development ..	1
ART2999	AFA-Visual Art Capstone Exhibition .....	1
ENGL1101	College Writing .....	3
HIST2213	American History: 20th Century .....	3
PHIL1201	Ethics .....	3



## Web Design

Certificate - 30 credits

The Web Design Certificate provides students with the opportunity to use creative and technical skills to create customer-friendly websites using the most sophisticated tools currently available. Students will gain a strong understanding, appreciation and practical knowledge of the processes involved in building successful, visually appealing web-sites.

Course #	Course Title	Crds
WEBD1000	Foundations of Web Design .....	3
WEBD1010	HTML .....	3
WEBD1020	Photoshop .....	3
WEBD1030	Multimedia .....	3
WEBD1110	Cascading Style Sheets .....	3
WEBD1130	Electronic Commerce .....	3
WEBD1140	JavaScript.....	3
WEBD2010	Content Management Systems .....	3
WEBD2020	User Interface Design .....	3
WEBD2030	Search Engine Optimization .....	3

Course #	CourseTitle	CR	Lec/Lab/OJT
ACCT 1012	<b>Foundations of Accounting</b> This course covers the basic accounting cycle for service and merchandising businesses. Topics include the analyses of business transactions, recording transactions in a variety of journals, payroll procedures and preparation of financial reports. <b>Prerequisite:</b> <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 1101	<b>Payroll</b> This course covers the various tax laws pertaining to the computation and payment of salaries and wages, and use of the touch system on the 10-key number pad. Topics include preparation of employment records, payroll registers, time cards, employee earnings records and government payroll reports. <b>Prerequisite:</b> <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 1108	<b>Business Math and Calculators</b> This course covers common business-related calculations, application of these calculations to accounting and other business functions, and use of the touch system on the computer number pad keyboard. <b>Prerequisite:</b> MATH0055 or placement by assessment <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 1120	<b>Business Law</b> This course is an introduction to the principles of law as they apply to citizens and businesses. Topics include the court system, legal system, contracts, negotiable instruments, and agency and employer/employee relationships. <b>Prerequisite:</b> <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 1124	<b>Spreadsheet Applications</b> This course covers the use of a computerized spreadsheet system for accounting applications. Topics include document creation, storage and retrieval, editing, printing, creating charts, database applications and file distribution. <b>Prerequisite:</b> CPTR1104 <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2201	<b>Financial Accounting I Lab</b> This course is the lab course associated with Financial Accounting I (ACCT2211). Students must be enrolled in ACCT2211 to enroll in this course. Major content will be the practical application of concepts introduced in the lecture course. <b>Prerequisite:</b> <b>Corequisite:</b>	1	0.00/1.00/0.00
ACCT 2202	<b>Financial Accounting II Lab</b> This course is the lab course associated with Financial Accounting II (ACCT2212). Students must be enrolled in ACCT2212 to enroll in this course. Major content will be the practical application of concepts introduced in the lecture course. <b>Prerequisite:</b> ACCT2211 <b>Corequisite:</b>	1	0.00/1.00/0.00
ACCT 2202	<b>Financial Accounting II Lab</b> This course is the lab course associated with Financial Accounting II (ACCT2212). Students must be enrolled in ACCT2212 to enroll in this course. Major content will be the practical application of concepts introduced in the lecture course. <b>Prerequisite:</b> <b>Corequisite:</b> ACCT2212	1	0.00/1.00/0.00
ACCT 2203	<b>Managerial Accounting Lab</b> This course is the lab course associated with Managerial Accounting (ACCT2213). Students must be enrolled in ACCT2213 to enroll in this course. Major content will be the practical application of concepts introduced in the lecture course. <b>Prerequisite:</b> ACCT2212 <b>Corequisite:</b>	1	0.00/1.00/0.00
ACCT 2210	<b>Managerial Accounting</b> This course focuses on providing financial information to management for strategic decision-making related to cost analysis and cost management. <b>Prerequisite:</b> ACCT2211 <b>Corequisite:</b>	4	4.00/0.00/0.00
ACCT 2211	<b>Financial Accounting I</b> This course introduces students to the content and concepts underlying financial statements. Course content includes study of the accounting model, financial statements, merchandise accounting, internal controls and accounting for assets. The course will focus on using accounting information for decision making. <b>Prerequisite:</b> <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2212	<b>Financial Accounting II</b> This course continues the introduction to the content and concepts underlying basic financial statements. Major content includes income measurement, accrual accounting, accounting theory, time-value of money, accounting for current and long-term liabilities, owner&#039;s equity for sole proprietorships, partnerships and corporations, statement of cash flows and financial statement analysis. <b>Prerequisite:</b> <b>Corequisite:</b> ACCT2211	3	3.00/0.00/0.00

Course #	CourseTitle	CR	Lec/Lab/OJT
ACCT 2213	<b>Managerial Accounting</b> This course focuses on strategic decision-making related to cost analysis and cost management. <b>Prerequisite:</b> ACCT2211, ACCT2212 <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2215	<b>Computerized Accounting Applications</b> This course is an introduction to computerized accounting applications and software used in the business environment. Topics include general ledger accounting, payroll procedures, accounts receivable, accounts payable, inventory and depreciation. <b>Prerequisite:</b> ACCT1012, ACCT2211, BUS1120, CPTR1104, CSC11155 <b>Corequisite:</b>	3	2.00/1.00/0.00
ACCT 2215	<b>Computerized Acct App</b> This course is an introduction to computerized accounting applications and software used in the business environment. Topics may include general ledger accounting, payroll procedures, accounts receivable, accounts payable, inventory and depreciation. <b>Prerequisite:</b> ACCT1012, ACCT2211, BUS1120, CPTR1104, CSC11155 <b>Corequisite:</b>	3	2.00/1.00/0.00
ACCT 2218	<b>QuickBooks</b> This course is an introduction to computerized accounting applications and software used in the business environment. Topics may include general ledger accounting, payroll procedures, accounts receivable, accounts payable, inventory and depreciation. <b>Prerequisite:</b> 3 Credits from ACCT2211 Financial Accounting I or ACCT1012 Foundations of Accounting AND 3 Credits from MIS1100 Business Computers or CPTR 1104 Intro to Computers or BUS1120 Spreadsheets and Database Concepts <b>Corequisite:</b>	2	2.00/0.00/0.00
ACCT 2219	<b>Microsoft Dynamics - GP</b> This course covers the use of computerized accounting applications and software used in a mid-sized business environment. <b>Prerequisite:</b> ACCT2211, CPTR1104, MIS1100 <b>Corequisite:</b>	2	2.00/0.00/0.00
ACCT 2255	<b>Income Tax-Individual</b> This course provides an explanation and interpretation of the Internal Revenue Code as applied to individual income tax returns. Topics covered include filing requirements, filing status, gross income and exclusions, business income and expenses, tax credits and tax estimates. <b>Prerequisite:</b> MATH 0055 or placement by assessment <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2256	<b>Income Tax-Business</b> This course provides an explanation and interpretation of the Internal Revenue Code as applied to sole proprietorships, partnerships and corporations. Topics include business income, expenses, business tax credits, withholding and payment of established estate and trust tax issues. <b>Prerequisite:</b> ACCT2255 <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2291	<b>Volunteer Income Tax Assistance</b> This course prepares students for preparation of federal and state income tax returns for individuals. The emphasis is on form preparation with the use of computerized tax preparation software. <b>Prerequisite:</b> ACCT2255 <b>Corequisite:</b>	1	0.00/1.00/0.00
ACCT 2295	<b>Certified Bookkeeper Review Course</b> This course is designed to prepare students to take and pass the national Certified Bookkeeper examination in order to obtain the Certified Bookkeeper designation conferred by the American Institute of Professional Bookkeepers (AIPB). The course content will include adjustments and error correction, payroll and deprecation, inventory and internal controls. <b>Prerequisite:</b> ACCT2211 <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2616	<b>Intermediate Accounting I</b> This course is a comprehensive study of accounting theory and concepts with an analysis of the influence on financial accounting by various boards, associations and governmental agencies. Topics may include the income statement, balance sheet, statement of cash flows, and various asset, liability and equity sections. <b>Prerequisite:</b> ACCT2212 <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2618	<b>Intermediate Accounting II</b> This course is the continuation of a comprehensive study of accounting theory and concepts with an analysis of the influence on financial accounting by various boards, associations and governmental agencies. Topics include the income statement, balance sheet, statement of cash flows, and various asset, liability and equity sections. <b>Prerequisite:</b> ACCT 2616 Intermediate Accounting I *this course will be added as the prerequisite once the course is approved by AASC <b>Corequisite:</b>	3	3.00/0.00/0.00
ACCT 2630	<b>Fund/Nonprofit Accounting</b> This course focuses on the fundamentals of fund/nonprofit accounting. It prepares students to apply basic governmental accounting principles and prepare financial statements for fund/nonprofit organizations. <b>Prerequisite:</b> ACCT2212 <b>Corequisite:</b>	3	3.00/0.00/0.00

Course #	CourseTitle	CR	Lec/Lab/OJT
ACCT 2640	Accounting Internship	1.00 - 4.00	
This course provides students with actual work experience in accounting careers. Student is responsible for obtaining accounting internship. <b>Prerequisite:</b> This internship is for currently enrolled Accounting Majors only and must be approved by instructor. <b>Corequisite:</b>			
ACCT 2800	Accreditation Council for Accountancy and Taxation Exam Review	3	2.00/1.00/0.00
This course is designed to prepare students for the Accreditation Council for Accountancy and Taxation (ACAT) exam. It also serves as a capstone course covering financial accounting, internal control, professional ethics, business consulting services, managerial accounting, business law and taxation. <b>Prerequisite:</b> ACCT1101, ACCT1120, ACCT2213, ACCT2255, ACCT2620 <b>Corequisite:</b> ACCT2622			
ADMM 1104	Medical Language Applications I	3	2.00/1.00/0.00
This course provides in-depth analysis of medical language for nonclinical personnel and prepares students for working in many aspects of a medical office. Construction, definition, spelling, pronunciation and proper written and verbal usage of medical language are emphasized. Students will learn to define, spell, pronounce and use medical terms with application in the many contexts of working in a medical office. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMM 1110	Medical Documentation Fundamentals	4	2.00/2.00/0.00
This course covers the fundamentals of health care documentation and medical record production, legal and ethical issues and responsibilities, text expansion software usage, utilization of medical references, and grammar and punctuation in health care-related communication. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMM 1110	Medical Documentation Fundamentals	4	2.00/2.00/0.00
This course covers the fundamentals of health care documentation and medical record production, legal and ethical issues and responsibilities, text expansion software usage, utilization of medical references, and grammar and punctuation in health care-related communication. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMM 1122	Medical Office Procedures	4	3.00/1.00/0.00
This course offers hands-on training in the tasks performed by medical administrative personnel in medical office settings. Topics include the role of the medical administrative professional, exploration of health care careers, legal and ethical responsibilities, medical appointments and calendars, professional communication including telephone techniques, reception and registration of patients, electronic health record responsibilities, introduction to billing and insurance procedures, and an introduction to medical office management. <b>Prerequisite:</b> <b>Corequisite:</b> ADMM1104 Medical Language Applications I OR HLTH1116 Medical Terminology			
ADMM 1140	Medical Language Applications	3	3.00/0.00/0.00
This course provides an in-depth exploration of medical terms used in pharmacology, radiology, laboratory and pathology, surgery, psychiatry, oncology, podiatry and physical and occupational therapy. Spelling, proofreading and analysis of medical documentation will be reviewed along with a study of a variety of medical documents. A solid foundation of medical terminology is cultivated in this course. <b>Prerequisite:</b> HLTH1116 <b>Corequisite:</b>			
ADMM 1150	Medical Billing/Insurance	4	3.00/1.00/0.00
This course provides information related to medical billing and health insurance. Topics covered include billing and statement preparation in the medical office, introduction to medical coding, types of health insurance coverage, insurance claim processes and related ethical and legal issues. <b>Prerequisite:</b> <b>Corequisite:</b> ADMM1104 Medical Language Applications I OR HLTH1116 Medical Terminology			
ADMM 1152	Outpatient Coding	4	3.00/1.00/0.00
Medical codes are used to identify procedures and diagnoses that pertain to a patient's health care encounter. This course is an introduction to medical coding and emphasizes coding in medical offices and other outpatient care facilities. Course topics include ICD-10 (International Classification of Disease 10th revision), CPT (Current Procedural Terminology) and HCPCS (Healthcare Common Procedural Coding System), and legal and ethical issues related to outpatient coding practices. <b>Prerequisite:</b> ADMM1104 Medical Language Applications I OR HLTH1110 Introduction to Anatomy & Physiology <b>Corequisite:</b>			
ADMM 1160	Beginning Medical Transcription	3	1.00/2.00/0.00
This course covers the transcription of basic health care dictation, incorporating skills in the English language, technology, medical knowledge, proofreading, editing and research, while meeting progressively demanding accuracy standards. <b>Prerequisite:</b> ADMM1104, ADMM1110 <b>Corequisite:</b>			

Course #	CourseTitle	CR	Lec/Lab/OJT
ADMM 1200	Medical Office Technology Tools	2	1.00/1.00/0.00
Students will utilize technology that is commonly used in a medical office setting and develop 10-key skills necessary for billing and insurance practices. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMM 2104	Medical Language Applications II	3	2.00/1.00/0.00
This course is a continuation of Medical Language Applications I and prepares nonclinical students to provide effective written or oral communication in encounters with patients, health care providers and other health care staff. Construction, definition, spelling, pronunciation, and proper written and verbal usage of medical terminology pertaining to pharmacology, surgical and anesthesia procedures, laboratory and pathology, oncology, psychiatry and psychology, and physical and occupational therapy are emphasized. Students will apply medical language knowledge to simulated real-life applications from a medical office environment. In-depth analysis and application of verbal and written communication is covered. <b>Prerequisite:</b> ADMM1104 <b>Corequisite:</b>			
ADMM 2122	Medical Office Management	3	3.00/0.00/0.00
This course examines the many responsibilities of a medical office manager. Whether in a small private practice or a large group practice, a medical office manager must be aware of current regulations in the health care industry and how these regulations affect the operations of a health care organization. Office management, business operations, human resources, financial management and marketing for health care organizations are also explored. <b>Prerequisite:</b> ADMM1122 <b>Corequisite:</b>			
ADMM 2130	Medical Office Career Insight	2	2.00/0.00/0.00
This course explores topics in the health care industry as they impact the medical administrative professional. Students will have the opportunity to focus on local, regional or national topics in preparation for a medical office career. Students will learn to appropriately present their acquired skills, knowledge and personal attributes to prospective health care employers. <b>Prerequisite:</b> ADMM1122, ADMM1160 <b>Corequisite:</b>			
ADMM 2150	Medicare Coding and Billing Applications	3	2.00/1.00/0.00
This course will teach the principles of Medicare coverage, billing, coding and payment for both inpatient and outpatient services. It will provide students with the knowledge and tools for developing the skills needed to submit accurate claims to Medicare, maintain compliance, prevent potential missed revenue and avoid unnecessary claim and coding denials. <b>Prerequisite:</b> <b>Corequisite:</b> ADMM1152			
ADMM 2152	Advanced Coding	4	2.00/2.00/0.00
This course is a continuation of ADMM1152 Outpatient Coding. Students will learn to extract coding information from medical records. This course emphasizes correct application of diagnosis and procedure coding guidelines and provides an introduction to computer coding applications. <b>Prerequisite:</b> ADMM1152 <b>Corequisite:</b>			
ADMM 2154	Hospital Billing	2	1.00/1.00/0.00
This course covers billing processes related to the hospital claim form. Billing for inpatient, ambulatory surgery and hospital-based outpatient services is covered. <b>Prerequisite:</b> ADMM1150, ADMM1152 <b>Corequisite:</b>			
ADMM 2256	Certified Professional Biller Examination	1	1.00/0.00/0.00
This course prepares students to take the Certified Professional Biller (CPB) examination offered by the American Academy of Professional Coding (AAPC). Practice examinations will be taken under timed conditions. The course assists the student in establishing a personal plan for continued development in preparation for the certification examination. <b>Prerequisite:</b> ADMM1150 <b>Corequisite:</b>			
ADMM 2258	Certified Professional Coder Examination Review	1	1.00/0.00/0.00
This course prepares students to take the Certified Professional Coder (CPC) examination offered by the American Academy of Professional Coders (AAPC). Review of Current Procedural Terminology (CPT), International Classification of Diseases (ICD) and Healthcare Common Procedure Coding System (HCPCS) Level II coding is an integral part of this course. Practice examinations will be taken under timed conditions. The course assists the student in establishing a personal plan for continued development in preparation for the certification examination. This course also prepares students to take other nationally recognized coding examinations. <b>Prerequisite:</b> ADMM1152 <b>Corequisite:</b>			
ADMM 2260	Certified Professional Coder - Hospital Examination Review	1	1.00/0.00/0.00
This course prepares students to take the Certified Professional Coder - Hospital (CPC-H) examination. Review of CPT, ICD and HCPCS II coding will be an integral part of this course. Practice examinations will be taken under timed conditions. The course assists the student in establishing a personal plan for continued development in preparation for the certification examination. <b>Prerequisite:</b> ADMM2252 <b>Corequisite:</b>			

Course #	CourseTitle	CR	Lec/Lab/OJT
ADMM 2276	Evaluation and Management Coding Practices	3	2.00/1.00/0.00
This course will teach students to appropriately assign evaluation and management codes based on physician documentation. Students will abstract information from health care documentation and assign appropriate levels of service. <b>Prerequisite:</b> ADMM1152 <b>Corequisite:</b>			
ADMM 2320	Medical Office Capstone	1	0.00/1.00/0.00
This course is a capstone experience for students enrolled in a medical administrative program. Medical office responsibilities such as appointment scheduling, registration, health information management, and billing and financial operations are included in this project-based course. It is recommended that students take this course near the end of their program. <b>Prerequisite:</b> ADMM1122 <b>Corequisite:</b>			
ADMM 2500	Human Disease Applications for Administrative Health Professionals	3	2.00/1.00/0.00
Knowledge of human diseases is crucial for administrative health personnel to efficiently and accurately assist health care providers and staff with the many administrative tasks associated with health care treatment. This course focuses on common signs and symptoms of disease affecting the human body including associated procedures, diagnostic testing and treatment. Recognition of emergent and urgent symptoms is addressed. Knowledge of the many aspects of human disease is needed to effectively provide health care support services and interact with patients presenting electronically, verbally or in person with administrative health personnel. Practical applications in communication, documentation and billing for the administrative medical office are emphasized. <b>Prerequisite:</b> HLTH1110 <b>Corequisite:</b> HLTH1110			
ADMS 90	Basic Keyboarding	1	0.00/1.00/0.00
This course introduces and develops basic computer keyboarding techniques and skills. Emphasis is on learning the touch-method of keying the alphabetic, numeric, symbol and punctuation keys and using proper keyboarding technique to develop speed and accuracy. <b>Prerequisite:</b> Placement into keyboarding courses will be by instructor assessment. <b>Corequisite:</b>			
ADMS 1100	Keyboarding I	3	1.00/2.00/0.00
In this course, the alphanumeric, symbol and punctuation keys are reviewed, emphasizing the touch method. Computer keyboarding fundamentals and techniques are taught, including basic formatting, proofreading skills, straight-copy skill development and correct computer keyboarding posture and technique. <b>Prerequisite:</b> permission of instructor, Placement by assessment <b>Corequisite:</b>			
ADMS 1104	Skillbuilding	1	0.00/1.00/0.00
This course emphasizes improved computer keyboarding speed and accuracy while strengthening basic keyboarding techniques. <b>Prerequisite:</b> ADMS0090, Placement by assessment <b>Corequisite:</b>			
ADMS 1110	Word Processing	3	2.00/1.00/0.00
This course introduces students to the word processing techniques needed to facilitate the creating, producing, editing and storing of documents. The course stresses increased proficiency in the computer production of business documents. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1112	Desktop Publishing	3	1.00/2.00/0.00
This course introduces the concepts, terminology, techniques and applications of desktop publishing and incorporates advanced document processing skills. The student develops skills in critical thinking, decision making and creativity. In addition, the student will reinforce collaborative learning in planning, designing and evaluating business documents. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1116	Business Communications I	3	2.00/1.00/0.00
This course prepares students for oral, written and non-verbal business communication skills and competencies required within the workplace. Students will apply proper business formats in memos, letters and other business documents using the direct, indirect and persuasive approaches in both formal business and social business style formats. The principles of grammar, punctuation, spelling and word usage will be applied and developed to gain a greater mastery to impart information professionally while matching style and tone in business writing. Other topics may include strategies for internal and external communication situations, audience analysis and communication through technology individually or within teams. <b>Prerequisite:</b> C or higher in one of the following: ENGL0096, ENGL0097, ELL1080, or ENGL0098, Placement by assessment into ENGL1101 <b>Corequisite:</b>			
ADMS 1120	Administrative Office Procedures	3	2.00/1.00/0.00
This course covers the skills and procedures required for the administrative office professional within the automated modern office. Topics may include time management, leading teams, handling conflict resolution, managing projects, planning and scheduling events, and arranging travel. Students will develop skills in office procedures, telephone techniques, evaluating equipment and software purchases, budgeting, managing inventory and processing mail. This course will provide the student with in-depth exposure to the roles and responsibilities of an office professional, both ethically and professionally. <b>Prerequisite:</b> <b>Corequisite:</b>			

Course #	CourseTitle	CR	Lec/Lab/OJT
ADMS 1128	Records Management	3	2.00/1.00/0.00
This course is an introduction to the procedures and rules for indexing and storing documents in alphabetic, numeric, geographic, subject and chronological systems. It also includes an introduction to the procedures for managing document and record storage systems. Applications include electronic storage and retrieval using database software for computers. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1130	Office Software Applications	3	2.00/1.00/0.00
This course is designed to provide the office professional with software application skills in spreadsheets, databases and email as used in the office environment. Spreadsheet topics may include formatting documents, managing workbooks and worksheets, filtering and sorting, and utilizing importing and exporting of data. Databases may also include creating and utilizing tables, queries, forms and reports, and refining sorting and filtering to generate forms and reports. Email topics may include sending, replying and forwarding email, creating contacts, customizing calendar settings, scheduling meetings and appointments, and creating groups and distribution lists. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1140	Administrative Office Professional Internship I	2	0.00/0.00/2.00
This course provides entry-level office support experience for students in their last semester of the ADMS diploma program. Each internship is individualized, and a training plan is created with each training site, giving students the opportunity to demonstrate their skills in a business setting. <b>Prerequisite:</b> per instructor's approval <b>Corequisite:</b>			
ADMS 1142	Career Internship I	2	0.00/0.00/2.00
This is a career enrichment course designed to give students an in-depth understanding of professional employment expectations and opportunities. This course will emphasize the expectations career professionals face in today's workplace regarding interpersonal communication, decision making, ethical behavior, policies, professional conduct, project completion, team building, and time and resource management. Students will use course concepts and skills to complete a professional project in their area of career interest. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1150	Introduction to Windows	1	0.00/1.00/0.00
This course covers basic information about computer hardware and software and the use of the Windows operating environment for application packages. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1152	Introduction to Word Processing	1	0.00/1.00/0.00
This course covers the introduction and operation of personal computer hardware and the use of a word processing application to perform basic word processing functions. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1154	Introduction to Spreadsheets	1	0.00/1.00/0.00
This course will provide an introduction to spreadsheets. Students will learn to apply basic formats, formulas and functions to spreadsheets. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1156	Introduction to Database	1	0.00/1.00/0.00
This course will provide an introduction to databases. Students will plan and create basic databases. Students will create basic queries, forms and reports to disseminate information. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1158	Introduction to Presentations	1	0.00/1.00/0.00
This course will provide an introduction to presentation software. Student will learn how to create a slide show to present information. Students will learn how to enter text, add and delete slides, format and design themes, and present information in a variety of methods. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1160	Introduction to the Web	1	0.00/1.00/0.00
This course will provide students with the basic tools and features to use when searching the Web, making online purchases or communicating with others via the Web. Students also will be exposed to copyright laws and citing sources to avoid plagiarism. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1162	Introduction Desktop Publishing	1	0.00/1.00/0.00
This course introduces the concepts, terminology, techniques and applications of desktop publishing software. <b>Prerequisite:</b> <b>Corequisite:</b>			
ADMS 1164	Introduction to Outlook	1	0.00/1.00/0.00
This course will provide an overview of the basic tools and features used in Outlook for sending, receiving and forwarding email. Students will learn to attach files, manage calendars, schedule appointments, create tasks and set up groups.			



Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>ADMS 1190</b>	<b>Keyboarding II</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This course covers advanced formatting and text editing techniques that focus on developing enhanced proofreading, editing and revising skills. Emphasis is on improving speed and increasing accuracy in the operation of the alpha, numeric, symbol and punctuation keys and in developing text editing concepts, critical thinking and decision-making skills.			
<b>Prerequisite:</b>	<b>ADMS1100</b>		
<b>Corequisite:</b>	<b>ADMS1100</b>		
<b>ADMS 1210</b>	<b>Spreadsheet Essentials</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course will provide students who use Excel but have limited experience and skills with the opportunity to improve their skills. Students will learn how to analyze and manage data, enhance charts and use mid-level formulas and functions to enhance their skills to consolidate and present information effectively.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>ADMS 1242</b>	<b>Career Internship II</b>	<b>2</b>	<b>0.00/0.00/2.00</b>
This is the second-level enrichment course designed to provide students with real-life experience in a professional environment by applying academic business principles. The course will emphasize more in-depth projects and tasks within the workplace. Emphasis will be on interpersonal communication, decision making, problem solving, organization and project management. Students will be required to accept higher-level responsibilities, tasks and projects as assigned per the site supervisor or faculty member.			
<b>Prerequisite:</b>	<b>ADMS1142</b>		
<b>Corequisite:</b>			
<b>ADMS 1310</b>	<b>Critical Workplace Skills</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course will provide students with transferable skills that can be used in any job or position. Students will develop the soft skills and personal qualities that prepare them to make a positive contribution to the daily operations of an organization. These may include communications, decision making, critical thinking and problem solving skills. Students also will use technology creatively, effectively and efficiently with integrity. Students will develop the traits that demonstrate commitment to an organization including reliability, dependability, flexibility and being positive and enthusiastic. Students will develop the workplace skills of accepting responsibility, prioritizing, time management, working well under pressure and showing leadership skills with professionalism.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>ADMS 2124</b>	<b>Emerging Office Technologies</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course introduces the student to emerging office technologies and tasks that increase work quality and productivity in changing office environments. Topics include voice recognition, digital transcription, cloud computing (including securing information), editing PDF files and accessing information through the Internet. This course also provides students with a general understanding of computer-based systems in organizations and how information is used to satisfy business needs. The goal of the course is to help students learn how to use and manage information and information systems to revitalize business processes, improve managerial decision making and problem solving, and gain competitive advantage.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>ADMS 2205</b>	<b>Advanced Word Processing</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This course provides students with an in-depth understanding of advanced word processing techniques needed to facilitate the production, documentation and storage of business documents. The course will stress increased proficiency in the computer production of a variety of business documents while working with more complicated projects that incorporate many of the upper-level skills required at this level.			
<b>Prerequisite:</b>	<b>ADMS1110</b>		
<b>Corequisite:</b>			
<b>ADMS 2212</b>	<b>Integrated Office Software Applications</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is designed to enhance and reinforce software skills through project-based activities by extensive use of integrating applications using word processing, spreadsheets, databases, presentations, media development and basic Web page development for both actual and simulated business applications. This course will improve Internet search skills, develop teamwork and enhance critical-thinking and problem-solving skills as will be experienced in the office setting.			
<b>Prerequisite:</b>	<b>ADMS1130, CPTR1104</b>		
<b>Corequisite:</b>			
<b>ADMS 2212</b>	<b>Advanced Office Software Applications</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is designed to advance, enhance and reinforce software skills for the office professional with extensive integration of applications using word processing, spreadsheets, databases, presentations and basic Web page development. Advanced software features and tools will be used to design and create various documents for all applications. This course will improve the office professional's confidence in software applications and Internet searches by cultivating analytical, critical-thinking and problem-solving skills as required and experienced in the office setting.			
<b>Prerequisite:</b>	<b>C</b> or higher in <b>ADMS1130</b> , per instructor's approval		
<b>Corequisite:</b>			
<b>ADMS 2216</b>	<b>Business Communications II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is designed to enhance the office professional's business communication skills by creating more advanced business documents that may include business plans, managerial reports, manuscripts, budgets, presentations and others. Language elements			

and writing mechanics will be reviewed, with extensive practice in proofreading, editing and revising as students learn to communicate efficiently, effectively and ethically. Students will use analytical, decision making and technology skills for collaborative and individually written documents and presentations.

**Prerequisite:** C or higher in ADMS1116, per instructor's approval

**Corequisite:**

<b>ADMS 2240</b>	<b>Administrative Office Professional Internship II</b>	<b>3</b>	<b>0.00/0.00/3.00</b>
This course provides office support experience for students in their last semester of the ADMS AAS program. Each internship is individualized, and a training plan is created with each training site, providing students the opportunity to demonstrate their skills in a business setting. The internship experience will demonstrate that students will be better-prepared for positions above the entry level through the higher-level skills, roles and responsibilities learned in the AAS degree program,			
<b>Prerequisite:</b>	per instructor's approval		
<b>Corequisite:</b>			

<b>ADMS 2250</b>	<b>Administrative Office Professional Simulation</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This capstone course for the Administrative Assistant AAS program provides students with the opportunity to practice and develop professionalism, efficiency and proficiency in using technology, oral and written communication, human relations, organization, critical thinking skills and workforce preparedness. Students will develop final job search documents and an individualized professional development plan that sets goals.			
<b>Prerequisite:</b>	per instructor's approval		
<b>Corequisite:</b>			

<b>ADMT 1173</b>	<b>Microsoft Office Access Certification</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This course prepares participants to sit for the Microsoft Office Access MCAS (Microsoft Certified Application Specialist) certification. Class outcomes are aligned with certification objectives. Exam objectives are categories of examination tasks identified by subject-matter experts that certify an ability to productively use Microsoft Office programs. These categories are organized into skill sets representing the more basic functions of each Office program.			
<b>Prerequisite:</b>	<b>CPTR1104</b>		
<b>Corequisite:</b>			

<b>ADMT 1174</b>	<b>Microsoft Office PowerPoint Certification</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This course prepares participants to sit for the Microsoft PowerPoint certification (Microsoft Office certification). Class outcomes are aligned with certification objectives. Exam objectives are categories of examination tasks identified by subject-matter experts that certify an ability to productively use Microsoft Office programs.			
<b>Prerequisite:</b>	<b>CPTR1104</b>		
<b>Corequisite:</b>			

<b>ADMT 2110</b>	<b>Topics in Administrative Management Technology</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
The goal of this course is to introduce students to a range of topics in the career field of the administrative professional. Topics will vary each semester and could range from office technology trends to soft skills to employment trends. Course may be repeated for credit with a change in subtitle.			
<b>Prerequisite:</b>	Permission of Instructor		
<b>Corequisite:</b>			

<b>ADMT 2222</b>	<b>Event Planning</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course explores the principles and practices involved in planning and administrating a special business event. Topics will include differentiating the various types of business events, analyzing the process and procedures necessary to plan an event, identifying various resources needed to organize an event and venue selection criteria.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			

<b>ADMT 2224</b>	<b>Applied Event Management</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
Students in this course will apply classroom and textbook principles by collaborating with other students and faculty to plan, promote and execute an authentic event on campus, working with area businesses and organizations. This course is a continuation of ADMT2222.			
<b>Prerequisite:</b>	<b>ADMT2222</b>		
<b>Corequisite:</b>			

<b>ADMT 2236</b>	<b>Administrative Project Management</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Project management is a powerful set of tools and practices that provides a systematic approach to planning, organizing, controlling and leading a project to successful completion. This course guides students through a step-by-step process for managing projects from the initial planning stage to final completion and evaluation. Successful implementation of project management processes is dependent on developed interpersonal skills. Therefore, this course also compares and contrasts project management and self-management skills by reviewing the discipline of emotional intelligence.			
<b>Prerequisite:</b>	<b>CPTR1104</b>		
<b>Corequisite:</b>			

<b>ADMT 2300</b>	<b>Office Graphics and Presentations</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is designed to provide the student with the design and layout techniques of available software applications needed to produce business publications and visual presentations. Emphasis is on available software tools, presentation options and design, as well as presentation considerations of the target audience. Upon completion, the student should be able to demonstrate the ability to design and produce business presentations and publications.			
<b>Prerequisite:</b>	<b>CPTR1104</b>		
<b>Corequisite:</b>			

Course #	CourseTitle	CR	Lec/Lab/OJT
<b>ADMT 2600</b>	<b>Trends in Office Technology</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is designed to address current trends in the administrative professional industry, with emphasis on the use of office technology. Topics will vary but could include trends in electronic mail, multimedia interaction, presentation hardware and software, and Internet technologies and applications relevant to the business world. Upon completion, the student should be able to demonstrate an awareness of current technological applications for the modern office.			
<b>Prerequisite:</b>	<b>CPTR1104</b>		
<b>Corequisite:</b>			
<b>ADMT 2900</b>	<b>Administrative Professional Internship</b>	<b>1.00 - 3.00</b>	
This course provides students with actual work experience in an administrative professional career. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. Each internship is an individualized experience. Therefore, this course offers a flexible, variable credit experience. The student may choose from 1, 2 or 3 credits, depending on the number of hours pre-arranged with the internship site supervisor. Each credit will require 45 hours of on-the-job learning.			
<b>Prerequisite:</b>	Instructor Approval		
<b>Corequisite:</b>			
<b>AGRI 1400</b>	<b>Farm Marketing and Management</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is an introduction to concepts, strategies and technology for farm planning, economic accounting systems and marketing techniques.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>AMST 1101</b>	<b>Automotive Equipment Fundamentals</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course is designed to give the student an understanding of an automotive shop environment. They will learn occupational safety, proper use of power and hand tools, shop equipment, fasteners, precision measuring instruments, electronic information, writing electronic repair orders and industry expectations.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>AMST 1102</b>	<b>Alignment and Suspension I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course focuses on the varied suspension systems currently in use, including McPherson strut, leaf spring, coil spring and torsion bar. Also covered will be caster, camber and toe, and other alignment angles; wheel balance using the latest road force technology; and operation, diagnosis and repair of manual and power steering systems.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101</b>		
<b>AMST 1105</b>	<b>Brakes I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course teaches the basic principles of disc and drum brakes, hydraulic systems, parking brakes and power assist units. Emphasis is placed on operation, diagnosis and repair of various types of brake systems. Basic operation of anti-lock brake systems will be covered.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101</b>		
<b>AMST 1110</b>	<b>Batteries, Starting and Charging Systems</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course involves the understanding and servicing of batteries, charging systems and starting systems. The student will perform tests on these items using bench testing and vehicle testing. Students also will disassemble and reassemble components so they understand how those items operate. Students will determine cost of replacement versus repair.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1111</b>		
<b>AMST 1111</b>	<b>Automotive Electronics</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course involves understanding Ohm's law, multimeter usage, schematic reading, operation of electrical circuits and electronic components. The student will perform electrical tests and repairs on training boards as well as various vehicles. This course is a prerequisite for all second-year automotive courses.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>AMST 1111</b>	<b>Automotive Electronics</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course involves understanding Ohm's law, multimeter usage, schematic reading, electrical circuit operation and electronic components. The student will perform electrical tests and repairs on training boards and on various vehicles. This course is a prerequisite for all second-year automotive courses.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101</b>		
<b>AMST 1114</b>	<b>Basic Maintenance Service</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course will provide the introduction to basic vehicle maintenance. Included will be identification of service points and procedures required for maintenance. Fluid types, brake inspection, tire rotation and service information will be addressed.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>AMST 1122</b>	<b>Engines I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the fundamentals of internal combustion engine operation, repair and maintenance. The procedures for removal, replacement, diagnosing, rebuilding and assembly are presented. Proper tool and equipment application and failure diagnosis are emphasized.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101</b>		
<b>AMST 1126</b>	<b>Engines II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>

This course covers the disassembly, diagnosis, measurement, service, assembly and adjustment of engines and components. Cylinder heads, valve trains, cylinder block assemblies, cooling and lubrication systems are thoroughly covered.

**Prerequisite:**

**Corequisite:** AMST1101, AMST1122

<b>AMST 1132</b>	<b>Drivetrains I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers service and theory of operation of clutch, manual transmission, drive shaft and drive axle systems. Service involves removal, disassembly, repair, reassembly and adjustment of these systems. Noise vibration and harshness in the drive train system will be diagnosed and repaired.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101</b>		

<b>AMST 1136</b>	<b>Drivetrains II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course covers drive axles, drive shafts, front and rear wheel bearings and analysis of vehicle noise vibration and harshness. Theory, service skills and diagnosis are covered on bench and in-vehicle units. Drive line phasing, alignment and balance are covered.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			

<b>AMST 2201</b>	<b>Alignment and Suspension II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This is a continuation of Alignment and Suspension I. The student will perform repairs and adjustments pertaining to wheel alignments and work with electrical sensors and controls affecting a vehicle's stability control. Diagnostics and repair of steering columns and supplemental restraints also will be covered.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1102, AMST1111</b>		

<b>AMST 2206</b>	<b>Body Electrical and Mechanical I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course teaches diagnosis and repair of interior and exterior lighting, safety devices, comfort systems, and door, window and seat control systems. The student will use wiring diagrams to pinpoint body electrical concerns. Window, door and seat control service will be performed, and common vehicle accessories will be addressed.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1111</b>		

<b>AMST 2210</b>	<b>Body Electrical and Mechanical II</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course focuses on computer-controlled body components and safety systems. Diagnostics will involve the use of scan tools, multimeters and lab scopes applied to a variety of body controlled devices. Students will learn how controllers communicate with each other through bussed circuits.			
<b>Prerequisite:</b>	<b>AMST1101, AMST1111, AMST2206</b>		
<b>Corequisite:</b>			

<b>AMST 2211</b>	<b>Exhaust Analysis and Fuel Systems</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course will cover the various emission devices used on an automobile as well as the fuel delivery to maintain an efficient operating engine. Items covered will be positive crankcase ventilation systems, exhaust gas recirculation systems, air injection systems, evaporative systems, catalytic converters and fuel injection controls. Students will diagnose and repair problems using a variety of equipment on project vehicles.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1111</b>		

<b>AMST 2214</b>	<b>Electronic Powertrain Control I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is an introduction to vehicle computer systems and related components that assist in the management of engine fuel, ignition and emission systems. Sensor inputs, management operation and operational commands are addressed.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1111</b>		

<b>AMST 2218</b>	<b>Electronic Powertrain Control II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
Students in this course will study the many electronic control systems used on today's passenger cars and light trucks. Second-generation on-board diagnostic strategies will be covered for ignition, fuel and emissions systems. The course will also incorporate hybrid technology, high-pressure gas fuel injection and diesel injection operation and testing.			
<b>Prerequisite:</b>	<b>AMST1101, AMST1111, AMST2214</b>		
<b>Corequisite:</b>			

<b>AMST 2220</b>	<b>Ignition Systems</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course will cover the operation of ignition systems. Students will learn how various ignition systems work so they will have the understanding to diagnose and repair ignition problems.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1111</b>		

<b>AMST 2225</b>	<b>Brakes II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This class is a continuation of AMST 1105 Brakes I. Students will look at a progression of anti-lock brake, traction control and electronic stability control systems and manufacturer variations of these systems. Students will perform scan tool diagnostics, circuit analysis, circuit repair and bleeding procedures involving anti-lock brake systems. Student will perform on-car operations with brake part replacement, machining of drums and rotors, and hydraulics.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>	<b>AMST1101, AMST1105, AMST1111</b>		

<b>AMST 2233</b>	<b>Automatic Transmissions I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course involves the principles of the multiple systems combined into an automatic			



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transmission. The student will understand planetary gearing, clutch operation, band application and one-way clutching as they pertain to power flow through the transmission. The student will disassemble and make necessary adjustments and repairs on a variety of transmissions. The student will perform transmission fluid and filter changes where applicable. <b>Prerequisite:</b> AMST1101, AMST1111 <b>Corequisite:</b>			
AMST 2237	Automatic Transmissions II	3	1.00/2.00/0.00
The student will practice many of the procedures used in transmission diagnosis, vehicle repair sequences, scan tool data interpretation and diagnosis, and transmission removal, installation and adjustment. Transmission cooling system diagnosis and service are also covered. <b>Prerequisite:</b> <b>Corequisite:</b> AMST1101, AMST1111, AMST2233			
AMST 2240	Heating, Ventilation and Air Conditioning	3	1.00/2.00/0.00
This course teaches the principles of heating, air conditioning and ventilation systems. Types and designs, component variations, diagnosis, testing and repair are studied and practiced on functioning units. System performance, recovery, evacuation and recharging are also covered in depth. <b>Prerequisite:</b> <b>Corequisite:</b> AMST1101, AMST1111			
ANTH 1100	Introduction to Anthropology	3	3.00/0.00/0.00
Meets MnTC Goal Areas 5 and 8. This course is a survey of human nature through time and around the world. It examines the physical nature of our species, archaeology, the study of cultural behavior and linguistic studies. <b>Prerequisite:</b> <b>Corequisite:</b>			
ARCH 1122	Computer Aided Drafting for Architecture	4	2.00/2.00/0.00
This course covers the development of three-dimensional architectural modeling and documentation using AutoCAD for Architecture software. Emphasis is on creating and editing custom component styles. <b>Prerequisite:</b> CADD1102, ENGT1134 <b>Corequisite:</b>			
ARCH 1126	Residential Project I	3	1.00/2.00/0.00
This course covers the design development and documentation of single-family living. Students will be introduced to residential design styles as well as proper documentation methods. <b>Prerequisite:</b> ENGT1126, ENGT1134 <b>Corequisite:</b>			
ARCH 2218	Architectural Internship	3	0.00/0.00/3.00
This course provides the student with an occupational experience in the architectural technology field. Each internship is an individualized experience. <b>Prerequisite:</b> ARCH1126 <b>Corequisite:</b>			
ARCH 2220	Specification Writing for Construction	3	1.00/2.00/0.00
This course covers the implementation and inclusion of specifications, construction materials and finishes into a set of construction documents. <b>Prerequisite:</b> None <b>Corequisite:</b>			
ARCH 2222	Architectural Drafting Service Learning	4	2.00/2.00/0.00
This course provides the opportunity for students in the Architectural Drafting & Design program to work on real-life projects. These projects combine learning objectives with community service in order to provide a pragmatic, progressive learning experience while meeting societal needs. <b>Prerequisite:</b> ARCH1122, ARCH1126 <b>Corequisite:</b>			
ARCH 2226	Residential Project II	4	1.00/3.00/0.00
This course introduces building design and construction requirements for multi-family housing. The course covers the processes for the selection of building materials and their integration into construction documents. <b>Prerequisite:</b> ARCH1122, ARCH1126 <b>Corequisite:</b>			
ARCH 2228	Architectural Internship	4	0.00/0.00/4.00
This course provides the student with an occupational experience in the architectural design and construction field. Each internship is an individualized experience. <b>Prerequisite:</b> CADD1000, ENGT1134 <b>Corequisite:</b>			
ARCH 2230	Mechanical and Electrical Integration	2	1.00/1.00/0.00
This course reviews the examination of mechanical, plumbing and electrical systems in buildings. Content includes analysis of plumbing and heating, ventilation and air conditioning (HVAC) systems, and power and lighting systems. <b>Prerequisite:</b> ARCH1122, ARCH1126 <b>Corequisite:</b>			
ARCH 2232	Civil and Structural Integration	3	2.00/1.00/0.00
This course will review the incorporation of civil and structural engineering drawings in coordination with building systems. Content will include analysis of civil and structural drawings and their relationship to commercial and residential building types. <b>Prerequisite:</b> ARCH2230			

Corequisite:

ARCH 2236	Architectural Presentation	2	0.00/2.00/0.00
Students in this course will develop design schematics and a set of presentation drawings for a commercial project. Emphasis is on verbal and visual presentation techniques. <b>Prerequisite:</b> ARCH1122, ARCH1126 <b>Corequisite:</b>			
ARCH 2242	Mechanical and Electrical Integration	3	1.00/2.00/0.00
This course reviews the examination of mechanical, plumbing and electrical systems in both residential and commercial buildings. Content includes analysis of plumbing and heating, ventilation and air conditioning (HVAC) systems, and power and lighting systems. <b>Prerequisite:</b> ARCH1122, ARCH1126 <b>Corequisite:</b>			
ARCH 2244	Commercial Projects	4	1.00/3.00/0.00
This course covers the construction document process for commercial building design while having the student complete a self-guided capstone project. Content will include final detailing, scheduling and sheet set layout from a given design developed project. <b>Prerequisite:</b> ARCH2226, ARCH2240 <b>Corequisite:</b>			
ARCH 2248	CADD Alternatives	3	1.00/2.00/0.00
This course will familiarize the student with computer drafting and modeling software for the graphic design of residential construction. <b>Prerequisite:</b> <b>Corequisite:</b>			
ARCH 2250	Project Administration	2	1.00/1.00/0.00
This course provides an understanding of architectural firm structures and legal issues as well as project management procedures used throughout documentation, bidding and construction administration. <b>Prerequisite:</b> ARCH2226 <b>Corequisite:</b>			
ARCH 2256	Rendering Architecture	3	1.00/2.00/0.00
This course provides the advanced use of computer-aided drafting and modeling using AutoCAD for Architecture software and its related rendering application. The course will develop CADD configuration skills, advanced modeling techniques and various presentation renderings. <b>Prerequisite:</b> ARCH1112 <b>Corequisite:</b>			
ART 1101	Drawing I	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. This course introduces students to the basic drawing media, techniques and traditions of drawing. Students are exposed to the work of artists, drafters and illustrators and are subsequently guided through a wide variety of drawing experiences and applications. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1107	Foundations of Art, 2-D	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. This course is an introduction to creative thinking, interpretation and self-expression. Students will explore basic two-dimensional elements and principles through the use of various media, tools, materials and processes. Color theory will be introduced. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1109	Foundations of Art, 3-D	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. Through this course, students are introduced to basic three-dimensional concepts as well as a variety of materials and technical processes. Students will create three-dimensional designs that explore form and space. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1110	Introduction to Art	3	2.00/1.00/0.00
Meets MnTC Goal Area 6F. This course provides an introduction to the elements and principals of visual arts and to the creative process. Students are encouraged to use a variety of media in drawing, painting and sculpture. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1114	Painting I	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. Students examine historical and contemporary painting approaches and directions in their beginning experiences with acrylic and/or oil paint, including the study of basic concepts, techniques, formal issues, technology, imagery, color theory and pigment theory. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1117	Printmaking I	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. Students will create original works in a variety of printmaking techniques with emphasis on relief and serigraphy. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1118	Watercolor I	3	2.00/1.00/0.00
Meets MnTC Goal Area 6F. This course will introduce students to the fundamental princi-			

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pals, techniques and materials of watercolor media. Students will explore color and design concepts, including composition and the elements of art; traditional and experimental approaches with watercolor media; the fundamentals of the critique process; and traditional and contemporary artworks from the visual canon. Personal expression and visual and critical problem solving are major components of this course. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1123	Global Art History: Asian, Islamic, African, Mesoamerican	3	3.00/0.00/0.00
Meets MnTC Goal Areas 6 and 2. Throughout the semester students will explore the influences and philosophies that have impacted art in regions outside of the Western world. Topics vary but will include the origins and historic development of art in African, Asian, Islamic and Mesoamerican cultures. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1124	American Art	3	3.00/0.00/0.00
Meets MnTC Goal Areas 6 and 7. This course explores the great variety and depth of North American art. Native American, colonial, Latino and contemporary art are the focus of the course. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1127	World of Art I	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2, 6 and 8. This course is a survey of architecture, painting and sculpture and their historical and social contexts. Specific periods from prehistoric through the Middle Ages will be introduced. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1128	World of Art II	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2, 6 and 8. This introductory course gives students a deeper appreciation and knowledge of Western art and the cultures that created it. This course focuses on the fascinating changes that occurred in the Italian Renaissance and continues through to modern artists and influences of the 20th century. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1140	Handbuilt Ceramics	3	2.00/1.00/0.00
Meets MnTC Goal Area 6F. This course will develop the skills of ceramics, focusing on handbuilding. Using the methods of coil, pinching and slab building, the students will make a variety of forms, ranging from functional to sculptural. Students will create finished products, including the use of glaze and other finishes. The nature of handbuilding techniques provides a more immediate opportunity to express creativity. <b>Prerequisite:</b> none <b>Corequisite:</b>			
ART 1141	Ceramics I	3	2.00/1.00/0.00
Meets MnTC Goal Area 6F. Students learn about pottery tools and their uses, construction methods such as coil and slabs, aspects of pottery form and design, formulation and application of glazes, and operation of a ceramic kiln. The course is designed for the novice. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 1142	Introduction to Ceramics	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. This course introduces methods for production of ceramic artworks. Students learn about pottery tools, media, construction techniques and firing. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2000	Intermediate Art Studio	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6. This course is designed to allow students to work in close proximity to the instructor in areas of particular interest to each individual student. Students research and examine relevant historical and contemporary art movements, contexts and methods to inform their social, historical, philosophical, artistic, etc., choices regarding subject matter. Emphasis is on the development of artworks, artist statements and exhibitions. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2111	Drawing II	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6F. This course focuses on student use and understanding of a variety of drawing media such as pencil, pastel, pen and ink, and charcoal. Intermediate use of composition and color is emphasized. <b>Prerequisite:</b> ART1111 <b>Corequisite:</b>			
ART 2112	Painting II	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6F. Students research and examine historical and contemporary painting approaches and directions informing their social, historical, philosophical, artistic, etc. choices regarding subject matter. Self-generated subject matter and research, intermediate-level use of composition, color theory and technique are emphasized. <b>Prerequisite:</b> ART1112 <b>Corequisite:</b>			
ART 2114	Photographic Art I	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2 and 6F. This course introduces students to photographic equip-			

ment, materials, processes and philosophies while examining photography and its role in contemporary culture with focus on artistic content. Traditional photographic processes, digital photographic processes and alternative printing and presentation processes are explored, and artistic rationale and execution are examined. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2115	Introduction to Digital Photography	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2 and 6F. This course introduces students to digital photographic equipment, materials, programs, processes and philosophies while examining photography and its role in historic and contemporary cultures, with a focus on artistic content. Digital photographic and presentation processes are explored, and artistic rationale and execution are examined. Students will acquire, identify and demonstrate the use of terminology, technical abilities, basic visual elements and principles of design common to digital photographic artwork. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2116	Mixed Media I	3	2.00/1.00/0.00
Meets MnTC Goal areas 2 and 6F. Multimedia art exploration is a problem-solving art studio experience involving the use of a variety of traditional and non-traditional art materials. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2201	Foundation Digital Imaging	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 6F. This course is an introduction to digital tools and graphic imaging technology emphasizing digital art and concepts. It provides a study of the capabilities of a variety of digital software and hardware for artistic purposes. Students will acquire, identify and demonstrate the use of terminology, technical abilities, basic visual elements and principles of design common to digital artwork. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2241	Advanced Ceramics	3	2.00/1.00/0.00
Meets MnTC Goal Area 6F. This course will build on the skills developed in Ceramics I with emphasis on wheel throwing, glazing and firing techniques. <b>Prerequisite:</b> ART1141 <b>Corequisite:</b>			
ART 2250	Art Mentor Experience	2	0.00/0.00/2.00
This course gives students the opportunity to work side-by-side with professional artists. Students will select an artist mentor based on the media and techniques the student chooses to explore. Students will meet with an art faculty adviser to select a mentor and to create a plan of study for the semester. Registration for this course is by instructor permission only. <b>Prerequisite:</b> ART1107, ART1111 <b>Corequisite:</b>			
ART 2260	Art, Portfolio Design and Professional Development	1	1.00/0.00/0.00
Meets MnTC Goal Area 6F. This course provides instruction in the creation and design of art-specific professional documents, presentation methods and image recording, including print and non-print. Students will conduct research on the work of professional artists, identifying, examining and comparing sources to support the creation of an informed artistic portfolio. <b>Prerequisite:</b> <b>Corequisite:</b>			
ART 2261	Art, Portfolio Design and Professional Development Internship	2	1.00/0.00/1.00
Meets MnTC Goal Area 6F. Art students will create an electronic portfolio of their work, write professional documents, explore ways to promote themselves as artists using the latest technology, research exhibition opportunities and explore and experience non-art-production professions/internships in the field of art. <b>Prerequisite:</b> ENGL1101 <b>Corequisite:</b>			
ART 2912	Art Studio Topics	1.00 - 3.00	
This course is for intermediate artists interested in developing their own body of work. Students research and examine historical and contemporary art approaches and directions informing their social, historical, philosophical, artistic, etc. choices regarding subject matter. Self-generated subject matter and research, intermediate-level use of composition, color theory and technique are emphasized. <b>Prerequisite:</b> Instructor Permission Required <b>Corequisite:</b>			
ART 2999	AFA-Visual Art Capstone Exhibition	1	0.00/1.00/0.00
This class serves as the conceptual and technical culmination of the AFA-Visual Arts program. Students will complete a self-directed project that results in an individual or group exhibition. Advanced study, research and individualized art-making required. <b>Prerequisite:</b> This course must be taken in the semester of graduation. This course requires instructor approval. <b>Corequisite:</b> ART2260, Must be taken in the semester of graduation of the AFA-Visual Art			
ASL 1100	Introduction to Deaf Studies	3	3.00/0.00/0.00
This course introduces the language and culture of the Deaf and provides a general introduction to the lives of Deaf people. It covers key concepts within Deaf Studies, the diversity of Deaf community members, technology used by the Deaf and professions involving American Sign Language (ASL) and Deaf people. Students will analyze existing stereotypes			

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related to Deaf and hard-of-hearing people and the cultural impacts of being Deaf. <b>Prerequisite:</b> Assessment into ENGL1101 <b>Corequisite:</b>			
<b>ASL 1101</b>	<b>American Sign Language and Deaf Culture I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This is the first in a series of courses designed to develop the skills and knowledge needed to communicate in American Sign Language (ASL). This course introduces information about the Deaf community and Deaf culture. It will familiarize students with basic ASL vocabulary and grammar, including hand shapes, body movements and facial expressions to convey meaning. The course includes interactive activities, cultural awareness education and individual feedback, with emphasis on appropriate language use in common communication settings. <b>Prerequisite:</b> Assessment into ENGL1101 <b>Corequisite:</b>			
<b>ASL 1102</b>	<b>American Sign Language and Deaf Culture II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This is the second in a series of courses designed to develop the skills and knowledge needed to communicate in American Sign Language (ASL). ASL 1102 will focus on vocabulary development, fingerspelling, numbers and grammatical structure. This course includes further practice with both expressive and receptive ASL, along with additional information about the Deaf Community and Deaf Culture. <b>Prerequisite:</b> ASL1101, Grade of B or better in ASL1101. <b>Corequisite:</b>			
<b>ASL 1103</b>	<b>American Sign Language and Deaf Culture III</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This is the third in a series of courses designed to develop the skills and knowledge needed to communicate in American Sign Language (ASL). The course will focus on speed, fluency, vocabulary expansion and conversational skills, along with reinforcement of appropriate grammar usage. It also will examine attitudes, values and cultural norms of the Deaf Community. <b>Prerequisite:</b> ASL1102, Grade of B or better in ASL1102 <b>Corequisite:</b>			
<b>ASL 1104</b>	<b>American Sign Language and Deaf Culture IV</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course, the fourth in a series of American Sign Language (ASL) and Deaf culture courses, focuses upon the grammatical features of ASL and vocabulary expansion. Content of this course will focus on sentence construction, inflecting verbs and classifiers. Fluency and accuracy of fingerspelling will continue to be developed, along with the use of lexicalized signs and numbering. <b>Prerequisite:</b> Grade of B or better in ASL1103 <b>Corequisite:</b>			
<b>ASL 1105</b>	<b>Advanced Fingerspelling and Numbers</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on enhancing expressive and receptive fingerspelling and numbers in American Sign Language (ASL). ASL1105 will expand the emphasis on using fingerspelling, lexicalized and abbreviated words, and ASL numbers, along with continued study of the complex rules and patterns of ASL number systems. <b>Prerequisite:</b> ASL 1101 and a grade of B or better in ASL 1101 <b>Corequisite:</b>			
<b>ASL 1106</b>	<b>Classifiers and Non-Manual Markers</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is designed to emphasize American Sign Language (ASL) classifiers and non-manual markers. Students will expand the use of classifiers within expressive ASL, along with enhancing recognition and receptive skills. This course also presents the non-manual aspects of ASL by incorporating the use of facial expressions, eye gaze, head tilting and mouth movements. <b>Prerequisite:</b> Grade of B or better in ASL1102 <b>Corequisite:</b>			
<b>ASL 1108</b>	<b>Conversational Sign Language</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course emphasizes everyday conversations using American Sign Language (ASL). Emphasis will be on ASL structure and grammar. Students will focus on functional ASL skills including role-shifting, storytelling techniques, common ASL idioms and smooth communication exchanges. <b>Prerequisite:</b> Grade of B or better in ASL1103 <b>Corequisite:</b>			
<b>ASL 1111</b>	<b>American Sign Language and Deaf Culture I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course covers the beginning fundamental principles of American Sign Language (ASL) and introduces information about the Deaf community and Deaf culture. The course will familiarize students with basic ASL vocabulary and grammar, including hand shapes, body movements and facial expressions to convey meaning. <b>Prerequisite:</b> ELL 1080 or ENGL 0096 or ENGL 0097 or placement by assessment <b>Corequisite:</b>			
<b>ASL 1112</b>	<b>American Sign Language and Deaf Culture II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course covers the fundamental principles of Level II American Sign Language (ASL) and introduces more advanced information about the Deaf Community and Deaf Culture. This course focuses on expanding knowledge and usage of ASL vocabulary including fingerspelling, numbers and classifiers, and continues with more complex ASL grammar and sentence structure. <b>Prerequisite:</b> Grade of B or better in ASL1111 <b>Corequisite:</b>			
<b>ASL 1113</b>	<b>American Sign Language and Deaf Culture III</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course is designed to offer continued study of American Sign Language (ASL) and Deaf culture. Emphasis will be placed on improvements in speed and fluency along with reinforcement of appropriate grammar usage and conversational skills. This course will also introduce deaf idioms and their use within Deaf culture.			

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<b>Prerequisite:</b> ASL1112, Grade of B or better in ASL1112 <b>Corequisite:</b>			
<b>ASL 1114</b>	<b>American Sign Language and Deaf Culture IV</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course, the fourth in a series of American Sign Language (ASL) and Deaf culture courses, focuses upon the grammatical features of ASL and vocabulary expansion. Content of this course will focus on sentence construction, inflecting verbs and classifiers. Fluency and accuracy of fingerspelling will continue to be developed, as well as the use of lexicalized signs and numbering. <b>Prerequisite:</b> ASL1113, Grade of B or better in ASL1113 <b>Corequisite:</b>			
<b>ASL 1115</b>	<b>American Sign Language and Deaf Culture V</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on advanced vocabulary, communicative functions and language techniques for effective expression of meaning and context of American Sign Language (ASL). <b>Prerequisite:</b> ASL1114, Grade of B or better in ASL1114 <b>Corequisite:</b>			
<b>ASL 2000</b>	<b>Advanced Fingerspelling, Numbers and Classifiers</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course focuses on enhancement of receptive and expressive fingerspelling and number skills. It also includes the fundamentals of American Sign Language (ASL) classifiers. <b>Prerequisite:</b> ASL1115, Grade of B or better in ASL1115 <b>Corequisite:</b>			
<b>ASL 2100</b>	<b>Linguistics of American Sign Language</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This is an introduction to the linguistic structure of American Sign Language (ASL). This course includes linguistic fields, communication systems, syntax, phonology and grammar. This course also contains other linguistic elements unique to spatially- and visually-based languages such as morphemes, phonemes, semantics and pragmatics. <b>Prerequisite:</b> Grade of B or better in ASL1115, Grade of B or better in IPP2112, Grade of B or better in IPP2113 <b>Corequisite:</b>			
<b>ASLM 1110</b>	<b>Introduction to Medical Interpreting</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is an introduction to the field of medical interpreting. Students will learn to facilitate communication between patients who use American Sign Language (ASL) and their physicians, nurses, lab technicians and other health care providers. <b>Prerequisite:</b> Graduation from an Interpreter Education Program, Hold current interpreter certification <b>Corequisite:</b>			
<b>ASLM 1111</b>	<b>Ethical Decision Making for Medical Interpreters</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Medical interpreting requires interpreters to respond to a wide range of difficult situations in an ethical manner. This course will focus on ethical dilemmas that require interpreters to use decision making processes in a variety of medical settings. <b>Prerequisite:</b> Graduation from an Interpreter Education Program, Hold current interpreter certification <b>Corequisite:</b>			
<b>ASLM 1112</b>	<b>Medical Signs</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces sign language vocabulary for basic medical settings and exposes interpreters to a variety of human body systems. <b>Prerequisite:</b> Graduate from an Interpreter Education Program, HLTH1110, HLTH1116, Hold current interpreter certification <b>Corequisite:</b>			
<b>ASLM 1113</b>	<b>Special Topics in the Field of Medical Interpreting</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces special topics in medical interpreting. Medical interpreters work in a variety of health care settings, including hospitals, clinics, private offices, rehabilitation centers, dental offices, vision centers and nursing homes. Interpreters also confront unique issues related to working in mental health facilities, substance abuse clinics, domestic violence programs or similar types of health care settings. <b>Prerequisite:</b> ASLM1110 <b>Corequisite:</b>			
<b>ASLM 1114</b>	<b>Introduction to Mental Health Interpreting</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Interpreters are needed in a variety of mental health settings including in-patient and out-patient settings, peer-led settings, outreach settings, day programs, private clinician offices, clinic settings and emergency rooms. This course will introduce a variety of mental health settings and the professionals who are present there. <b>Prerequisite:</b> Graduation from an Interpreter Education Program, Hold current Interpreter Certification <b>Corequisite:</b>			
<b>BIOL 1102</b>	<b>Introduction to Horticulture</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Meets MnTC Goal Area 3. The course is an introductory study of green plants and their growth. The course will explore basic plant anatomy, morphology, physiology, taxonomy, pathology, propagation, soil science and plant nutrition, and ethnobotony. This course includes both lecture and lab. <b>Prerequisite:</b> College level reading skills. <b>Corequisite:</b>			
<b>BIOL 1104</b>	<b>Biology of Human Concerns</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Meets MnTC Goal Areas 2 and 3. This course explores issues related to human biology with reference to genetics, nutrition, health, disease or other contemporary issues. Elements of molecular, cell and organismal biology are introduced as needed to understand the topics studied. This course is intended for non-science majors and consists of lecture and laboratory components. <b>Prerequisite:</b>			

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<b>Corequisite:</b>			
<b>BIOL 1107</b>	<b>Environmental Science Issues</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2, 3 and 10. This courses involves the discussion and study of ecosystems, biodiversity, human adaptations to and modifications of those ecosystems, and current environmental problems and their possible solutions. This course includes lab-like experiences including an ecosystem observation and data analysis. This course is for non-science majors. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BIOL 1108</b>	<b>Environmental Science Issues Lab</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
Meets MnTC Goal Areas 2, 3 and 10. This course includes laboratory work completed in conjunction with BIOL 1107 Environmental Science Issues. Laboratory experiences may include lab and field exercises, computer simulations and collection and analysis of data related to current environmental issues and their possible solutions. This optional lab must be taken concurrently with BIOL 1107. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BIOL 1115</b>	<b>Introduction to Biotechnology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 3. This course is designed to acquaint students with the field of biotechnology including historical development, current technologies and future trends. An overview of the molecular and genetic principles and processes used to manipulate living organisms and their products will be presented, as well as forensic, medical, agricultural and industrial applications. The course will also examine the ethical implications of biotechnology and genetic engineering. Laboratory simulations and other lab-like experiences provide opportunities for students to perform techniques common in the field, gather and analyze experimental data and troubleshoot procedures. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BIOL 1122</b>	<b>General Biology I</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
Meets MnTC Goal Areas 2 and 3. This course is an introduction to the structure and function of living systems with an emphasis on cellular and molecular biology. Fundamental concepts include the chemical basis of life, cell structure and function, cell division, metabolism, classical and molecular genetics, and biotechnology. This course includes a laboratory component incorporating experimental design, microscopic work, and cellular and molecular biology techniques. Along with BIOL1123, this course is part of a two-semester sequence of general biology that can be taken in any order. <b>Prerequisite:</b> Assessment into ENGL 1101 or college level writing equivalent. <b>Corequisite:</b>			
<b>BIOL 1123</b>	<b>General Biology II</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
Meets MnTC Goal Areas 3 and 10. This course is an introduction to living organisms, emphasizing evolution, biological diversity and ecology. Topics will include mechanisms of evolution, classification and diversity of life, structure and function of organisms, and interaction of organisms at all levels of an ecosystem. This course includes a laboratory component incorporating field activities, microscopic work, dissection and plant systems. Along with BIOL1122, this course is part of a two-semester sequence of general biology that can be taken in any order. <b>Prerequisite:</b> Assessment into ENGL 1101 or college level writing equivalent. <b>Corequisite:</b>			
<b>BIOL 1152</b>	<b>Food Science</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 3. This course addresses the use of public policy and food technology to reduce or control risks in our food supply. An overview of microbiological, chemical and environmental risks will be presented, as well as government and industry controls used to ensure food safety. This course includes laboratory-like components. Students will use common laboratory techniques to identify select food-borne pathogens and utilize principles of risk assessment and hazard analysis to perform a disease outbreak investigation. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BIOL 1161</b>	<b>Introduction to Freshwater Biology</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Meets MnTC Goal Areas 3 and 10. This course introduces students to basic principles of freshwater biology. Topics include the origins and features of basins and channels, the aquatic environment, basic water chemistry, aquatic organisms and aquatic ecology. Class includes a lab. <b>Prerequisite:</b> Completion of ENGL0050 and ENGL0040 with a grade of C or higher OR ENGL0095 with a grade of C or higher OR placement in ENGL1101 <b>Corequisite:</b>			
<b>BIOL 1170</b>	<b>Essentials of Human Anatomy and Physiology</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
Meets MnTC Goal Area 3. This course introduces students to the structure and function of the human body using an organ system approach. Beginning with the levels of biological organization, study will proceed through the following organ systems: integumentary, skeletal, muscular, nervous, sensory, endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, urinary, and reproductive systems. This course is open to all students desiring a greater understanding of human anatomy and physiology; however, it is specifically designed for students pursuing health care-related programs such as Pharmacy Technology and Massage Therapy. This course contains a lab-like component. <b>Prerequisite:</b> Successful completion of or assessment into ENGL 1101. <b>Corequisite:</b>			
<b>BIOL 2010</b>	<b>General Ecology</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
Meets MnTC Goal Areas 3 and 10. This course provides a study of the structure and function of ecological systems, including an application of ecological principles to local and glob-			

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al environmental issues. Topics covered include energy flow, nutrient cycling, organization, ecological succession, population dynamics (including the ecology of species interactions and factors that influence and regulate population numbers) and linkages among species and ecosystem functions. Lecture is accompanied by laboratory and field exercises. <b>Prerequisite:</b> BIOL1122, BIOL1123, Completion of MATH 1020 or placement into MATH 1114 <b>Corequisite:</b>			
<b>BIOL 2202</b>	<b>Principles of Nutrition</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 3. This course is a study of the fundamental principles of nutrition. This course will cover food composition, diet planning, utilization of food nutrients in the body and the requirements for nutrients in infancy, childhood, teen years, athletes, adults and the elderly. Also included are discussions about current trends in nutrition, the relationship of diet and disease, and cultural differences in dietary practices. Using the basic principles of nutrition, students will have a lab-like experience tracking, measuring, calculating and analyzing their diet and presenting the results in a written analytical report. <b>Prerequisite:</b> BIOL1122, BIOL2260, CHEM1100, CHEM1111, Instructor permission <b>Corequisite:</b>			
<b>BIOL 2220</b>	<b>General Microbiology</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
Meets MnTC Goal Area 3. This course provides an overview of the structure and function of microorganisms, including archaea, bacteria, viruses, fungi and parasites. Students will examine the molecular diversity, genetics, physiology and ecology of these organisms in relation to microbial evolution, industrial and applied applications, and host-pathogen interactions. Lecture is accompanied by laboratory experiences, including aseptic technique, differential staining procedures, cultural and physical characteristics, biochemical testing, microbial control, microbiology of water and soil, and identification of unknown cultures. <b>Prerequisite:</b> BIOL1122 <b>Corequisite:</b>			
<b>BIOL 2240</b>	<b>Genetics</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
Meets MnTC Goal Area 3. This course is a study of the basis of heredity with emphasis on modern molecular and classical Mendelian genetics. It is open to all students but is recommended for students majoring in biology and health-related areas. This course includes a laboratory which explores molecular and classical genetic techniques. <b>Prerequisite:</b> BIOL1122 <b>Corequisite:</b>			
<b>BIOL 2260</b>	<b>Human Anatomy and Physiology I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 3. This course is a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cell biology, tissues and organs making up the integumentary, skeletal, muscular and nervous systems. It is the first of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems. This course contains a lab-like component. <b>Prerequisite:</b> Assessment into ENGL 1101 or college level writing equivalent. <b>Corequisite:</b>			
<b>BIOL 2261</b>	<b>Human Anatomy and Physiology I Lab</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
Meets MnTC Goal Area 3 when taken with BIOL 2260. This course is the laboratory component of a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cell biology, tissues and organs making up the integumentary, skeletal, muscular and nervous systems. This course is the first of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems. <b>Prerequisite:</b> Assessment into ENGL 1101 or College Level writing equivalent. <b>Corequisite:</b> BIOL 2260			
<b>BIOL 2262</b>	<b>Human Anatomy and Physiology II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 3. This course is a continuation of Anatomy and Physiology I. Topics will include the study of cells, tissues and organs making up the endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, urinary and reproductive systems. Emphasis is on the structure and function of included systems. This course contains a lab-like component. <b>Prerequisite:</b> Assessment into ENGL 1101 or college level writing equivalent., BIOL2260 <b>Corequisite:</b>			
<b>BIOL 2263</b>	<b>Human Anatomy and Physiology II Lab</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
Meets MnTC Goal Area 3 when taken with BIOL 2262. This course is the laboratory component of a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cells, tissues and organs making up the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems. This course is the second of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems. <b>Prerequisite:</b> Assessment into ENGL 1101 or College Level writing equivalent., BIOL2260, BIOL2261 <b>Corequisite:</b> BIOL2262			
<b>BIOL 2267</b>	<b>Medical Microbiology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 3. This course is the study of the structure and the classification of bacteria, viruses, parasites and fungi of medical importance. It emphasizes the transmission of disease agents, signs and symptoms, immunology, immunization, control of microbial growth, specimen collection/transport, methods of identification and antimicrobial resistance. This lecture course includes lab-like components. <b>Prerequisite:</b> Assessment into ENGL 1101. <b>Corequisite:</b>			
<b>BIOL 2268</b>	<b>Medical Microbiology Lab</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
Meets MnTC Goal Area 3. This laboratory course includes the fundamental techniques of cultivation, staining, biochemical analysis and identification of known and unknown			



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bacterial isolates, and antimicrobial susceptibility testing. Morphological examination and pathogenesis of fungi, protozoans and helminths are also addressed. <b>Prerequisite:</b> Assessment into ENGL1101 or college level writing equivalent. <b>Corequisite:</b> BIOL2267			
<b>BIOL 2970</b>	<b>Internship Experience</b>	<b>1.00 - 3.00</b>	
This course is designed to provide students with a monitored meaningful work experience related to their field of interest. This experience will increase their employability and enhance their life skills. Completion of this course requires a written report and an evaluation from the student's supervisor. Each internship is an individualized experience, therefore this course is offered with variable credits and may be repeated up to two times. The student may choose from one, two or three credits as prearranged with the internship site supervisor and corresponding faculty. Each credit will require a minimum of 45 hours of on-the-job learning. This course will be graded pass/fail only. <b>Prerequisite:</b> Instructor approval <b>Corequisite:</b>			
<b>BLDG 1000</b>	<b>Introduction to the Construction Trades</b>	<b>3 0.00/3.00/0.00</b>	
This course is designed to give students a hands-on introduction to the construction building trades. Students will construct building systems related to carpentry, plumbing, heating, refrigeration, electrical and construction management. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BLDG 1110</b>	<b>Principles of Residential and Commercial Construction</b>	<b>3 1.00/2.00/0.00</b>	
Students work in small groups with industry specialists and education professionals. Students attend multiple classroom and lab activities where they learn safety requirements for construction environments, proper use of a variety of hand tools, applications of shop equipment, the residential and commercial building process, and small equipment operations. Students will participate in a speed interviewing exercise with industry experts and learn about occupations in the construction trades profession. <b>Prerequisite:</b> Instructor Approval <b>Corequisite:</b>			
<b>BLDG 1114</b>	<b>Blueprint Reading I</b>	<b>2 2.00/0.00/0.00</b>	
This course provides the student with a working knowledge of blueprints and specifications. The student gains an understanding of blueprints, then interprets and applies this knowledge to job situations. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BLDG 1120</b>	<b>Construction Estimating I</b>	<b>2 1.00/1.00/0.00</b>	
This course covers the mathematical procedures used in material estimating and completing quantity takeoffs for building projects. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BLDG 1120</b>	<b>Construction Estimating I</b>	<b>2 1.00/1.00/0.00</b>	
This course covers the mathematical procedures used in material estimating and completing quantity takeoffs for building projects. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1120</b>	<b>Spreadsheet and Database Concepts</b>	<b>3 3.00/0.00/0.00</b>	
This course provides the student with in-depth coverage of a spreadsheet and a database management system as used in a business setting. Students should be familiar with Windows and word processing. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1130</b>	<b>Introduction to Inventory Control and Purchasing</b>	<b>3 3.00/0.00/0.00</b>	
This course will provide a basic understanding of inventory management including purchasing, inventory, production and distribution processes. The course will cover cost concepts, inventory planning, ordering methods, receiving acceptable goods, establishing requirements and quantities, and managing inventory levels. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1141</b>	<b>Introduction to Business</b>	<b>3 3.00/0.00/0.00</b>	
This course is designed to give the student an overview of the business and economic factors that sustain our American enterprise system. Topics included are economic systems and the foundations of American business, international business, fundamentals, management, forms of a business enterprise including franchises, human resources management, marketing and consumer behavior, accounting, securities markets and the ethical and social responsibilities of business. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1143</b>	<b>Office Procedures</b>	<b>3 3.00/0.00/0.00</b>	
This is a capstone course in office organization, business ethics and responsibilities of office workers. Emphasis is placed on decision-making ability and the exercise of good human behavior. The course will cover all aspects of the office, from behavior to technologies used. This course will also cover what it means to be a professional in any field. Two of the topics covered are group dynamics and looking like a professional. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1146</b>	<b>Personal Finance</b>	<b>3 3.00/0.00/0.00</b>	
This course is an introduction to personal financial management and planning. Topics			

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covered in this course include key factors that affect personal income, budgeting, cash-flow management, use of credit and credit cards, planned borrowing, managing taxes and major expenditures including housing, automobiles, insurance and investments. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1146</b>	<b>Personal Finance</b>	<b>3 3.00/0.00/0.00</b>	
This course is an introduction to personal financial management and planning. Topics covered include key factors that affect personal income, budgeting, cash-flow management, use of credit and credit cards, planned borrowing, managing taxes and major expenditures including housing, automobiles, insurance and investments. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1158</b>	<b>Free Market Enterprise</b>	<b>2 2.00/0.00/0.00</b>	
Students in Free Enterprise (SIFE) is an internationally recognized organization designed to educate students about how to ethically engage in the free enterprise system to serve the economic interests of individuals and communities. Through this course, students will develop and execute various free enterprise projects and present their results at a regional competition. <b>Prerequisite:</b> Approval from SIFE Advisor <b>Corequisite:</b>			
<b>BUS 1170</b>	<b>Introduction to Agribusiness, Food Systems and Global Agriculture</b>	<b>3 3.00/0.00/0.00</b>	
This course is an introduction to the economic environment of the agribusiness sectors of our economy. The course examines the role agriculture plays in the U.S. and global economies. Concepts to be examined include but are not limited to management of agribusiness, marketing of agribusiness, finance of agribusiness and government involvement in agriculture and agribusiness. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1174</b>	<b>Principles of Banking</b>	<b>3 3.00/0.00/0.00</b>	
This course is an overview of bank operations that will include organizational structure, regulatory environment, profit generation and growth strategies. Banking activities including retail, commercial, investment and international banking products and services are introduced. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1175</b>	<b>Fundamentals of Investing</b>	<b>3 3.00/0.00/0.00</b>	
This course is an introduction to the world of investments including various types of investment vehicles, techniques and strategies. Study includes the investment environment, role and scope of investments, measuring risk and return, and types of investment markets and transactions. Traditional short- and long-term investment instruments such as common and preferred stocks, bonds, government issues, convertible investments and mutual funds are analyzed. Higher-risk and more complex investments such as options, futures, real estate, precious metals and artwork are reviewed. Tax implications of the various investments are studied. Lastly, portfolio management is analyzed, including techniques and strategies. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 1300</b>	<b>Financial Statement Analysis</b>	<b>3 3.00/0.00/0.00</b>	
This course covers principles used in analyzing financial statements and budgets. Students learn how to prepare, read and analyze financial statements. Topics include analysis of income statements, balance sheets, flow of funds, risk, obtaining and spreading statements, cash flow projections, capital accounts and financial ratios. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 2150</b>	<b>Legal Environment of Business</b>	<b>3 3.00/0.00/0.00</b>	
This course offers an overview of the American legal system and provides an introduction to what a business person should know about the law and the American legal system. Major content areas include the court system, trial process, alternative dispute resolution, business and the Constitution, the administrative process, torts and product liability, common law of contracts, employment law, employment discrimination, anti-trust law, international business and ethics. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 2202</b>	<b>Management Information Systems</b>	<b>3 3.00/0.00/0.00</b>	
The course is a survey course of management information systems. An information system is a set of interrelated components working together to collect, retrieve, process, store and disseminate information for purposes of facilitating, planning and decision making in business and other organizations. The student will gain invaluable knowledge as to how a business solves problems using an information system. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 2204</b>	<b>Principles of Management</b>	<b>3 3.00/0.00/0.00</b>	
This course examines the historical and philosophical foundations of management as well as current theory and practices. Managerial decisions as a planner, organizer, motivator, controller and leader of a diverse workforce in a competitive environment are identified and evaluated. The course is a study of the basic principles of business management including the functional, scientific, behavioral and systems approaches. Current literature, concepts, models and applications may be included as well as the use of case studies. <b>Prerequisite:</b> <b>Corequisite:</b>			

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<b>BUS 2206</b>	<b>Principles of Marketing</b>	<b>3 3.00/0.00/0.00</b>	
This course examines the business function of marketing and will enhance students' decision-making skills in a global market. The course focuses on how marketers create value by satisfying customer needs and wants by analyzing which target markets the organization can best serve, and the appropriate strategies to serve these markets. This course also will discuss the implications of the environmental factors that can impact the marketing strategies of a business. Topics include business and consumer markets, branding and product strategies, marketing research, pricing, promotion and supply chain management. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 2220</b>	<b>Global Business</b>	<b>3 3.00/0.00/0.00</b>	
This course will introduce the student to business operations surrounding global trade and identify interconnected issues. Businesses are increasingly challenged by multinational corporations, international trade policies, cultural and religious differences, environmental movements and human rights groups, which often play a leading role in defining and framing the global agenda. Understanding why nations do business with each other, how communication plays a vital role, what cultural features influence business practices, how competitive dynamics affect organizations and what legal considerations must be followed will prepare students for a rapidly-changing global economy. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>BUS 2275</b>	<b>Money and Banking</b>	<b>3 3.00/0.00/0.00</b>	
This course is an in-depth study of the role and function of money, the Federal Reserve System and the United States banking system. Specific subjects to be covered will include monetary standards, financial instruments, monetary theory, capital and money markets, rationale for interest rates, fiscal and monetary policy, inflation, sources and uses of credit, and the role of financial institutions. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CADD 1000</b>	<b>AutoCAD Basics</b>	<b>3 2.00/1.00/0.00</b>	
This course provides the fundamentals of computer-aided drafting (CAD) using the latest version of the AutoCAD drafting software. The course develops the CAD skills necessary to design and print complex two-dimensional drawings and sheet sets. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CADD 1100</b>	<b>Solid Modeling with AutoCAD</b>	<b>2 1.00/1.00/0.00</b>	
This course will cover the solid modeling tools and functions in AutoCAD. Students will learn to create and manipulate primitive solids, extrusions, sweeps and lofts. They will learn to utilize the Boolean functions, solid editing commands and derived view drawing tools required to generate complex solid models and create industry-standard drawing layouts based on the designed geometry. <b>Prerequisite:</b> CADD1000 <b>Corequisite:</b>			
<b>CADD 1102</b>	<b>Fundamentals of CADD</b>	<b>4 2.00/2.00/0.00</b>	
This course provides the fundamentals of computer-aided drafting using the latest version of AutoCAD drafting software. The course develops the fundamental CADD skills necessary to produce and print complex drawings and sheet sets. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CADD 1114</b>	<b>Introduction to Solids and Parametric Modeling</b>	<b>4 2.00/2.00/0.00</b>	
This course is an introduction to solid modeling and model derived drawing layouts using the latest versions of the Autocad, Inventor and Solidworks drawing software. <b>Prerequisite:</b> CADD1102, MCDD1102 <b>Corequisite:</b>			
<b>CADD 1200</b>	<b>Introduction to SolidWorks</b>	<b>2 1.00/1.00/0.00</b>	
This course will introduce students to the part modeling and drawing layout tools in SolidWorks software. Students will learn the concepts of parametric sketching and modeling, feature creation and editing, and model derived bidirectionally associative drawing layouts. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CADD 1210</b>	<b>Introduction to Autodesk Inventor</b>	<b>2 1.00/1.00/0.00</b>	
This course will introduce students to the part modeling and drawing layout tools in Autodesk Inventor software. Students will learn the concepts of parametric sketching and modeling, feature creation and editing, and model derived bidirectionally associative drawing layouts. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CADD 1400</b>	<b>Introduction to SolidWorks</b>	<b>3 2.00/1.00/0.00</b>	
This course will introduce students to the part modeling and drawing layout tools in Dassault's SolidWorks design software. Students will learn the concepts of parametric sketching and modeling, sketched feature creation and editing, placed feature creation and editing, and model-derived drawing layouts. <b>Prerequisite:</b> CADD1000 <b>Corequisite:</b>			
<b>CADD 1410</b>	<b>Introduction to Autodesk Inventor</b>	<b>3 2.00/1.00/0.00</b>	
This course will introduce students to the part modeling and drawing layout tools in Autodesk's Inventor software. Students will learn the concepts of parametric sketching and modeling, sketched feature creation and editing, placed feature creation and editing, and model-derived drawing layouts.			

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<b>Prerequisite:</b> CADD1000 <b>Corequisite:</b>			
<b>CADD 2120</b>	<b>Visual Communication for Engineers</b>	<b>3 3.00/0.00/0.00</b>	
This course covers the basic visualization, design and detailing concepts needed for engineers in modern industry. The course will teach students basic sketching, part modeling and assembly modeling techniques, as well as standard view layouts, auxiliary and section views, and standard dimensioning and tolerancing practices using an industry-recognized 3D solid modeling program. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CADD 2214</b>	<b>Advanced Solids and Parametric Modeling</b>	<b>4 2.00/2.00/0.00</b>	
This course covers advanced part modeling, assembly modeling, sheet metal and presentation files in the latest versions of the Inventor and Solidworks drawing software. <b>Prerequisite:</b> CADD1114 <b>Corequisite:</b>			
<b>CARP 1102</b>	<b>Principles of Framing</b>	<b>3 3.00/0.00/0.00</b>	
This course is designed to provide an understanding of the principles of floor, wall, stair and roof framing. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CARP 1104</b>	<b>Framing I</b>	<b>6 0.00/6.00/0.00</b>	
This course is designed to provide experience in constructing basic floor systems, wall frame systems, stairs and roof systems. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CARP 1108</b>	<b>Interior Finish I</b>	<b>4 1.00/3.00/0.00</b>	
This course focuses on materials used for interior finishing, plus hands-on experience in the application of these materials. <b>Prerequisite:</b> CARP1104 <b>Corequisite:</b>			
<b>CARP 1110</b>	<b>Intro to Cabinet Building</b>	<b>3 1.00/2.00/0.00</b>	
This course covers basic kitchen design, cabinet planning, sizing and construction joints necessary for fabrication of a quality cabinet. The student will construct a basic upper and base cabinet. The student will learn how to laminate a countertop and install it. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CARP 1112</b>	<b>Exterior Finish I</b>	<b>3 1.00/2.00/0.00</b>	
This course focuses on exterior finishes to building construction and installation, including but not limited to shingles, exterior trim, windows and doors. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CARP 2106</b>	<b>Footings &amp; Foundations</b>	<b>2 1.00/1.00/0.00</b>	
This course prepares the student with the knowledge and skills necessary to complete site layout and a basic knowledge of footings and foundations for residential construction. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CDEV 1105</b>	<b>Development/Guidance</b>	<b>3 3.00/0.00/0.00</b>	
This course provides an overview of childhood development from conception through age 8, with emphasis in the following areas: physical, cognitive, language, creative and social emotional. It integrates theory with developmentally appropriate practice in home, center-based, and school settings. In addition, this course gives the student an introduction to positive child guidance techniques for individual and group settings. This course will help students to understand behavior problems and identify strategies to prevent and resolve problem behaviors. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CDEV 1107</b>	<b>Introduction to Early Education</b>	<b>3 2.00/1.00/0.00</b>	
This course explores career opportunities with children and investigates a variety of child development programs for children ages birth through 8. Students will examine job requirements, duties, regulations and personal characteristics of successful workers. In addition, this course will guide the student in obtaining skills needed to maintain a safe and healthy child development setting. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CDEV 2200</b>	<b>Integrating Play</b>	<b>3 2.00/1.00/0.00</b>	
This course examines play during the infant, toddler, preschool and primary school years of development. This course will examine theories of play, discover how play promotes development, examine the physical environment and its relation to play, and construct play materials appropriate to the play of children. Play is the work of children. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CDEV 2229</b>	<b>Imaginative Learning</b>	<b>3 2.00/1.00/0.00</b>	
This course provides an exploration of the home, center or school environment for children birth through 8. It includes an examination of both indoor and outdoor space in relation to arrangement, maintenance and evaluation. Students apply their knowledge in an actual work setting. The focus is on designing learning environments and developmentally appropriate practice in methods and materials for art, literacy, music, math, science, physical			



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development, and social and multicultural studies. <b>Prerequisite:</b> CDEV1105, CDEV1107 <b>Corequisite:</b>			
CDEV 2236	Occupational Experience	1	0.00/0.00/1.00
This course provides an opportunity to apply knowledge and skill in an actual child development setting. Students will demonstrate competence in promoting health, safety and nutrition; guiding children; arranging learning environments; and communicating with parents. <b>Prerequisite:</b> <b>Corequisite:</b>			
CDEV 2238	Integrating Children with Special Needs	3	2.00/1.00/0.00
This course examines the development of and provides hands-on experiences for children with special needs in an integrated child care or primary school-age setting. Students integrate knowledge of developmental needs, developmentally appropriate environments and effective teaching methods. <b>Prerequisite:</b> CDEV2229 <b>Corequisite:</b>			
CDEV 2241	Observing and Assessing	2	1.00/1.00/0.00
This course provides the student with an opportunity to observe and assess children's development. Under the supervision of an instructor, the student observes, records, interprets and develops plans to strengthen the development of infants through primary school-age children. Student will construct a child study based on assessments gathered throughout the course of the semester for one specific child. <b>Prerequisite:</b> CDEV 2200 and CDEV 2229 <b>Corequisite:</b>			
CDEV 2242	Infant/Toddler Program	3	2.00/1.00/0.00
This course provides an overview of infant/toddler learning experiences in either home or center-based settings. Students integrate knowledge of developmental needs, developmentally appropriate environments, and effective caregiving and teaching methods. <b>Prerequisite:</b> CDEV1105, CDEV1107, CDEV2200, CDEV2229 <b>Corequisite:</b>			
CDEV 2244	Parent Professional Relations	3	3.00/0.00/0.00
This course covers the relationship between the caregiver and the child's family. The students will explore strategies to maintain professional relationships with co-workers, parents and outside organizations. Cultural diversity/dynamics, bias, public education, housing, employment, crime, health care, legal services and social services will be explored. <b>Prerequisite:</b> <b>Corequisite:</b>			
CDEV 2246	Foundations in Literacy	3	3.00/0.00/0.00
This course is an overview of early language acquisition, how literacy is best developed and what activities child care providers can do to promote the foundation for literacy development. <b>Prerequisite:</b> CDEV1105, CDEV1107, CDEV2200, CDEV2229 <b>Corequisite:</b>			
CDEV 2290	Internship	3	0.00/0.00/3.00
This course provides an opportunity to apply knowledge and skill in an actual child development setting. Students implement a variety of learning experiences that are developmentally appropriate and culturally sensitive for a specific group of children. This course is to be taken during the student's final semester in the program. <b>Prerequisite:</b> <b>Corequisite:</b>			
CHEM 95	Essential Chemistry Skills	1	1.00/0.00/0.00
This course covers basic chemistry concepts and elementary mathematical and problem-solving skills necessary for success in a first-semester chemistry course. It is strongly encouraged for students who are apprehensive about taking chemistry and are enrolled in CHEM1100 or CHEM1111. Concurrent enrollment with CHEM1100 or CHEM1111 is recommended. <b>Prerequisite:</b> MATH0095 <b>Corequisite:</b>			
CHEM 1050	Lab Calculations/Procedures	1	1.00/0.00/0.00
This course prepares students to apply mathematics (percents, metric system, molar mass, equivalent mass, molarity, normality, ratios, etc.) to formulas used in chemistry, histotechnology and the medical laboratory courses. The course emphasizes practical application of lab equations used to calculate quantities required to prepare chemical solutions/regents. An introduction to the basic laboratory measuring equipment will also be included. This course is intended for anyone taking a chemistry course. <b>Prerequisite:</b> <b>Corequisite:</b>			
CHEM 1100	Fundamental Concepts of Chemistry	3	2.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. Course deals with substances, their structures and properties, the changes they undergo and the laws that govern those changes. Intended for prospective elementary teachers, non-science majors and those who need background for General Chemistry. This course includes a lab. <b>Prerequisite:</b> MATH0095 or placement by assessment <b>Corequisite:</b>			
CHEM 1101	Principles of General Chemistry	4	3.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. This course will provide the student with a basic understanding of the general principles of inorganic chemistry and includes the topics of atomic structure, stoichiometry, solutions, bonding, thermochemistry and properties of			

Course #	CourseTitle	CR	Lec/Lab/OJT
solids, liquids and gases. The laboratory component introduces techniques, methods and instrumentation. <b>Prerequisite:</b> Math 0095 or placement by assessment <b>Corequisite:</b>			
CHEM 1111	General Inorganic Chemistry I	5	4.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. This course is the first of a two-course series (CHEM1111 and CHEM1112). Students will learn the general chemistry principles: atomic structure, stoichiometry, solutions, bonding, thermochemistry, electronic structure, periodic properties of the elements, intermolecular forces and properties of solids, liquids and gases. The course includes a lab. <b>Prerequisite:</b> Instructor permission for students who do not score high enough on the placement exam for placement into Chem1111 but wish to enroll in Chem1111. Students with this permission must co-register for Chem 0095., MATH1020 <b>Corequisite:</b>			
CHEM 1112	General Inorganic Chemistry II	5	4.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. This course is the second course of a two-course series (CHEM1111 and CHEM1112). Students will learn the general chemistry principles: solution chemistry, kinetics, chemical equilibrium, acid-base chemistry, solubility equilibrium, thermodynamics, oxidation-reduction, electrochemistry, coordination chemistry, nuclear chemistry and introductory environmental chemistry. The course includes a lab. <b>Prerequisite:</b> CHEM1111 <b>Corequisite:</b>			
CHEM 1115	Introduction to Organic and Biochemistry	4	3.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. This course consists of both lab and lecture sessions. Students will learn the fundamental concepts in organic and biochemistry: properties, classification and nomenclature of hydrocarbons and compounds containing various functional groups; basic organic reaction mechanisms; and structure and metabolism of carbohydrates, lipids, proteins and nucleic acids. <b>Prerequisite:</b> CHEM1100 <b>Corequisite:</b>			
CHEM 2224	Organic Chemistry I	5	4.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. This course is the first course of a two-course series (CHEM2224 and CHEM2225). Students will learn organic chemistry principles including introduction to the classification, structure, reactions and reaction mechanisms of carbon compounds. The following topics will be included: structures and properties of organic compounds, methane and the alkanes, stereo chemistry, substitution and elimination reactions, electrophilic and free radical addition, alkenes, alkynes, and various functional groups, conjugation and resonance, benzene and the aromatics, aromatic-aliphatic compounds, alcohols and ethers. The course includes a lab which will include techniques for the purification, synthesis and characterization of organic compounds and the study of organic reactions. Green chemistry techniques will be practiced whenever possible. <b>Prerequisite:</b> CHEM1112 <b>Corequisite:</b>			
CHEM 2225	Organic Chemistry II	5	4.00/1.00/0.00
Meets MnTC Goal Areas 2 and 3. This course is the second course of a two-course series (CHEM2224 and CHEM2225). Students will learn the reactions and characteristics of various organic chemistry groups. The following topics will be included: aldehydes and ketones, carboxylic acids, amines, amides, phenols, carbanions, esters, aromatics, heterocyclic compounds, macromolecules and the possible addition of selected topics such as carbohydrates, fats, amino acids and proteins. The course includes a lab which will include purification, synthesis, and characterization of organic compounds and the study of organic reactions. Green chemistry techniques will be practiced whenever possible. <b>Prerequisite:</b> CHEM2224 <b>Corequisite:</b>			
CHEM 2970	Internship Experience	1.00 - 3.00	
This course is designed to provide students with a monitored meaningful work experience related to their field of interest. This experience will increase their employability and enhance their life skills. Completion of this course requires a written report and an evaluation from the student's supervisor. Each internship is an individualized experience, therefore this course is offered with variable credits and may be repeated up to two times. The student may choose from one, two or three credits as prearranged with the internship site supervisor and corresponding faculty. Each credit will require a minimum of 45 hours of on-the-job learning. This course will be graded pass/fail only. <b>Prerequisite:</b> Instructor approval <b>Corequisite:</b>			
CHIN 1101	Introduction to Chinese	3	3.00/0.00/0.00
Meets MnTC Goal Area 8. This course will introduce students to the Beijing (Mandarin) dialect of Chinese including basic grammar, the Pin Yin system of transliteration and reading and writing Chinese characters. <b>Prerequisite:</b> <b>Corequisite:</b>			
CIVL 1000	Introduction to Civil Engineering Technology	2	2.00/0.00/0.00
This course provides an overview of the fields of civil engineering technology. It includes a historical background, present practices and future challenges of the civil engineering profession. Topics discussed include ethics, professional responsibility, written and oral communications, concepts of analysis, design, interpretation of results and decision making. <b>Prerequisite:</b> <b>Corequisite:</b>			
CIVL 1100	Survey I: Fundamentals of Surveying	3	2.00/1.00/0.00
The student will learn the principles of vertical distance measurement, as well as construc-			

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tion staking and the compiling of field notes typical of the civil engineering field. This course will focus on the use of various surveying equipment and procedures including an introduction to global positioning system (GPS) concepts and methods. <b>Prerequisite:</b> <b>Corequisite:</b>			
CIVL 1119	Survey II: Land Surveys	3	1.00/2.00/0.00
Students will learn civil engineering technology land surveying principles including topographic surveys, utilities, drainage and roadway alignment. This course emphasizes the use of Total Station and Global Positioning Systems (GPS) for collecting data as well as civil engineering software for processing data. Additionally, students will utilize GPS functionality on the Trimble TSC3 data collector and Trimble Business Center software. <b>Prerequisite:</b> CIVL1100 <b>Corequisite:</b>			
CIVL 1138	CADD II: Plan Layout	3	2.00/1.00/0.00
This course introduces students to industry-specific civil design software. Students will learn concepts relating to civil engineering drawings including topography, site planning, mapping and downloading survey data to create digital terrain models. <b>Prerequisite:</b> CADD1000, CADD1102 <b>Corequisite:</b>			
CIVL 2209	Construction Inspection	3	2.00/1.00/0.00
This course involves the study and performance of procedures necessary in the inspection and documentation of general construction of public works projects. Topics include inspector responsibilities, project management and aggregate base, concrete and bituminous inspection. <b>Prerequisite:</b> CIVL1100, CIVL1102 <b>Corequisite:</b>			
CIVL 2210	Road Design	3	2.00/1.00/0.00
The student will complete drawings and computations typical of those used in the design of roadways. These may include control line location maps, topographic drawings, cross sections, plan and profile earthwork computations. <b>Prerequisite:</b> CIVL1119, CIVL1138 <b>Corequisite:</b>			
CIVL 2230	Civil Engineering Technology Internship	3	0.00/0.00/3.00
The civil engineering technology internship provides the student with an opportunity to apply skills and knowledge acquired in prior courses in the occupational setting. Students will develop a plan for the internship with the cooperation of the employer and the instructor. <b>Prerequisite:</b> CIVL1138 <b>Corequisite:</b>			
CIVL 2234	Utility Design	3	2.00/1.00/0.00
The student will learn principles of sanitary, storm and water system layouts, design and construction. Design criteria and standards, plan and profile principles, cost estimating, construction staking and inspection of the different systems will be emphasized. <b>Prerequisite:</b> CIVL1119, CIVL1138 <b>Corequisite:</b>			
CIVL 2238	CADD III: Project Design	3	2.00/1.00/0.00
This course will focus on the application of civil design computer-aided drafting software for the completion of a project, where students apply principles of civil engineering drawing. <b>Prerequisite:</b> CIVL1138 <b>Corequisite:</b>			
CIVL 2240	Introduction to Geographic Information Systems	3	3.00/0.00/0.00
This course is an introduction to different types of geographic information systems (GIS) and their capabilities, with the main focus on ESRI ArcMAP software. Topics will include GIS data collection and input, GIS data types and basic mapping concepts. <b>Prerequisite:</b> <b>Corequisite:</b>			
CIVL 2242	Survey III: Global Positioning System Technology and Equipment	3	2.00/1.00/0.00
This course covers the instruction and application of Global Positioning System (GPS) technology and GPS equipment for surveying. Students will learn surveying principles, equipment and software used in GPS to meet current-day technological practices. <b>Prerequisite:</b> CIVL1119 <b>Corequisite:</b>			
CIVL 2244	Survey IV: Equipment Software	3	2.00/1.00/0.00
This course covers the application of TDS Survey Pro software as it applies to the TDS Ranger and Recon total stations data collectors. Students will learn these various software routines to make them more efficient with their day-to-day surveying. <b>Prerequisite:</b> CIVL1102 <b>Corequisite:</b>			
CIVL 2246	Introduction to Hydrology	3	3.00/0.00/0.00
This course will include introduction to hydraulic principles, hydrology, pipe and open channel flow, watershed analysis and storm water regulations. <b>Prerequisite:</b> CIVL2234, CIVL2240 <b>Corequisite:</b>			
COMM 1100	Communication and Effective Human Relations	3	3.00/0.00/0.00
Meets MnTC Goal Areas 1 and 2. This course is designed to provide individuals with basic communication principles for positive relationships in career settings. This is accomplished through oral, written and intra/interpersonal communication skills which are valued for life			

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and work experiences. Changes in the life/work environment are characterized by greater cultural diversity, the performance of more work by teams and the need for greater ability to cope effectively with life/work issues and problems that require extensive knowledge of human relationships. <b>Prerequisite:</b> By Assessment, ENGL0040, ENGL0050, ENGL0096 <b>Corequisite:</b>			
COMM 1120	Introduction to Public Speaking	3	3.00/0.00/0.00
Meets MnTC Goal Area 1. This course clarifies the process of oral communication, clarifies the basic principles of public speaking and allows the student to increase the application of these principles while both speaking and listening. <b>Prerequisite:</b> Assessment into ENGL 1101 <b>Corequisite:</b>			
COMM 1130	Small Group Communication	3	3.00/0.00/0.00
Meets MnTC Goal Areas 1 and 2. This course focuses on communication issues in small groups and the importance of small group work in business today. An emphasis will be placed on improving communication skills for successful teamwork, group cohesiveness and the responsibility to group goals and tasks. Students will be provided with opportunities to build their group communication skills through practice. <b>Prerequisite:</b> Assessment into ENGL 1101 <b>Corequisite:</b>			
COMM 1140	Interpersonal Communication	3	3.00/0.00/0.00
Meets MnTC Goal Area 1. This course will focus on improving students' abilities to communicate effectively in one-to-one dyadic encounters by providing experience-based instruction. Extensive in-class and out-of-class analyses allow the student to examine his/her own and others' informal social interactions. The long-term goal is for the student to apply interpersonal communication theories to daily interactions and draw his/her own conclusions about the effectiveness of interpersonal communication. <b>Prerequisite:</b> Assessment into ENGL 1101 <b>Corequisite:</b>			
COMM 2220	Oral Interpretation	3	3.00/0.00/0.00
Meets MnTC Goal Area 6.This course is intended to introduce students to the principles and techniques of selecting and analyzing appropriate literary selections and the interpretation of literature through vocal and nonverbal delivery. <b>Prerequisite:</b> SPCH1114 <b>Corequisite:</b>			
COMM 2230	Intercultural Communication	3	3.00/0.00/0.00
Meets MnTC Goal Area 7. This course explores the nature of communication within and between cultures and co-cultures. This class will challenge students to think about their own cultural assumptions and explore ways in which these assumptions differ from those held by people in other cultures. Students will review theories of communication and culture and will examine how culture is evident in languages, behaviors, rituals, norms and worldviews. Students will observe and describe their own cultural background and will learn to respectfully communicate with members of other cultures. <b>Prerequisite:</b> Assessment into ENGL 1101 <b>Corequisite:</b>			
COMM 2240	Family Communication	3	3.00/0.00/0.00
Meets MnTC Goal Area 2. This course provides an introduction to communication functions in various families. The course will include theoretical and practical applications of family communication in our everyday lives, with an emphasis on how effective communication may enhance family relationships and how destructive communication may harm family relationships. <b>Prerequisite:</b> Assessment into ENGL 1101 <b>Corequisite:</b>			
COMM 2250	Gender Communication	3	3.00/0.00/0.00
Meets MnTC Goal Area 7. This course examines communication as it relates to our gendered lives. The course explores how societal views on gender are formed, maintained and transformed through various communication patterns and practices. Practical and theoretical knowledge of gendered communication and its influences on personal and professional relationships will be incorporated and analyzed. <b>Prerequisite:</b> Assessment into ENGL 1101 <b>Corequisite:</b>			
COMM 2260	Computer-Mediated Communication	3	3.00/0.00/0.00
Meets MnTC Goal Area 1. This course is designed to analyze the relational and social dynamics of computer-based communication in a global society. Using a variety of contemporary technologies, students will identify strategies to communicate messages to diverse audiences for multiple purposes, thus learning to use mediated communication more effectively. <b>Prerequisite:</b> ENGL1101 <b>Corequisite:</b>			
CONM 1101	Construction Documents and Codes	3	2.00/1.00/0.00
This course provides an introduction to understanding construction drawings, specifications, processes and building codes. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 1102	Site/Building Layout	2	1.00/1.00/0.00
This course provides the student with the basic knowledge and hands-on skills necessary to lay out a building site and establish elevations for construction. <b>Prerequisite:</b> <b>Corequisite:</b>			

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CONM 1104	Construction Management Principles	2	2.00/0.00/0.00
This course provides an overview of the construction management industry and introduces the students to the duties and responsibilities of the construction professional. The emphasis of this course will be on the importance of the industry, the industry's impact and responsibilities to society, and career opportunities for successful students. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 1108	Principles of Estimating	4	2.00/2.00/0.00
This course focuses on the basics of material, labor and equipment estimating. Students will learn to calculate the quantities of material comprising a project. These quantities will determine the primary portion of the direct costs used in a construction bid. This process will be the first step in completing accurate bids for construction projects of all sizes. <b>Prerequisite:</b> CONM1101 <b>Corequisite:</b>			
CONM 1124	Building Systems	3	3.00/0.00/0.00
This course is a comprehensive treatment of the various techniques, systems and methodologies utilized in the construction industry and will help the student prepare for the responsibilities of supervision on a modern construction project. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 2204	Materials Testing	3	1.00/2.00/0.00
This course covers inspection techniques, methods of material measurement, documentation, material sampling and testing methods for soils and concrete. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 2206	Building Codes	2	2.00/0.00/0.00
This course is designed to introduce the Uniform Building Code to students in the construction field, where a basic knowledge of the code's requirements is needed. Emphasis will be placed on the development and proper use of the code. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 2208	Construction Bidding	2	1.00/1.00/0.00
This course will explore standard construction contract documents and project estimating procedures and their use in building a competitive bid. <b>Prerequisite:</b> CONM1108 <b>Corequisite:</b>			
CONM 2210	Construction Scheduling	3	2.00/1.00/0.00
Planning and scheduling are important management tools. In this course students will work with scheduling techniques commonly used in the construction industry to bring projects to timely and economically successful completion. <b>Prerequisite:</b> <b>Corequisite:</b> CONM2217			
CONM 2212	Site Management	3	3.00/0.00/0.00
This course covers construction site management from the standpoint of best utilization of site, facilities and services in a safe and efficient manner to complete construction projects. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 2213	Safety Management	2	2.00/0.00/0.00
This course includes construction management applications in the areas of safety and health. Students will have an opportunity to earn OSHA 30-hour authorization for successful course completion. <b>Prerequisite:</b> <b>Corequisite:</b>			
CONM 2217	Computer Estimating and Bidding	3	2.00/1.00/0.00
This course is designed to utilize computer estimating software such as spreadsheets, databases and industry-leading software to produce competitive, timely and complete construction bids. <b>Prerequisite:</b> CONM1108, CONM1124 <b>Corequisite:</b> CONM2210			
CONM 2222	Construction Management Internship	2	0.00/0.00/2.00
This course will provide construction management students with an opportunity to apply and extend their knowledge, practice their skills, integrate behaviors and explore areas of employment within the construction industry. Students will perform activities consistent with program outcomes in an industry setting with the supervision of the site employer. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1000	Principles and Practices	3	3.00/0.00/0.00
This course is intended for manicurists, estheticians and some transfer students. In a condensed form, this course will include the topics of chemistry, electricity, salon business, professional image, anatomy and infection control. <b>Prerequisite:</b> none <b>Corequisite:</b>			
COSM 1002	Client Consultations	1	1.00/0.00/0.00
This course is for cosmetology and esthology students. Students will develop the skills necessary for a successful client consultation to achieve the client's desired outcome. <b>Prerequisite:</b> <b>Corequisite:</b>			

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COSM 1003	License Preparation	1	1.00/0.00/0.00
This course prepares students to take the general theory, state and written practical exams issued by the Minnesota State Board of Cosmetology. Students will review safety and infection control; client consultation and professional conduct; hair, skin and nail anatomy; shampooing; conditioning; scalp care; hairstyling; haircutting; hair coloring; chemical texture services; esthetics; and nails. Students will be taught to identify the areas where they need the most review and use outside texts to help them maximize their learning potential. A study guide and sample test questions will be used to exemplify the Minnesota state license exams. Students will be encouraged to apply to take their Minnesota state boards after they receive their diploma/certificate. This course can be repeated for credit up to three times for students licensing in more than one field. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1004	Cosmetic Chemistry and Makeup Applications	1	1.00/0.00/0.00
This course covers the composition of product ingredients, changes produced by cosmetic products, color theory, makeup applications, eyelash and eyebrow tinting, air brush makeup, camouflage makeup and facial structure. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1005	Hair Reformation	1	1.00/0.00/0.00
In this course, students will learn how to permanently or semi-permanently straighten overly curly hair. Students will learn the various types of sodium hydroxide relaxers, thio relaxers including Japanese straightening systems, and keratin treatments including Brazilian blowouts. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1006	Spa Therapies	1	1.00/0.00/0.00
This course covers advanced spa services, body treatments and alternative related therapies. Students will be able to identify, explain and determine spa treatments and services suited for individual clients needs. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1007	Gel Nail Applications	1	1.00/0.00/0.00
This course provides an introduction to gel applications for cosmetology and nail technology students. Students will understand the procedures for tips with overlays, natural nails and sculpted nails using various types of gel enhancement products. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1010	Eyelash Extensions	1	1.00/0.00/0.00
This course is for cosmetology students, esthology students and anyone who wishes to perform eyelash extensions. Eyelash extensions means the application, removal and trimming of threadlike natural or synthetic fibers to an eyelash, and includes the cleansing of the eye area and lashes. Eyelash extensions do not include color agents, straightening agents, permanent wave solutions, bleaching agents, applications to the eyebrow or any other cosmetology service. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1100	Salon Safety	1	1.00/0.00/0.00
This course is for students pursuing a cosmetology, esthology, nail technology and eyelash technology career. Students will learn the necessary precautions and safety measures to ensure a safe working environment. Students must pass all applicable sections of the Infection Control Practical Skills test prior to providing services on live models during preclinical training and prior to providing services on the client clinic floor. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1101	Introduction to Cosmetology	3	0.00/3.00/0.00
In this course students will learn some of the basic techniques pertaining to hair, skin and nails and meet a portion of the required hours toward the State Board of Cosmetology. The course content will provide a brief overview of all the cosmetology topics that are required by the State Board of Cosmetology for licensure. Upon completion of this course, students attending one year will earn 90 hours toward their cosmetology license. Students who elect to take the course a second time will earn 180 hours toward their cosmetology license. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1109	Skin Analysis	1	1.00/0.00/0.00
This course is for cosmetology and estheology students. Students will learn how to perform a skin analysis and determine skin types. Client skin analysis is an important part of an esthetician's or cosmetologist's skills, since recommending the appropriate skin care products and regime must be individualized for each person. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1117	Shampooing and Rinsing	1	1.00/0.00/0.00
This course covers shampooing and draping. Students will learn the importance of selecting the correct shampoo for various hair types. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1119	Haircutting	1	1.00/0.00/0.00
This course will help students develop a strong foundation in haircutting. Students will learn			

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basic sectioning and cutting techniques, along with correct use of scissors, razors and clip-pers to achieve a strong foundation in haircutting. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1129	Hairstyling	1	1.00/0.00/0.00
This course will instruct students in conducting services in a safe environment. Students will learn the styling and finishing techniques to complete a hairstyle to the satisfaction of the client. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1130	Properties of the Hair and Scalp	1	1.00/0.00/0.00
In this course students will learn the different layers of the hair and how it can be damaged. It is essential for students to be able to analyze a client's hair, determine what type of damage the hair has experienced and prescribe corrective treatment. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1153	North Dakota Laws and Rules	1	1.00/0.00/0.00
This course prepares students for the North Dakota Laws and Rules portion of their state license examination. <b>Prerequisite:</b> Graduate from a Minnesota cosmetology program or hold a valid Mn license. <b>Corequisite:</b>			
COSM 1157	Histology of the Skin	1	1.00/0.00/0.00
In this course students will learn the basic structure of the skin and its function. Students will learn how to conduct services in a safe environment and how to take measures to prevent spreading infectious and contagious diseases. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1159	Facials, Make-Up, and Hair Removal	1	1.00/0.00/0.00
In this course students will learn the uses of various skin care products and how to apply them to different skin types. Students will learn basic make-up application, including artificial lashes, and basic massage movements to assist in providing basic skin care services. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1161	Nail Structure and Growth	1	1.00/0.00/0.00
In this course students will learn the structure of the nail, how to recognize various disorders and which disorders can be serviced in the salon. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1163	Hair Color	1	1.00/0.00/0.00
In this course students will learn how to conduct a color service in accordance with a client's needs and the importance of using a variety of salon products and techniques to achieve the appropriate color outcome. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1171	Principles of Hair Design	1	1.00/0.00/0.00
This course will give students an understanding of design and how to incorporate design into creating a pleasing hairstyle for each client's facial features. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1173	Chemistry and Electricity	1	1.00/0.00/0.00
In this course students will learn the two types of electricity, how they are measured and the safety devices pertaining to electricity. Many of the services students will provide actually change the hair, skin and nails chemically. It is essential that students have a good working knowledge of chemistry in order to provide the safest and most effective services. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1177	Infection Control	1	1.00/0.00/0.00
In this course students will learn the nature of various organisms, how they relate to disease and how their spread can be prevented in the salon and at school. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1179	Minnesota Cosmetology Laws and Rules	1	1.00/0.00/0.00
This course prepares students for the Laws and Rules portion of their state license examination. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 1200	Salon Practicum	1.00 - 18.00	
In this course, students will work in a licensed salon in order to meet the required 1550 hours of salon experience stipulated by the State Board of Cosmetology. Students will use this course to supplement their existing salon experience. Credits will be awarded to reflect the number of additional hours the student works in order to meet the state requirements. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2000	Artistry in Hairstyling	1	1.00/0.00/0.00
This course focuses on the various types of non-surgical hair additions. Students will learn about the care and styling of wigs and basic braiding procedures to create hairstyles that			

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are pleasing to clients. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2100	Chemical Texture Services	1	1.00/0.00/0.00
Students will learn about hair relaxation and wave formation techniques in accordance with manufacturers' directions. Other topics in the course include consulting with clients to determine their needs and preferences and the importance of conducting chemical services in a safe environment. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2200	Manicuring/Pedicuring	1	1.00/0.00/0.00
In this course students will learn basic manicuring and pedicuring procedures. Students will understand the importance of providing services in a safe environment. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2300	Cosmetology Anatomy	1	1.00/0.00/0.00
Cosmetology is primarily limited to the skin, muscles, nerves, circulatory system and bones of the head, face, neck, shoulders, arms, hands, lower legs and feet. In this course students will understand the anatomy of these areas to help develop the necessary techniques to be used during scalp massages, facials, manicures, pedicures and shampoo services. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2400	Advanced Nail Techniques	1	1.00/0.00/0.00
In this course students will learn how to conduct a client consultation to determine client needs and preferences. Students will learn about a variety of salon products that will enable them to provide nail services to clients. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2500	Salon Business	1	1.00/0.00/0.00
In this course students will learn how to manage their time to provide efficient client services. Students will learn the necessary steps to retain clients and how to market salon products and maintain business records. <b>Prerequisite:</b> <b>Corequisite:</b>			
COSM 2800	Alexandria Body Sugaring	1	1.00/0.00/0.00
In this course students will learn how to remove hair using the Alexandria Professional Body Sugaring advanced system. The course includes theory and thorough knowledge of the correct techniques employed in the practice of body sugaring. <b>Prerequisite:</b> <b>Corequisite:</b>			
CPTR 1001	Introduction To Programming and Scripting	3	1.00/2.00/0.00
This course is an introduction to computer programming. Emphasis will be on programming concepts, program design methodology, program debugging, problem solving and writing clear code. <b>Prerequisite:</b> <b>Corequisite:</b>			
CPTR 1100	Fundamental Computer Concepts	1	0.00/1.00/0.00
This course provides a general overview of the frequently used functions of a personal computer. Computer hardware, operating systems, electronic mail, Internet and a brief introduction to an office software package will be covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
CPTR 1102	Introduction to Macintosh	3	2.00/1.00/0.00
This course covers the operation of Macintosh computer hardware and software, the Macintosh operating system and an introduction to Microsoft Office Suite software. <b>Prerequisite:</b> <b>Corequisite:</b>			
CPTR 1103	Introduction to Assistive Technology	3	3.00/0.00/0.00
This course explores the design, development and use of technology that benefits people with disabilities. Students will gain a general understanding of the various assistive and adaptive technologies utilized to improve or develop functional communication and daily living skills for individuals with disabilities. Throughout this course, case studies will be used to illustrate application of principles and theories in assistive technology. <b>Prerequisite:</b> <b>Corequisite:</b>			
CPTR 1104	Introduction to Computer Technology	3	2.00/1.00/0.00
This course covers the operation of personal computer hardware and software. It provides an overview of a personal computer operating system and word processing, spreadsheet, presentation, email, scheduling, Internet and database management software. <b>Prerequisite:</b> <b>Corequisite:</b>			
CPTR 1106	Microcomputer Databases	3	2.00/1.00/0.00
This course covers database concepts, design and construction using the latest database software. Topics include database normalization and table relationships, database objects, file creation, file manipulation, queries, macros, form development and report generation. Database programming concepts will also be introduced. <b>Prerequisite:</b>			

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<b>Corequisite:</b>				<b>Prerequisite:</b>			
<b>CPTR 1108 CISCO 1 3 1.00/2.00/0.00</b> This is an introduction to networking. This course covers a network model, basic network-ing math, basic network devices and an introduction to network design. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 1138 Information Systems 3 2.00/1.00/0.00</b> This course is an introduction to information systems. Topics include an overview of data communications and information systems used in a variety of organization types, network hardware, software, topologies and resources, hardware and communications standards, and the systems development life cycle. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1110 Visual Basic Program I 3 2.00/1.00/0.00</b> This course covers an introduction to the Visual Basic programming language. It covers language basics and program structure. Topics include graphical interface design and development, control properties, event-driven procedures, variables, scope, expressions, operators, functions, decision-making structures, looping structures and database access. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 1142 Network Essentials 3 2.00/1.00/0.00</b> This course gives students both the knowledge and hands-on skills necessary to work with network operating systems in a network administration environment. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1112 Visual Basic Program II 3 2.00/1.00/0.00</b> This course is the second and final course in the BASIC programming language. Topics include looping, menus, arrays, subroutines, sorting, strings and files. <b>Prerequisite:</b> CPTR1110 <b>Corequisite:</b>				<b>CPTR 1148 Microcomputer Operating System 3 1.00/2.00/0.00</b> This course covers basic information about computer hardware and software and the use of the Windows operating system. Topics include file management techniques, utilizing common screen elements, multitasking, object linking and customizing the desktop. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1115 COBOL Programming 4 3.00/1.00/0.00</b> This course provides an overview of the COBOL programming language. Students will gain a solid foundation in the fundamentals of COBOL coding including knowledge of COBOL syntax, program structure, program design, execution and debugging. Maintenance and modification of typical business applications will also be coded throughout the course. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 1166 Word Processing and Spreadsheets 4 2.00/2.00/0.00</b> This course covers the basics of word processing and spreadsheet concepts, development and use. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1118 CISCO 2 3 2.00/1.00/0.00</b> This course covers additional OSI layer topics, network routing and auditing. Students learn and practice accepted router configuration procedures. <b>Prerequisite:</b> CPTR1108, CSCI1205 <b>Corequisite:</b>				<b>CPTR 1170 Web Engineering I 3 2.00/1.00/0.00</b> This course is an introduction to programming and maintaining professional Web pages for the business environment. Topics will include page design, authoring tools, acces-sibility issues and Web page and website development. Focus will be given to client-side programming languages such as HTML and JavaScript, Web server software, Web server maintenance and Internet protocols. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1121 Information Technology Service Desk 3 2.00/1.00/0.00</b> This course is an introduction to the IT service desk and user support. Students will be in-troduced to all aspects of the service desk including the roles, responsibilities, skills needed and role of certifications for the service desk support professional. This course places an emphasis on customer service skills, techniques to develop the necessary skills and applica-tion of the skills to difficult customer situations. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 1178 Robotics 3 2.00/1.00/0.00</b> This course teaches basic robot building, programming and troubleshooting. The robot building includes working with multiple motors and sensors on a robot. The robot program includes working with a graphical and command line programing environment. Along with reading current literature about robotics, this class provides the student the fundamentals of robotics. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1122 Microcomputer Maintenance 3 1.00/2.00/0.00</b> This course covers the operation, diagnosis, troubleshooting and basic repair of microcom-puter components. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems and printers. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 2000 Mobile Application Development 3 2.00/1.00/0.00</b> This course teaches software development for popular mobile operating systems. Focus is on the creation of platform-specific user interfaces, data storage and network use. <b>Prerequisite:</b> CPTR2242, CSCI2010 <b>Corequisite:</b>			
<b>CPTR 1125 IT Essentials I 3 1.00/2.00/0.00</b> This course is designed for students seeking entry-level computer hardware and software skills. Target students include those who want to prepare for careers in information and communication technology (ICT) and students who want to gain skills and working knowledge of how computers work, how to assemble computers and how to troubleshoot hardware and software issues. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 2100 Supporting End-User Applications 3 2.00/1.00/0.00</b> This course emphasizes the knowledge, skills and abilities necessary to improve the produc-tivity of the computer user. Students will learn about providing support for the user’s computer including the operating system and the software applications installed on the computer. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 1129 RPG Programming 4 2.00/2.00/0.00</b> This course is an introduction to RPG programming and AS400 system operations. The student will learn the basics of operating the AS400 and begin writing RPG programs. These programs will include building physical files, writing RPG code, compiling, error finding and producing reports. There will be a strong emphasis on developing logic to program more intermediate RPG programs. A high concentration will be on the structure of the student’s calculation specifications. Students will learn how to add, delete and update data to physical files through their RPG programs. Students also will be developing screen programs where users can enter data. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 2200 CISCO 3 3 2.00/1.00/0.00</b> This course is a study of ethernet problems and solutions. The course covers ethernet segmentation options and VLAN configuration. The student will practice solving these problems. <b>Prerequisite:</b> CPTR1118 <b>Corequisite:</b>			
<b>CPTR 1130 IT Essentials II 3 1.00/2.00/0.00</b> This is an advanced course for computer hardware, including desktop and laptop personal computers, operating systems, basic IT security and basic networking fundamentals.Topics covered include computer hardware and operating system configurations, building a basic network, networking technologies and protocols, and preventive maintenance and trouble-shooting of information technology hardware, software, security and networked devices. <b>Prerequisite:</b> CPTR1125 <b>Corequisite:</b>				<b>CPTR 2208 CISCO 4 3 2.00/1.00/0.00</b> This course covers WAN configuration and remote access configuration. Students will prac-tice design and configuration of systems to solve WAN and remote access problems. <b>Prerequisite:</b> CPTR2200 <b>Corequisite:</b>			
<b>CPTR 1135 Beginning Networking 3 2.00/1.00/0.00</b> This is an introductory networking course designed to expose the student to various components of networking in both home and enterprise settings. Topics covered include various network types, how networks communicate and current networking practices. Wired and wireless networks will be discussed, along with their various layouts and required components. The student also will learn basic best practices for network security and network management.				<b>CPTR 2210 Database Report Generation 3 2.00/1.00/0.00</b> Students will be introduced to database reporting using commonly used tools. Examples include Microsoft Structured Query Language (SQL) Reporting Services, comma-separated values (CSV), Microsoft Access and Excel, and Crystal Reports. Students will understand ethical and security concerns and challenges of database reporting. This course will cover the best practices of database reporting and help students understand business require-ments behind database reporting. <b>Prerequisite:</b> CPTR1106 <b>Corequisite:</b>			
				<b>CPTR 2220 COBOL Programming II 3 2.00/1.00/0.00</b> This is the second course in COBOL programming language. Topics include sorting, table processing, data manipulation, control break processing, sequential file maintenance, and indexed and relative files.			

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<b>Prerequisite:</b> CPTR1114 <b>Corequisite:</b>				This course takes on more advanced but common operations such as joins and sub-queries, unions and intersections. Additional topics will include the use of stored procedures and views and appropriate use of these features, proper indexing of data, altering table defini-tions and use of the CASE statement. <b>Prerequisite:</b> CPTR2230 <b>Corequisite:</b>			
<b>CPTR 2224 Linux I 3 2.00/1.00/0.00</b> This course deals with Linux installation, configuration and system administration. This course lays the groundwork for continued study of Linux. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 2262 Internet Protocol Version 6 3 2.00/1.00/0.00</b> This course teaches the management of systems using Internet Protocol Version 6. The emphasis is protocol management on networking devices. <b>Prerequisite:</b> CPTR1108 <b>Corequisite:</b>			
<b>CPTR 2228 RPG/OS400 II 4 2.00/2.00/0.00</b> This course is a continuation of the RPG/OS400 I course with more advanced RPG program-ming and OS400 operations introduced. A strong emphasis will be put on developing screen programs that call one another and pass parameters between them. A large programming project will be given students at mid-semester in which they will develop many programs that are related and dependent on each other. <b>Prerequisite:</b> CPTR1128 <b>Corequisite:</b>				<b>CPTR 2272 Network Operating Systems 3 2.00/1.00/0.00</b> This course teaches the functions of a network operating system so the student can ef-fectively maintain and manage a network. The student learns how to establish and oversee the operations of a network, create logins, design and establish directory structures and implement security. <b>Prerequisite:</b> CPTR1001, CPTR1122, CPTR1148 <b>Corequisite:</b>			
<b>CPTR 2230 Structured Query Language 3 2.00/1.00/0.00</b> This course covers the basics of SQL (Structured Query Language) programming. SQL is a popular computer language that is used by small and large business organizations and computer programmers. The primary purpose of SQL is in working with databases and relational database management systems to store, retrieve, edit, manipulate and format data for end users and decision makers. <b>Prerequisite:</b> CPTR1106 <b>Corequisite:</b>				<b>CPTR 2275 Data Analytics 3 2.00/1.00/0.00</b> This course is an Introduction to data analytics. The student will explore historical roots and reasons for business intelligence. The student will be introduced to big data, data mining and data warehousing and how they help businesses. Database scalability and optimization also will be covered. <b>Prerequisite:</b> CPTR1106, MATH1213 <b>Corequisite:</b>			
<b>CPTR 2234 Linux II 3 2.00/1.00/0.00</b> The primary focus of this course is Linux networking, security, ethics and privacy. <b>Prerequisite:</b> CPTR2224 <b>Corequisite:</b>				<b>CPTR 2282 E-mail Administration 3 2.00/1.00/0.00</b> This course provides students with the skill sets to design, install, troubleshoot, secure and perform daily administration for a directory services integrated email system. Students learn how to use cryptographic authentication techniques along with learning how to analyze email server system performance and support email client packages. <b>Prerequisite:</b> CPTR2272 <b>Corequisite:</b>			
<b>CPTR 2236 Network Security 3 2.00/1.00/0.00</b> This course deals with the understanding of basic network security. Students learn how to manage systems to guard against various security threats. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CPTR 2294 Internship 3 0.00/0.00/3.00</b> This course provides students with the opportunity to apply knowledge and skill sets learned in concurrent coursework. Students will perform activities in an employer-super-vised industry setting that is consistent with program outcomes. Students also will utilize interpersonal communication skills within the context of applying knowledge and skill sets. <b>Prerequisite:</b> Instructor Approval <b>Corequisite:</b>			
<b>CPTR 2238 Database Integration 3 2.00/1.00/0.00</b> This course covers the integration of data from multiple databases with strategies for development of integrated database applications. In working with these databases the student will store, organize and analyze data. Students will be responsible for setting up new databases and maintaining existing databases. <b>Prerequisite:</b> CPTR2230, CPTR2242 <b>Corequisite:</b>				<b>CPTR 2296 Topics in Computers 3 1.00/2.00/0.00</b> The goal of this course is to introduce students to a computer topic chosen from a wide range of classic and state-of-the-art research, techniques, systems and technologies in the field of computer programming or networking. Topics will vary each semester. Course may be repeated for credit with a change in subtitle. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 2240 Database Administration 3 2.00/1.00/0.00</b> Students in this course will identify core database concepts and create database models. Installation, configuration and maintenance of a database management system (DBMS) will be covered. Students will analyze and administer a database’s performance optimization. Additional topics will include user administration within the database, backup and restoration, and database normalization. <b>Prerequisite:</b> CPTR2260, CPTR2272 <b>Corequisite:</b>				<b>CPTR 2400 Web Integration 3 2.00/1.00/0.00</b> This course covers advanced Web programming concepts with focus on database and information system integration for business software. Topics include secure programming methodologies, user account authentication and Web forms. Server-side programming languages will be utilized. <b>Prerequisite:</b> CPTR1170, Instructor’s approval <b>Corequisite:</b> CPTR2230, CPTR2242, Instructor’s approval			
<b>CPTR 2242 Java Programming 3 2.00/1.00/0.00</b> In this course the student utilizes the Java programming language to create both Internet applets and applications. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>CRJU 1101 Introduction to Criminal Justice 3 3.00/0.00/0.00</b> This course serves as an introduction to the American criminal justice system including police, courts and correctional systems. Minnesota Police Officer Standards and Training Board objectives are also covered in this course. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 2245 Enterprise Network Technologies 3 2.00/1.00/0.00</b> This course will introduce information technologies used in an enterprise network environ-ment. Possible technologies the course will cover are SANs, virtualization, clustering, enterprise wireless, VPN connectivity, structured cabling and network management. The course will discuss how these technologies provide 24/7 availability and introduce the concept of green technologies. <b>Prerequisite:</b> CPTR2272 <b>Corequisite:</b>				<b>CRJU 1102 Policing and Practices 3 3.00/0.00/0.00</b> This course includes an introduction into the development of American policing and an understanding of the modern roles and functions of police in a democratic society. These roles and functions include responsibilities in peacekeeping, law enforcement, community policing and customer service. Minnesota Peace Officer Standards and Training Board learning objectives are also covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 2250 IT Supervised Occupational Experience 3 0.00/0.00/3.00</b> This course is designed to provide students with an opportunity to explore career paths in the information technology field while gaining practical work experience. Emphasis will be placed on the individual student’s skills. This experiential learning allows the student to gain insight into one or more careers through job shadowing, service learning, volunteer-ing, externships, work experience or a combination of these options. This class will provide career exploration information as well as work experience to help students identify their career goals and personal interests. <b>Prerequisite:</b> Instructor Approval <b>Corequisite:</b>				<b>CRJU 1104 Juvenile Justice and Delinquency 3 3.00/0.00/0.00</b> This course covers the study of juvenile delinquency, the theories of causation and the methods of corrections. It also examines the juvenile court and correctional systems. Min-nesota juvenile law will be explored as it relates to the Minnesota Police Officer Standards and Training objectives. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>CPTR 2252 Microcomputer Systems Project 3 1.00/2.00/0.00</b> Students utilize learning in previous courses to design and implement solutions to a busi-ness need. Activities include learning about current business practices and preparation for employment. <b>Prerequisite:</b> CPTR2272 <b>Corequisite:</b>				<b>CRJU 1106 Introduction to Corrections/Probation 3 3.00/0.00/0.00</b> This course examines the historical and contemporary correctional theories and programs with emphasis on the current organizational structure. Probation, parole and correctional alternatives are also explored. <b>Prerequisite:</b>			
<b>CPTR 2260 Advanced Structured Query Language 3 2.00/1.00/0.00</b> Students will build upon the skills learned in the Structured Query Language (SQL) class.							

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<b>Corequisite:</b>			
CRJU 1108	Physical Control Tactics for Corrections	3	2.00/1.00/0.00
This course will deal with use of force issues relating to correctional officers, defensive tactics and control techniques, proper restraint techniques and less-than-lethal weapons training. Lecture and practical applications are included in the course. Minnesota Police Officer Standards and Training Board learning objectives relating to physical control and less-than-lethal weapons are also covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 1109	Law Enforcement Behavioral Science	3	3.00/0.00/0.00
This course is devoted primarily to Minnesota Peace Officer Standards and Training objectives, including but not limited to the following areas: cultural awareness, stress management, domestic abuse, crisis intervention, communication, bias-motivated crimes, victims, ethics and human behavior. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 1112	Juvenile Justice	2	2.00/0.00/0.00
This course covers the study of juvenile delinquency, the theories of causation and the methods of corrections. It also examines the juvenile court and correctional systems. Minnesota juvenile law will be explored as it relates to the Minnesota Peace Officer Standards and Training objectives. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 1117	Special Topics in Criminal Justice	3	3.00/0.00/0.00
This course looks at a variety of contemporary issues that are considered to be hot spots in law enforcement and criminal justice such as police pursuits, deadly force, gangs, terrorism, etc. Applicable Minnesota Police Officer Standards and Training Board learning objectives are also covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 2201	Criminal Law	3	3.00/0.00/0.00
This is a course in substantive law, including the elements of major crimes and possible legal defenses. This course also familiarizes students with the Minnesota criminal statutes focusing on Minnesota Peace Officer Standards and Training Board objectives. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 2202	Criminal Procedures	3	3.00/0.00/0.00
This course covers the study of constitutional law and criminal procedures utilizing the opinions of the United States Supreme Court and Minnesota Rules of Criminal Procedure. Emphasis is placed on the constitutional guidelines for law enforcement, rules of arrest, search and seizure, and the Minnesota Rules of Criminal Procedure. Minnesota Peace Officer Standards and Training Board learning objectives relating to criminal procedure are also covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 2206	Police Report Writing	3	3.00/0.00/0.00
This course provides the technical understanding and practical application in basic police report writing, field note taking and standardized report forms commonly used by law enforcement. Emphasis is placed on developing a clear, concise style in expressing factual, relevant information in an acceptable format relevant to criminal case procedures. Minnesota Police Officer Standards and Training Board learning objectives for police report writing are also covered. <b>Prerequisite:</b> ENGL1101, GSCO1102 <b>Corequisite:</b>			
CRJU 2209	Criminal Investigations	3	3.00/0.00/0.00
This course covers the methodology of criminal investigations from preliminary investigation to court proceedings. It also covers evidence recognition, collection and preservation. Police reporting relevant to investigations is also covered, along with all Minnesota Peace Officer Standards and Training Board learning objectives relating to investigation of crime. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 2210	Introduction to Criminalistics	3	2.00/1.00/0.00
This is an introduction to the principles involved in the application of scientific and technical methods used in the discovery, review and evaluation of physical evidence. The interpretation of evidence and the linkage to suspects is also covered. Minnesota Police Officer Standards and Training Board learning objectives for collection and preservation of evidence are also covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
CRJU 2235	Criminal Justice Internship	3	0.00/0.00/3.00
This is a practical learning experience in criminal justice in the area of the student's interest. This course is usually scheduled after the student has completed one full year of coursework. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSCI 1101	Computer Essentials	1	1.00/0.00/0.00
This course is intended for those with minimal or no computer skills. Basic computer hardware and software terminology and the basics of microcomputer operating systems will be covered, as well as Internet and email operations. In addition, introductory word			

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processing skills will be taught using one of the industry's common word processing packages. No credit given if taken after another computer course. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSCI 1110	Informatics	3	3.00/0.00/0.00
This course explores how data is gathered and analyzed and how it can be applied to information technology solutions to maximize the benefits of data analysis, including increases in the efficiency and productivity of information systems. Students will explore the social, ethical and personal implications of implementing information technologies and how information processes can impact business on a local and global level. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSCI 1121	Computer Science I	4	4.00/0.00/0.00
This course is an introduction to computer science. It includes algorithm design and structured programming using a high-level programming language. Key components of this course are designing, coding, debugging and documenting programs using techniques of good programming style. This course is intended primarily as a first course for computer science majors and/or minors. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSCI 1122	Computer Science II	4	4.00/0.00/0.00
This course focuses on advanced programming concepts including an introduction to data structures, analysis of algorithms, recursion, searching, sorting and memory management. <b>Prerequisite:</b> CSCI1121 <b>Corequisite:</b>			
CSCI 1155	Computer Utilization in Business & Society	3	3.00/0.00/0.00
This course is designed to provide a technical background for understanding the use of computers in the real world. The course will cover both hardware and software and their applications in the world today. One of the highest-rated commercially available applications software packages will be used to gain skills necessary for word processing, electronic spreadsheets, databases and presentations. Students will use the Internet and electronic mail on a regular basis. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSEC 1102	Careers in Information Systems	1	1.00/0.00/0.00
This course is for students who are interested in computer-related careers. Students will research careers in information technology including job duties, various job titles, salary ranges, employment and advancement prospects, and the skills and training required. Students in this course will complete individual college and career planning and goal setting plans. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSEC 1110	Fundamentals of IT Security	3	2.00/1.00/0.00
This course introduces the basics of network security. The student will be introduced to network vulnerabilities and threats and how to safeguard computer networks from those vulnerabilities and threats. This course will expose the student to network security planning, network security technology, network security organization and legal and ethical issues associated with network security. <b>Prerequisite:</b> none <b>Corequisite:</b>			
CSEC 2202	Introduction to Wireless Networking	3	2.00/1.00/0.00
This is an introductory course that will focus on the design, planning, implementation, operation and troubleshooting of wireless networks. It covers a comprehensive overview of technologies, security and design best practices with particular emphasis on hands-on skills. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSEC 2204	Managing Directory Services	3	2.00/1.00/0.00
This course is designed to further students' understanding of directory services. Directory services provide a central repository for the information available on the network. The student will learn that the first function of the directory is to provide information about objects in the directory including users and resources such as file shares, printers or email boxes. In addition, the student will learn that the information contained in the directory is crucial for the correct and secure operation of the network. <b>Prerequisite:</b> CPTR1001, CPTR1122, CPTR1148 <b>Corequisite:</b>			
CSEC 2210	Security Breaches and Countermeasures	3	2.00/1.00/0.00
This course introduces the student to the various methodologies for attacking a network. The student will be introduced to concepts, principles and techniques, supplemented by hands-on exercises for attacking and disabling a network. The course will emphasize network attack methodologies with the emphasis on student use of network attack techniques and tools. <b>Prerequisite:</b> CPTR2236 <b>Corequisite:</b>			
CSEC 2212	Web Security	3	2.00/1.00/0.00
This course will give students hands-on training in securing Web communications and websites. Students will learn the common vulnerabilities of websites, implementing e-business security policies, identifying security threats, developing countermeasures and managing the deployment of security solutions. <b>Prerequisite:</b> CPTR2224, CPTR2272			

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<b>Corequisite:</b>			
CSEC 2214	Topics in Network Security	3	2.00/1.00/0.00
The goal of this course is to allow the investigation of a topic chosen from the current network security landscape. The topic will vary each offering depending on current trends in network security. <b>Prerequisite:</b> CPTR2236 <b>Corequisite:</b>			
CSEC 2218	Disaster Recovery	2	1.00/1.00/0.00
This course includes preparation of a disaster recovery plan, implementation of the plan and recovering from a disaster. This course takes an enterprise-wide approach to developing a disaster recovery plan. Students will learn how to restore a network in the event of a disaster. <b>Prerequisite:</b> <b>Corequisite:</b>			
CSEC 2222	Network Security Design	3	2.00/1.00/0.00
This course will give the student the opportunity to conduct a vulnerability analysis on a network in order to practice or refine the attack methodologies with the hacker tools and techniques that the student was exposed to during the various program courses. The student must demonstrate the ability to design, plan and execute a vulnerability analysis against an organization network. The student must prepare a written report and mode of the security design, attack methodology, tools and techniques. <b>Prerequisite:</b> CSEC2204 <b>Corequisite:</b> CSEC2210			
CSEC 2228	Network Defense	3	2.00/1.00/0.00
This course introduces students to the various methodologies for defending the information technology network infrastructure. Students will be introduced to the concepts, principles, type and topologies of firewalls to include packet filtering, proxy firewalls, application gateways, circuit gateways and stateful inspection. <b>Prerequisite:</b> CPTR2236 <b>Corequisite:</b>			
CTEC 2204	Advanced Technical Support	3	2.00/1.00/0.00
This course will emphasize advanced technical support topics such as project management, product development, software evaluation and selection, technical writing and end-user training. Students will apply their technical knowledge and experience to actual case studies. <b>Prerequisite:</b> ITSS1100 <b>Corequisite:</b>			
CTEC 2240	Technical Support Internship	3	0.00/0.00/3.00
This is a hands-on course in a computer industry setting. The student will apply skills, knowledge and behaviors acquired in prior courses to the computer business situation. The student will provide phone and/or direct support to computer customers and gain working knowledge of the technical analyst position. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1104	Stocks, Sauces and Soups	2	2.00/0.00/0.00
This course introduces the student to the basic knowledge and techniques for making soups, stocks and sauces used in a commercial food operation. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1106	Culinary Foundations Lab A	6	0.00/6.00/0.00
This course covers the hands-on application and practice of the basic skills required to prepare a variety of salads, cold sauces, cold sandwiches, breads and rolls, and dessert and pastry items commonly used in food service operations. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1118	Cafe Lunch Foundations	5	0.00/5.00/0.00
This course provides the opportunity for hands-on application of the skills required in various stations worked by a line cook in the preparation of menu items typical of a commercial food service operation. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1122	Sanitation Certification	1	1.00/0.00/0.00
This course covers food safe basics through handling procedures, food storage, cleaning, sanitizing, purchasing and receiving. This course follows the Food and Drug Administration (FDA) Model Food Code, and students will test for the National Restaurant Association (NRA) ServSafe Certification exam at the conclusion of the class. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1124	Menu Concept and Design	2	2.00/0.00/0.00
This course is a systematic approach to developing menus for a well-defined concept or themed food operation. The course also examines the application of food service marketing principles to define a target customer and create cohesive menu designs, copy and delivery methods which reflect the chosen concept or theme. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1200	Fundamentals of Baking and Pastry	6	0.00/6.00/0.00
This course exposes the student to the preparation of various foods associated with the			

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baking and pastry area in food service. The course provides the student with practical hands-on applications and skills commonly found in the baking and pastry area of a commercial kitchen. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1205	Theories of Baking and Pastry	2	2.00/0.00/0.00
This course exposes the student to the theories associated with the baking and pastry area of food service. The course introduces the student to basic principles, processes and ingredients used in the bakeshop area of a commercial kitchen. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1210	Fundamentals of Food Fabrication and Production	6	0.00/6.00/0.00
This course introduces the student to hot food preparation in a production kitchen environment. The course provides students with hands-on application and continued practice of quantity cooking skills required to prepare a variety of stocks, soups, meats, poultry, seafood, starches, vegetables and sauces. This course also covers hands-on fabrication of raw and cooked meat, poultry, seafood and fish. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1215	Theory of Food Fabrication and Production	2	2.00/0.00/0.00
This course introduces the student to the basic concepts and common practices associated with preparing quantity foods in the professional kitchen. The course will cover the fundamental culinary theories when preparing stocks, soups, vegetables, starches and sauces, as well as proper cutting and cooking of various meats, poultry, fish and seafood. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1220	Fundamentals of Pantry Production	3	0.00/3.00/0.00
This course introduces the student to line cooking by preparing a variety of hot and cold menu items in a fast-paced kitchen environment. The course provides students with hands-on application and continued practice of short order cooking and exposure to the various foods prepared in the cold kitchen/pantry. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1230	Introduction to Professional Food Service	4	4.00/0.00/0.00
This course is an introduction to the food service industry. Topics include tools and equipment, basic principles of cooking and food science, industry terminology, mise en place and food product identification. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1240	Sanitation Certification	2	2.00/0.00/0.00
This course covers the basics of safe food handling, hazards that threaten food safety systems and proper cleaning and sanitizing procedures. The course content meets the Food Manager Certification requirements for the State of Minnesota. Students will complete the National Restaurant Association ServSafe certification exam at the conclusion of the course. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1250	Kitchen Math and Measurements	1	1.00/0.00/0.00
This course is an assessment and review of math skills commonly used by food service professionals. This includes the evaluation of whole numbers, fractions, decimals and percentages. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1260	Meats	3	3.00/0.00/0.00
This course is an introduction to beef, pork, poultry, fish and seafood from basic classifications to preparation methods, handling techniques, market forms and accompaniments. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 1270	Culinary Nutrition	2	0.00/2.00/0.00
This is an introductory course in the study of nutrition taught from the point of view of the chef. The course will outline current dietary guidelines and requirements, explore the function of nutrients, examine menus and recipes to optimize nutritional content and balance, and introduce healthy cooking techniques for a variety of diets. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2000	Kitchen Supervision, Management and Training	6	1.00/5.00/0.00
This course will introduce the student to a variety of management styles and supervision techniques. Students will apply management styles and supervision skills in a live working culinary lab. The course also includes application of learned skills in the areas of evaluating production needs, staffing and training, purchasing and storeroom operations. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2010	Kitchen Financials and Cost Management	3	3.00/0.00/0.00
This course focuses on the collective fiscal responsibilities required of the professional chef to manage the financial aspects of the professional kitchen. The class will survey and define all of the costs associated with purchasing and preparing food for sale using live operating lab. The course includes examining financial statements, sales statements, vendors, ordering food, creating order guides, managing inventory, determining the value of inventory,			



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cost of labor and establishing the true cost of food sold. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2020	Food Concepts and Menu Development	3	3.00/0.00/0.00
This course is a systematic approach to developing menus, menu items and recipes for a well-defined concept or themed food operation. Students will learn and demonstrate how food trends, demographics, locality and culinary expertise influence current and past restaurant concepts. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2050	Foundations of Restaurant Management	6	0.00/6.00/0.00
This capstone course covers how to employ a food concept/theme and execute menu items created in Food Concepts and Menu Development utilizing a live restaurant setting. Students will apply acquired skills and knowledge to perform all of the duties as chef to execute their concept and menu. This includes employing management styles, demonstrating supervision best practices and applying kitchen financials. Students also will acquire customer service and serving skills. <b>Prerequisite:</b> CULN2000 Kitchen Financials and Cost Management CULN2010 Kitchen Financials and Cost Management CULN2020 Food Concepts and Menu Development <b>Corequisite:</b>			
CULN 2110	Confections	2	1.00/1.00/0.00
This course introduces the student to a variety of confection-making skills. Students will prepare confections at a marketable level. <b>Prerequisite:</b> Approved equivalent experience, CULN1200, CULN1205 <b>Corequisite:</b>			
CULN 2120	Cake Decorating	2	1.00/1.00/0.00
This course allows the student to learn and develop cake-decorating skills to a marketable level. <b>Prerequisite:</b> Approved equivalent experience, CULN1200, CULN1205 <b>Corequisite:</b>			
CULN 2200	French Cuisine	2	1.00/1.00/0.00
This course introduces the student to the range of foods from France. Course will examine the origins of French cuisine including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience, CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2202	Meats	2	2.00/0.00/0.00
This course covers the identification of meat cuts from beef, pork, lamb and veal and proper cooking and usage for fabricated cuts. It includes USDA inspection, quality and yield standards of meats as used in the food service industry. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2204	Cafe Breakfast Foundations	5	0.00/5.00/0.00
This course covers the hands-on application of the skills required for a breakfast cook to prepare the typical breakfast menu items of a restaurant ranging from basic egg cookery to breakfast buffet set-up and service. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2206	Buffet Presentation and Production	3	0.00/3.00/0.00
This course covers the hands-on application of the skills required for a cook to plan and execute banquet and buffet set-up and service. It also provides an exposure to a variety of service types and classical forms of food presentation and display. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2210	Italian Cuisine	2	1.00/1.00/0.00
This course introduces the student to the range of foods from Italy. Course will examine the origins of Italian cuisine including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience, CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2214	Culinary Foundations Lab B	6	0.00/6.00/0.00
The course covers hands-on application and continued practice of cooking fundamentals required to prepare a variety of soups, meats and poultry, starches, vegetables and sauces served in the cafe. This course also covers hands-on application of raw and cooked meat, poultry and fish cutting and processing for items prepared in the cafe. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2220	Meat Processing and Charcuterie	3	0.00/3.00/0.00
This course covers advanced meat processing of beef, veal, pork and lamb and the art of sausage making. The course will also cover Hazard Analysis and Critical Control Points (HACCP) food safety protocols for meat processing in the professional kitchen. <b>Prerequisite:</b> Approved equivalent experience, CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2222	Supervision Lab	6	2.00/4.00/0.00
This course requires application of the practical skills and principles needed to manage and oversee production in a commercial food operation. It includes application of learned skills			

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in the areas of production, supervising, menu writing, purchasing, storeroom operation and merchandising. <b>Prerequisite:</b> CULN1102, CULN1104, CULN1120 <b>Corequisite:</b>			
CULN 2228	Food Cost Control	3	3.00/0.00/0.00
This course covers the cost structure of food service operations and provides methods and applications to monitor and control food and labor costs. <b>Prerequisite:</b> <b>Corequisite:</b>			
CULN 2230	Eastern Mediterranean Cuisine	2	1.00/1.00/0.00
This course introduces the student to the range of foods from the Eastern Mediterranean region. Course will examine the origins of Eastern Mediterranean cuisine including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience., CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2236	Ethnic Foods	2	1.00/1.00/0.00
This course covers the history, origin and preparation methods of food products of various countries and ethnic groups. <b>Prerequisite:</b> CULN1102, CULN1122 <b>Corequisite:</b>			
CULN 2238	Advanced Baking, Pastry and Confections	2	0.00/2.00/0.00
This class provides students with a broad understanding, skills and techniques of baking, pastry and confections used in the industry today. The student will be introduced to cake and pastry formulations, cake decoration, sugar and chocolate confections. <b>Prerequisite:</b> CULN1102, CULN1106, CULN1122 <b>Corequisite:</b>			
CULN 2240	Internship	2	0.00/0.00/2.00
This course provides the student with an internship experience to apply what has been learned in the classroom and practiced in the lab. The internship will take place in a commercial food service establishment under the supervision of the employer/designee. <b>Prerequisite:</b> CULN1102, instructor permission needed <b>Corequisite:</b>			
CULN 2250	Cuisines of China and Korea	2	1.00/1.00/0.00
This course introduces the student to the range of foods from China and Korea. It will examine the origins of Chinese and Korean cuisine including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience., CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2260	Japanese Cuisine	2	1.00/1.00/0.00
This course introduces the student to the range of foods from Japan. It will examine the origins of Japanese cuisine including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience., CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2265	Cuisines of Southeast Asia	2	1.00/1.00/0.00
This course introduces the student to the range of foods from Southeast Asia including Vietnam, Thailand and Indonesia. The course will examine the origins of Southeast Asian cuisine including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience., CULN1210, CULN1215 <b>Corequisite:</b>			
CULN 2270	Cajun and Creole Cuisine	2	1.00/1.00/0.00
This course introduces the student to the range of foods from New Orleans. The course will examine the origins of Cajun and Creole cuisines including the cultural, historical and environmental factors that shape the cuisine. <b>Prerequisite:</b> Approved equivalent experience., CULN1210, CULN1215 <b>Corequisite:</b>			
CUST 1010	Wood Properties: Strength and Quality	3	3.00/0.00/0.00
This course introduces students to the properties of wood as a manufacturing material. The course will focus on the physical, mechanical and chemical aspects of wood and wood products in the manufacturing environment. Participants will learn quality specifications and requirements which are standard for the needs of today's wood-based products. <b>Prerequisite:</b> <b>Corequisite:</b>			
CUST 1060	Occupational Safety and Risk Management	2	2.00/0.00/0.00
This course is an introduction to occupational safety and health in business and industry. It includes studying the Occupational Safety and Health Act, accident prevention techniques, job task analysis and safety design including ergonomics, job and system safety, empowering employees, and training employees for safe practices. Participants will discuss best practices to gain management and employee commitment to the development of a safety culture. <b>Prerequisite:</b> <b>Corequisite:</b>			
CVRI 1100	Cardiovascular Technology Survey	2	1.00/1.00/0.00
This course introduces the student to the history and emerging role of cardiovascular technologist. Students will learn medical terminology and have opportunities to observe the role of the cardiovascular technologist in various settings. Students in this course will			

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incur the cost of and be required to receive clear national and Minnesota Department of Health background checks and be listed in the North Dakota Board of Nursing Unlicensed Assistive Personnel Directory. <b>Prerequisite:</b> <b>Corequisite:</b> clear Minnesota Department of Health background check, clear national background check, North Dakota Board of Nursing Unlicensed Assistive Personnel registration			
CVRI 1105	Introduction to Cardiovascular Technology	2	2.00/0.00/0.00
In this introductory course, students will explore ethical and legal issues related to patient safety, documentation, informed consent, patient identification and confidentiality. Students will use appropriate medical terminology, abbreviations and symbols. Students will practice professional communication strategies with other health professionals and explore team dynamics. <b>Prerequisite:</b> acceptance into the Cardiovascular Technology Program, BIOL2260, BIOL2261, BIOL2267, BIOL2268, Clear Minnesota Department of Health background check, clear national background check, COMM1130, current American Heart Association Health Care Provider CPR, CVRI1100, MATH1114, North Dakota Board of Nursing Unlicensed Assistive Personnel Registr <b>Corequisite:</b> BIOL2262, BIOL2263			
CVRI 1110	Cardiovascular Anatomy and Physiology	3	3.00/0.00/0.00
This course provides the cardiovascular technology student an in-depth review of normal anatomy and physiology of the cardiac, cardiovascular, peripheral vascular and neurovascular systems, and renal regulation of blood pressure. The pathophysiology of these systems is examined in order to understand and apply treatment modalities in the cardiovascular catheterization laboratory. <b>Prerequisite:</b> <b>Corequisite:</b> BIOL2262, BIOL2263, CVRI1100			
CVRI 1120	Principles of Patient Care	4	2.00/2.00/0.00
This course introduces the cardiovascular technology student to basic patient care principles. Students will learn basic intracardiac catheterization care including patient assessment, interpretation of laboratory values and diagnostic tests. <b>Prerequisite:</b> <b>Corequisite:</b> CVRI1100, CVRI1110			
CVRI 1130	Cardiovascular Technology I	3	2.00/1.00/0.00
This course prepares students to participate in cardiovascular diagnostic and interventional procedures with adult patients. Students will differentiate cardiovascular complications and emergencies, prepare and position patients for various procedures, and set up and maintain sterile fields. Students will learn concepts related to hemodynamics including cardiac output, performance of hemodynamic calculations and recognition of blood flow determinants. <b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2267, BIOL2268, CVRI1100 <b>Corequisite:</b> CVRI1105, CVRI1110, CVRI1120			
CVRI 1136	Cardiovascular Technology Clinical	2	0.00/0.00/2.00
In this course, students will participate as part of the cardiovascular, neurovascular, peripheral vascular and electrophysiology teams during diagnostic and interventional procedures. <b>Prerequisite:</b> <b>Corequisite:</b> CVRI1105, CVRI1110, CVRI1120, CVRI1130			
CVRI 2130	Cardiovascular Technology II	5	3.00/2.00/0.00
This course builds on the knowledge and skills gained in Cardiovascular Technology I. Students will learn diagnostic and interventional procedures related to peripheral vascular, neurovascular, congenital and pediatric conditions, and complications and emergencies. <b>Prerequisite:</b> CVRI1120, CVRI1130 <b>Corequisite:</b>			
CVRI 2141	Pharmacology for Cardiovascular Technology	2	2.00/0.00/0.00
This course develops the student's awareness of basic pharmacological concepts, drug classifications, indications and contraindications, therapeutic effects, side effects, and other considerations related to use of medications. Students will learn dosage calculations. <b>Prerequisite:</b> CVRI1130 <b>Corequisite:</b> CVRI2130			
CVRI 2145	Intravenous Therapy	1	0.00/1.00/0.00
This course provides students with the knowledge and skills used to initiate and maintain an intravenous site. Students will learn basic complications of fluid and electrolyte imbalance and acid/base imbalance, and differentiate intravenous fluids. Students will perform venous access and learn to manage complications. Students will demonstrate initiation and maintenance of fluids and secondary administration techniques, and perform intravenous dosage calculations. <b>Prerequisite:</b> <b>Corequisite:</b> CVR2130, CVRI2140			
CVRI 2250	Radiation Safety	2	1.00/1.00/0.00
Students in this course will demonstrate safety related to the use of radiation during catheterization procedures. Students will learn x-ray tube components, x-ray production, characteristics and physics. Students will learn to position patients, perform quality assurance, produce images and differentiate between digital and flat screen imaging. Consideration will be given to radiation biology and radiation protection. <b>Prerequisite:</b> CVRI1120, CVRI1130 <b>Corequisite:</b> CVRI2130, CVRI2141, CVRI2145			
CVRI 2262	Cardiovascular Technology Practicum I	5	0.00/0.00/5.00
In part one of this capstone course, students will apply the knowledge and skills gained throughout the Cardiovascular Technology program. Students will become certified in			

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Advanced Cardiac Life Support (ACLS) before being assigned to various cardiovascular catheterization laboratory opportunities. Students will function as a part of the cardiovascular team under the supervision of a preceptor. Students will participate in experiences Monday through Friday for the duration of the academic term. Shifts may rotate between day, evening, night and on-call shifts. <b>Prerequisite:</b> current Advanced Cardiac Life Support certification, current American Heart Association Health Care Provider CPR, current, clear Minnesota Department of Health criminal background check, current, clear national background check, Successful completion (C or better) of all Cardiovascular Technology Program requirements, up-to-date immunization <b>Corequisite:</b>			
CVRI 2263	Cardiovascular Technology Practicum II	5	0.00/0.00/5.00
In part two of this capstone course, students will apply the knowledge and skills gained throughout the Cardiovascular Technology program. Students will function as a part of the cardiovascular team under the supervision of a preceptor. Students will participate in experiences Monday through Friday for the duration of the academic term. Shifts may rotate between day, evening, night and on-call shifts. <b>Prerequisite:</b> current Advanced Cardiac Life Support (ACLS), current American Heart Association Health Care Provider CPR, current, clear Minnesota Department of Health criminal background check, current, clear national background check, Successful completion (C or better) of all Cardiovascular Technology Program requirements, up-to-date immunizations. <b>Corequisite:</b> CVRI2262			
CVRI 2264	Cardiovascular Technology Practicum III	5	0.00/0.00/5.00
In part three of this capstone course, students will apply the knowledge and skills gained throughout the Cardiovascular Technology program. Students will function as a part of the cardiovascular team under the supervision of a preceptor. Students will participate in experiences Monday through Friday for the duration of the academic term. Shifts may rotate between day, evening, night and on-call shifts. <b>Prerequisite:</b> current Advanced Cardiac Life Support (ACLS), current American Heart Association Health Care Provider CPR, current, clear Minnesota Department of Health criminal background check, current, clear national background check, Successful completion (C or better) of all Cardiovascular Technology Program requirements, up-to-date immunizations and <b>Corequisite:</b> CVRI2262, CVRI2263			
DCNH 1116	CNH (Case New Holland) Supervised Occupational Experience (SOE) I	3	0.00/0.00/3.00
Students will apply skill sets previously learned specific to Case New Holland equipment and will also be introduced to curriculum skill sets to be delivered in future semesters. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>			
DCNH 1118	CNH (Case New Holland) Supervised Occupational Experience (SOE) II	7	0.00/0.00/7.00
Students will apply skill sets previously learned specific to Case New Holland equipment and will also be introduced to curriculum skill sets to be delivered in future semesters. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>			
DCNH 2210	Mobile Hydraulics	4	1.00/3.00/0.00
This course covers the hydraulic components specific to Case New Holland farm and heavy equipment. This will include hydrostatic transmission, electric over hydraulic control valves and electronic control components. It will also include troubleshooting of live units with proper testing equipment used in up-to-date service centers. <b>Prerequisite:</b> DSET1100, DSET1112 <b>Corequisite:</b>			
DCNH 2218	CNH (Case New Holland) Supervised Occupational Experience (SOE) III	3	0.00/0.00/3.00
Students will apply skill sets previously learned specific to Case New Holland equipment and will also be introduced to curriculum skill sets to be delivered in future semesters. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>			
DCNH 2238	Transmissions and Drive Systems	4	1.00/3.00/0.00
This course covers procedures to test, troubleshoot and rebuild power shift and other specialized transmissions used on agricultural equipment and industrial powered equipment as related to Case New Holland equipment. This course also includes final drives and related components including removal, repair, installation and adjustment of major units and components. <b>Prerequisite:</b> DSET1110 <b>Corequisite:</b>			
DCNH 2242	Advanced Engines and Fuel Systems	6	2.00/4.00/0.00
This course is designed to give students an understanding of medium- and heavy-duty diesel engines used in Case New Holland equipment. Engines being studied include but are not limited to Cummins, Iveco, International Harvester and New Holland. Areas of study include base engine components, intake and exhaust systems, emission control devices, lubrication systems, cooling systems and fuel systems. <b>Prerequisite:</b> DSET1132, DSET1134 <b>Corequisite:</b>			
DENT 1100	Biomaterials	3	2.00/1.00/0.00

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<p>This is a foundation course that provides in-depth instruction and practice in identifying the materials and their purposes and properties as they are used during chairside and laboratory procedures. Material manipulation is a critical requirement of the lab component of this course. Laboratory safety measures and infection control are emphasized.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DENT 1102	Dental Anatomy	2	2.00/0.00/0.00
<p>The lecture portion of the course introduces the student to basic terminology for understanding the structures that form the foundation for tooth function, normal anatomy of the oral cavity, and tooth and root morphology. Special topics include survey of dental anomalies and forensic dentistry.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DENT 1103	Introduction for Dental Health Care Providers	2	1.00/1.00/0.00
<p>The student will be introduced to fundamental knowledge required in the practice of dentistry. Topics to be covered include blood-borne pathogens, concepts and procedures of infection control, medical emergencies, first aid in the dental setting and patient privacy rights.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DENT 1104	Dental Health Care Providers II	1	1.00/0.00/0.00
<p>This course will build on student learning in Introduction to Healthcare Providers I. Students will be challenged to go beyond definitions and practices and understand the what, why and how of blood-borne pathogens, concepts, standards and procedures of infection control, medical emergencies, first aid in the dental setting and patient privacy rights.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DENT 1106	Dental Radiology Lecture	3	3.00/0.00/0.00
<p>This course includes an overview of the history of x-ray development and a review of basic mathematics and radiation physics as they apply to x-ray production. Radiographic film and digital image quality are explored. Explanation of darkroom chemistry, radiation asepsis and safety are covered. Other topics include interpretation of normal anatomy, dental film and digital image analysis, radiographic interpretation and evaluation, and quality assurance issues.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DENT 1122	Dental Ethics and Jurisprudence	1	1.00/0.00/0.00
<p>This course focuses on the ethical and legal implications of providing dental, dental assisting and dental hygiene care. The practice acts for Minnesota and North Dakota will also be studied.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DIAT 1100	Role of the Dialysis Technician	2	2.00/0.00/0.00
<p>This course introduces the student to the role of the dialysis technician; the history of dialysis; medical terminology related to dialysis and renal failure; state and federal regulations; professional development; legal and ethical issues related to dialysis; and care of the renal patient.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DIAT 1102	Anatomy and Physiology of the Urinary System	2	1.00/1.00/0.00
<p>This course focuses on urinary system anatomy and physiology. Topics include normal renal function and renal pathophysiology, with an emphasis on the consequences of untreated renal conditions.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DIAT 1105	Principles of Dialysis	3	3.00/0.00/0.00
<p>This course introduces the student to principles of dialysis including osmosis, diffusion and filtration; treatment modalities; structure and function of different dialysis access sites; interpretation of routine lab tests; pharmacology related to chronic kidney disease; and potential complications of dialysis.</p> <p><b>Prerequisite:</b> American Heart Association Health Care Provider CPR, High School Diploma or GED, Mn Department of Health background check indicates the student is able to provide direct patient care</p> <p><b>Corequisite:</b> DIAT1100, DIAT1101</p>			
DIAT 1115	Principles of Dialysis Lab	3	0.00/3.00/0.00
<p>This lab course provides the student with experience in routine lab collection techniques; medication administration; principles of aseptic technique; preparation, cannulation and use of different dialysis access sites; use of central venous catheters; and patient monitoring and discharge. Students will be introduced to dialysis delivery systems and dialysate, and practice implementation of state and federal regulations in a simulation setting.</p> <p><b>Prerequisite:</b> American Heart Association Health Care Provider CPR, High School Diploma or GED, Mn Department of Health background check indicates the student is able to provide direct patient care</p> <p><b>Corequisite:</b> DIAT1105</p>			
DIAT 1205	Dialysis Technician Practicum	3	0.00/0.00/3.00
<p>In this capstone practicum course, students will apply knowledge and skills learned by functioning as a member of the dialysis team within the scope of a dialysis technician and under the supervision of a licensed nurse.</p> <p><b>Prerequisite:</b> Current American Heart Association Health Care Provider CPR., Current</p>			

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<p>MN Department of Health background check indicates the student is able to provide direct patient care, Current national background check indicates the student is able to provide direct patient care, Current, required program immunizations, DIAT1100, DIAT1105, DIAT1110</p> <p><b>Corequisite:</b> DIAT1200</p>			
DMKT 2200	Introduction to Digital Marketing	3	3.00/0.00/0.00
<p>This course provides a broad overview of the digital marketing techniques needed for successful marketing campaigns in a digital economy. Students will gain a fundamental understanding of the digital marketing core principles needed for the 21st century consumer. Topics will include web page design, analytics, search engine optimization (SEO), pay per click, email marketing, social media marketing and mobile marketing. This class prepares students for more advanced digital marketing courses.</p> <p><b>Prerequisite:</b> BUS2206</p> <p><b>Corequisite:</b></p>			
DMKT 2210	Social Media Marketing	3	3.00/0.00/0.00
<p>This course is a study of how organizations use social media to support their marketing strategy through social listening, social analytics and social engagement. Students will learn techniques in creating engaging content for social platforms, identify influencers, deliver content to a target audience and measure success by using key performance indicators. Emphasis will be placed on how to leverage social media marketing to build a brand, drive demand, engage buyers and increase revenue.</p> <p><b>Prerequisite:</b> BUS2206</p> <p><b>Corequisite:</b> DMKT2200</p>			
DMKT 2300	Content Marketing	3	3.00/0.00/0.00
<p>Content marketing involves planning, creating and distributing relevant and consistent content to a target audience using digital media. Emphasis will be placed on creating visual content to capture and engage an audience for both consumer and business markets.</p> <p><b>Prerequisite:</b> DMKT2200</p> <p><b>Corequisite:</b></p>			
DMKT 2310	Digital Marketing UX Design	3	3.00/0.00/0.00
<p>This course covers the key elements in creating user-friendly, functional and aesthetically pleasing web pages to improve the customer experience. Emphasis will be placed on examining both the topics of user experience design (UX) and user interface design (UI) in the development of web pages for both desktop and mobile devices. Students will apply skills learned by developing web page designs using content management software for a portfolio.</p> <p><b>Prerequisite:</b> DMKT2200</p> <p><b>Corequisite:</b></p>			
DMKT 2320	Search Engine Marketing	3	3.00/0.00/0.00
<p>This course provides information on both the technical and creative elements to improve search engine optimization (SEO) within a digital marketing strategy. Course content will include search engine techniques to improve performance in search queries through organic and paid web page optimization. Emphasis will be placed on web page design, quality content, keyword search and targeting, link building, local search, data measurement and pay-per-click advertising.</p> <p><b>Prerequisite:</b> DMKT2200</p> <p><b>Corequisite:</b></p>			
DMKT 2330	Email and MMS Marketing	3	3.00/0.00/0.00
<p>This course will cover mobile and email marketing techniques as a part of a multi-channel digital marketing strategy. Mobile marketing strategies are aimed at target audiences through websites, email, multimedia messaging service (MMS), social media and applications. Course content also will include techniques in developing effective email marketing campaigns optimized for mobile devices.</p> <p><b>Prerequisite:</b> DMKT2200</p> <p><b>Corequisite:</b></p>			
DMKT 2400	Digital Marketing Analytics	3	3.00/0.00/0.00
<p>Marketing analytics is the collection and measurement of data to make better marketing decisions. In this advanced course, students will take an in-depth look at how to collect, measure and analyze the marketing performance of a digital marketing strategy. Students will develop a hands-on understanding of website, social and digital media analytic software and reporting tools.</p> <p><b>Prerequisite:</b> DMKT2210, DMKT2310, DMKT2320</p> <p><b>Corequisite:</b></p>			
DMKT 2410	Digital Marketing Capstone	3	3.00/0.00/0.00
<p>This course is designed to provide students an opportunity to integrate and apply the knowledge they have acquired throughout the digital marketing curriculum into a business situation. This is an application course in which students are required to demonstrate ability to understand and solve complex digital marketing problems. Students will access an organization’s marketing problem or opportunity and create a digital marketing strategy designed to improve the overall performance of an organization.</p> <p><b>Prerequisite:</b> DMKT2210, DMKT2300, DMKT2310, DMKT2320</p> <p><b>Corequisite:</b></p>			
DNAS 1103	Clinical Assisting I	6	3.00/3.00/0.00
<p>This course includes an orientation to the history of dentistry, educational requirements, credentialing opportunities and professional associations for dental and allied dental careers. The student is provided with instruction in the use of dental equipment, instruments and supplies; principles of four-handed dentistry; concepts of infection control and instrument recirculation; management of medical and dental emergencies; and procedures related to oral diagnosis, preventive dentistry and restorative dentistry.</p> <p><b>Prerequisite:</b></p>			

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<p><b>Corequisite:</b></p>			
DNAS 1105	Clinical Assisting II	5	1.00/4.00/0.00
<p>Dental assisting students apply skills in a clinical setting. This course prepares the student to adapt chairside skills to assist with dental specialties as they are performed in the general practice. Students will apply skills developed in Dental Anatomy, Biomaterials, Biodental Science and Dental Practice Management as they apply to the practice of dental assisting.</p> <p><b>Prerequisite:</b> DNAS1103</p> <p><b>Corequisite:</b></p>			
DNAS 1106	Biodental Science	3	3.00/0.00/0.00
<p>This course provides an introduction to anatomy and physiology, an introduction to dental histology, embryology and an overview of head and neck anatomy using the universal charting system. This course also is designed to give the student a basic concept of microbiology and disease transmission and a survey of oral pathology and pharmacology. The student will be introduced to the basic concepts of nutrition in the dental profession.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNAS 1106	Biodental Science	3	3.00/0.00/0.00
<p>This course provides an introduction to anatomy and physiology, an introduction to dental histology, embryology and an overview of head and neck anatomy using the universal charting system. This course is also designed to give the student a basic concept of microbiology, disease transmission and a survey of oral pathology and pharmacology. The student will also be introduced to the basic concepts of understanding nutrition in the dental profession.</p> <p><b>Prerequisite:</b> DENT1103</p> <p><b>Corequisite:</b></p>			
DNAS 1114	Dental Practice Management	2	2.00/0.00/0.00
<p>This course provides the student with instruction in the principles and applications that are related to the management of a dental office. Emphasis is placed on managing patient records through computer-generated charting, financial records, third-party payments, appointment scheduling, inventory and recall systems.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNAS 1119	Advanced Functions	5	2.00/3.00/0.00
<p>This course is designed to provide the student with instruction and practice to perform the clinical competency in the following intra-oral functions approved by the Minnesota Board of Dentistry: taking radiographic exposures, performing mechanical polishing, taking preliminary impressions and bite registrations, applying topical fluoride, placing and removing periodontal dressing, removing excess cement, monitoring nitrous oxide-induced patients, induction of nitrous oxide/oxygen sedation, removing excess bond from orthodontic appliances with rotary instruments and applying pit and fissure sealants. In addition the following intra-oral functions are taught and practiced to laboratory competency: removing sutures, preliminary adaptation of temporary (provisional) crowns, performing selected orthodontic functions, applying bleaching agents and performing approved endodontic procedures.</p> <p><b>Prerequisite:</b> DNAS1103</p> <p><b>Corequisite:</b></p>			
DNAS 1144	Dental Assisting Clinical Affiliations	6	0.00/0.00/6.00
<p>This is a faculty-supervised course at extramural sites with dentists and dental auxiliaries providing ancillary supervision. The student will be provided with clinical experiences by affiliations in general dentistry and/or specialized practices. Emphasis is on professionalism in performing general chairside and advanced intraoral procedures.</p> <p><b>Prerequisite:</b> Acceptance into the dental assisting program.</p> <p><b>Corequisite:</b></p>			
DNAS 1210	Dental Assisting Radiology Lab I	1	0.00/1.00/0.00
<p>Dental Assisting students will be introduced to techniques and processes for exposing digital full mouth series and extra-oral digital radiographs on skulls, manikins and patients. Students will utilize these techniques and processes to expose digital radiographs and evaluate them for diagnostic value according to M State Dental Criteria for Radiographic Acceptability.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> DENT1106</p>			
DNAS 1212	Dental Assisting Radiology Lab II	1	0.00/1.00/0.00
<p>Dental Assisting students will expose digital full mouth series and extra-oral digital radiographs on patients. Lab sessions will allow students to further develop radiographic skills and enhance proficiency in radiographic techniques and evaluation.</p> <p><b>Prerequisite:</b> DNAS1210</p> <p><b>Corequisite:</b></p>			
DNAS 1215	Dental Specialties	1	1.00/0.00/0.00
<p>This course introduces the student to the dental specialties of pediatric dentistry, periodontics, oral and maxillofacial surgery, endodontics, orthodontics and prosthodontics, both fixed and removable. This course will provide the student with an introduction to the clinical procedures with each of the specialties listed. Students will research various dental assisting specialties by interviewing dental assistants in specialty practices.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNHY 1104	Dental Anatomy Lab	1	0.00/1.00/0.00
<p>This is a lab course which provides opportunities for the student to work with tooth identification and charting systems, intraoral imagery and occlusion assessment. Special topics include survey of dental anomalies and cavity classifications.</p> <p><b>Prerequisite:</b></p>			

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<p><b>Corequisite:</b></p>			
DNHY 1106	Head and Neck Anatomy	2	2.00/0.00/0.00
<p>This course covers the study of hard and soft tissues of the head and neck including the skeletal, muscular and nervous systems, with particular emphasis on the masticatory system.</p> <p><b>Prerequisite:</b> Acceptance into the dental hygiene program</p> <p><b>Corequisite:</b></p>			
DNHY 1108	Oral Histology and Embryology	2	2.00/0.00/0.00
<p>This course covers the study of the microscopic anatomy of the oral tissues and the embryonic development of the face and oral cavity with emphasis on the masticatory system.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNHY 1109	Dental Hygiene Radiology Lab	2	0.00/2.00/0.00
<p>Dental Hygiene students will be introduced to techniques and processes for exposing digital full mouth series and extra-oral digital radiographs on skulls, manikins and patients. Students will utilize these techniques and processes to expose digital radiographs and evaluate them for diagnostic value according to M State Dental Criteria for Radiographic Acceptability.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNHY 1110	Principles I	2	2.00/0.00/0.00
<p>This course introduces the student to dental hygiene with emphasis on theory of preventive dentistry, OSHA standards, disinfectant/sterilants, formation of plaque and calculus, patient assessment and an introduction to the caries process and periodontal assessment.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNHY 1112	Dental Hygiene Practice I	3	0.00/3.00/0.00
<p>This course provides an introduction to dental hygiene with emphasis on the practice of preventive dentistry, care and use of equipment, sterilization techniques and an introduction to instrumentation.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNHY 1118	Oral Pathology	2	2.00/0.00/0.00
<p>This course covers the study of general processes as well as oral disease processes. Special emphasis is placed on clinical and radiographic recognition of pathology of the oral cavity.</p> <p><b>Prerequisite:</b> Accepted into the dental hygiene program and successful completion of Principles I, II, III; Head and Neck Anatomy; and Oral Histology and Embryology</p> <p><b>Corequisite:</b></p>			
DNHY 1119	Dental Hygiene Principles II	4	4.00/0.00/0.00
<p>This course is a continuation of DNHY 1110 with continuing information on the fundamentals of dental hygiene, record keeping and basic instruction and care of special needs patients.</p> <p><b>Prerequisite:</b> DNHY1110</p> <p><b>Corequisite:</b></p>			
DNHY 1123	Dental Hygiene Practice II	5	0.00/5.00/0.00
<p>This course is a continuation of DNHY 1112, Dental Hygiene Practice I, and introduces the student to further instrumentation theory, instrumentation techniques and procedures, clinical protocol, evaluation of medical/dental histories and radiographic surveys as prescribed by a dentist. This course provides opportunity for the student to develop competence in clinical procedures.</p> <p><b>Prerequisite:</b> DNHY1112</p> <p><b>Corequisite:</b></p>			
DNHY 1124	Pain Control Lab	2	0.00/2.00/0.00
<p>This course provides the dental hygiene student with the knowledge and skills necessary to administer local anesthesia and other methods of pain control during dental procedures without inducing detrimental physiological side effects.</p> <p><b>Prerequisite:</b> DNHY1106, DNHY1136</p> <p><b>Corequisite:</b></p>			
DNHY 1130	Dental Hygiene Principle III	1	1.00/0.00/0.00
<p>This course is a continuation of DNHY1119 with emphasis on Minnesota Board of Dentistry allowable procedures for dental hygienists. The course includes the study of rubber dam placement, sealants, orthodontic patients, debonding and intraoral photography.</p> <p><b>Prerequisite:</b> DNHY1123</p> <p><b>Corequisite:</b></p>			
DNHY 1132	Dental Hygiene Practice III	1	0.00/1.00/0.00
<p>This lab course is a continuation of DNHY1123 with emphasis on Minnesota Board of Dentistry allowable procedures for dental hygienists.</p> <p><b>Prerequisite:</b> DNHY1123</p> <p><b>Corequisite:</b></p>			
DNHY 1136	Dental Pharmacology	2	2.00/0.00/0.00
<p>This course introduces dental hygiene students to basic drug categories, pharmacological pain control principles and various anesthesia techniques, with special emphasis on a succinct accounting of drugs as they relate to dentistry.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
DNHY 2210	Dental Hygiene Principle IV	2	2.00/0.00/0.00
<p>This course is a continuation of DNHY 1130 and introduces the student to dietary counsel-</p>			

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ing, with special emphasis on advanced dental hygiene techniques including periodontal assessment and debridement, power instrumentation and implant maintenance. <b>Prerequisite:</b> DNHY1130 <b>Corequisite:</b>				axles. <b>Prerequisite:</b> DSET1100, TRNS1102 <b>Corequisite:</b>			
<b>DNHY 2213</b>	<b>Dental Hygiene Practice IV</b>	<b>6</b>	<b>0.00/6.00/0.00</b>	<b>DSET 1112</b>	<b>Hydraulics I</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This course is a continuation of DNHY1132 with emphasis on the treatment of moderate to advanced periodontal disease, the development of speed and an introduction to several advanced dental hygiene techniques. <b>Prerequisite:</b> DNHY1132, The student must be accepted into the dental hygiene program and comply with the Dental Program Student/Faculty Handbook. <b>Corequisite:</b> DNHY2240				This course covers the fundamentals of hydraulic systems. It is an introduction to hydraulic component operation, maintenance, repair and testing. These systems may be used in agricultural, industrial heavy equipment and trucks. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2219</b>	<b>Periodontology</b>	<b>2</b>	<b>2.00/0.00/0.00</b>	<b>DSET 1114</b>	<b>Vehicle Brakes</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course covers the pathogenesis, diagnosis and treatment of periodontal disease. Emphasis will include the progression of periodontal disease, diagnostic methods, treatment modalities, advanced instrumentation and the role of the dental hygienist as a periodontal co-therapist. <b>Prerequisite:</b> <b>Corequisite:</b>				This course covers hydraulic and air brake system operation, service and diagnosis. Anti-lock braking systems will also be covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2220</b>	<b>Dental Hygiene Principle V</b>	<b>1</b>	<b>1.00/0.00/0.00</b>	<b>DSET 1116</b>	<b>Fall Supervised Occupational Experience</b>	<b>3</b>	<b>0.00/0.00/3.00</b>
This course is a continuation of DNHY2210 and dental hygiene patient oral risk assessments. Special focus includes topics of interest to the graduating hygienist including smoking cessation, extraoral/ intraoral self exam, resume writing, interview skills, professional development, service to the community and involvement in the professional association. <b>Prerequisite:</b> DNHY2210 <b>Corequisite:</b>				Students will apply skill sets previously learned specific to their sponsoring dealer's equipment and will also be introduced to curriculum skill sets to be delivered in future semesters. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2223</b>	<b>Dental Hygiene Practice V</b>	<b>6</b>	<b>0.00/6.00/0.00</b>	<b>DSET 1124</b>	<b>Diesel Shop Management</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course is a continuation of DNHY2213 with emphasis on the treatment of moderate to advanced periodontal disease, the development of speed and an introduction to several advanced dental hygiene techniques. <b>Prerequisite:</b> DNHY2213, The student must be accepted into the dental hygiene program and comply with the Dental Program Student/Faculty Handbook. <b>Corequisite:</b> DNHY2246				This course provides students an opportunity to visit John Deere, Case New Holland or general shops and work with on-site instructors as it relates to management procedures including parts, ordering inventory, repair order writing, payroll, employee-employer relations, customer relations and communication skills. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2226</b>	<b>Community Dental Hygiene</b>	<b>4</b>	<b>3.00/1.00/0.00</b>	<b>DSET 1130</b>	<b>Trans Elec/Start/Charge</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
The lecture portion of this course introduces the student to the disciplines and basic principles of dental public health, epidemiological methods and biostatistical measurement and analysis. The lab portion of this course enables the student to plan, implement and evaluate a community dental hygiene research project and participate in a community dental service project and screening. <b>Prerequisite:</b> <b>Corequisite:</b>				This course is an introduction to electrical systems. Students will learn how to use DVOMs and their applications. Students will study electrical theory including Ohm's law and its application to electrical systems. The course also introduces service procedures necessary to repair charging and starting system components. Electrical principles are applied to test and troubleshoot complete circuits as well as components of each. Fundamental rebuilding principles and system analysis are emphasized. Safe battery testing and service are performed. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2232</b>	<b>Dental Hygiene Review</b>	<b>1</b>	<b>1.00/0.00/0.00</b>	<b>DSET 1132</b>	<b>Introduction to Engine Theory</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course is designed to assist students in reviewing content in preparation to write the National Board Dental Hygiene Examination. <b>Prerequisite:</b> DNHY2213 <b>Corequisite:</b>				This course introduces the theory of today's diesel engines, including operation, repair and maintenance. Students will learn the proper industry procedures for removing, replacing, diagnosing, troubleshooting, rebuilding and assembling diesel engines. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2240</b>	<b>Clinical Affiliation I</b>	<b>1</b>	<b>0.00/0.00/1.00</b>	<b>DSET 1134</b>	<b>Introduction to Engines</b>	<b>3</b>	<b>0.00/3.00/0.00</b>
This course consists of clinical rotations off campus in public health facilities to enhance dental hygiene clinical experience.The student will be introduced to a variety of dental hygiene experiences. <b>Prerequisite:</b> <b>Corequisite:</b> DNHY2213				This course teaches students how to disassemble, analyze, rebuild, measure and adjust diesel engines and their components. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DNHY 2246</b>	<b>Clinical Affiliation II</b>	<b>1</b>	<b>0.00/0.00/1.00</b>	<b>DSET 1140</b>	<b>Supervised Occupational Experience I</b>	<b>7</b>	<b>0.00/0.00/7.00</b>
This course consists of clinical rotations off campus in public health facilities to enhance dental hygiene clinical experience. The student will be introduced to a variety of dental hygiene experiences. <b>Prerequisite:</b> <b>Corequisite:</b> DNHY2223				Students will apply skill sets previously learned related to truck and/or other diesel-powered equipment and may be introduced to curriculum skill sets to be delivered in future semesters. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DSET 1100</b>	<b>Diesel Equipment Fundamentals</b>	<b>2</b>	<b>1.00/1.00/0.00</b>	<b>DSET 1144</b>	<b>Electrical Troubleshooting</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course is designed to give the student an understanding of a diesel shop environment. Personal and shop safety will be emphasized. Hand tool, pneumatic tool, precision measuring tool and hardware identification, usage and safety will also be areas of study. <b>Prerequisite:</b> <b>Corequisite:</b>				This course is a hands-on troubleshooting course that allows students to apply knowledge of DSET 1130. Students will be required to troubleshoot and repair a variety of equipment and vehicles. <b>Prerequisite:</b> DSET1130 <b>Corequisite:</b>			
<b>DSET 1101</b>	<b>Software Systems in Transportation</b>	<b>2</b>	<b>1.00/1.00/0.00</b>	<b>DSET 2204</b>	<b>Advanced Electrical and Emission Systems</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course introduces students to proprietary software used in the diesel technology industry. Students will become familiar with various software from industry-leading manufacturers. <b>Prerequisite:</b> <b>Corequisite:</b>				This course covers failure analysis of electrical systems, the recognition of causes of failures and how to interpret a wiring diagram. Lab activities include the troubleshooting of heavy-duty electrical and emission components, testing, inspecting and repair. Electrical meters will be used to diagnose, locate and repair failures. Lab work may include diagnosis, disassembly, inspection, repair, assembly and testing of program and customer-owned equipment. <b>Prerequisite:</b> DSET1100, DSET1130 <b>Corequisite:</b>			
<b>DSET 1106</b>	<b>Fuel Systems</b>	<b>2</b>	<b>1.00/1.00/0.00</b>	<b>DSET 2206</b>	<b>Electronic Controls</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course covers the fundamentals of diesel engine fuel systems identification, minor repair, testing and troubleshooting. Mechanical governor operation, fuel system operation, fuel system/governor adjustments and related engine operation are studied. <b>Prerequisite:</b> <b>Corequisite:</b>				This course covers electronic components used to control engines, transmissions, brakes and hydraulics used in modern equipment. The coursework will include system analysis, testing, troubleshooting and replacement of components used in electronic control systems. <b>Prerequisite:</b> DSET1100, DSET1130, TRNS1102 <b>Corequisite:</b>			
<b>DSET 1110</b>	<b>Power Train I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>	<b>DSET 2210</b>	<b>Mobile Hydraulics</b>	<b>4</b>	<b>1.00/3.00/0.00</b>
This course covers the operating principles, diagnosis and repair of drive train components. Components included will be clutches, mechanical transmissions, drive lines and drive							

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This course covers the hydraulic components used in farm and heavy equipment and trucks. This will include hydrostatic transmission, electric over hydraulic control valves and electronic control components. It will also include troubleshooting of live units with proper testing equipment used in up-to-date service centers. <b>Prerequisite:</b> DSET1100, DSET1112 <b>Corequisite:</b>				<b>Prerequisite:</b> DSET1132, DSET1134 <b>Corequisite:</b>			
<b>DSET 2214</b>	<b>Suspension and Alignment</b>	<b>3</b>	<b>1.00/2.00/0.00</b>	<b>EAP 94</b>	<b>Reading and Editing Strategies I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course will cover the procedures used in repair, inspection, rebuilding and alignment of steering and suspension systems. Vehicle Department of Transportation inspections will also be covered. <b>Prerequisite:</b> DSET1100 <b>Corequisite:</b>				This course is for students in their first semester of study in the English for Academic Purposes (EAP) cohort. The course pairs with ENGL0097: Express English and an academic content course. Students will learn strategies for taking notes and analyzing texts, identifying patterns of error in their writing and applying strategies for increasing sentence-level accuracy. <b>Prerequisite:</b> Course placement is determined by assessment <b>Corequisite:</b> Enrollment in ENGL0097: Express English and paired MnTC course is required for students registering for this course			
<b>DSET 2218</b>	<b>Advanced Fuels</b>	<b>3</b>	<b>1.00/2.00/0.00</b>	<b>EAP 95</b>	<b>Editing Strategies I</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course covers the application of the electronic fuel systems used on today's diesel engines. Coursework covers fuel systems used on engines manufactured by Caterpillar, Cummins, Detroit, John Deere, CNH and others. <b>Prerequisite:</b> DSET1106 <b>Corequisite:</b>				This course is for students in their first semester of study in the English for Academic Purposes (EAP) cohort and enrolled in ENGL0097: Express English. The course will focus on helping students identify specific patterns of error in their writing and apply strategies for increasing sentence-level accuracy. <b>Prerequisite:</b> Course placement is determined by assessment <b>Corequisite:</b> ENGL0097			
<b>DSET 2220</b>	<b>Internship</b>	<b>3</b>	<b>0.00/0.00/3.00</b>	<b>EAP 96</b>	<b>Reading Strategies I</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course is designed by the student and advisor in cooperation with industry to provide a job site training experience. The student will prepare an internship training plan reflecting skills to be developed on the internship site. <b>Prerequisite:</b> DSET1100, TRNS1102, TRNS1106, TRNS1110 <b>Corequisite:</b>				This course is for students in their first semester of study in the English for Academic Purposes (EAP) cohort and pairs with an academic content course. Students will learn specific strategies for building vocabulary, taking notes and analyzing texts from a specific field. <b>Prerequisite:</b> Course placement is determined by assessment <b>Corequisite:</b> Enrollment in paired MnTC course is required for students registering for this course			
<b>DSET 2238</b>	<b>Transmissions &amp; Drive Systems</b>	<b>4</b>	<b>1.00/3.00/0.00</b>	<b>EAP 97</b>	<b>Reading Strategies II</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course covers procedures to test, troubleshoot and rebuild power shift and other specialized transmissions used on agricultural, industrial and diesel trucks. This course also includes final drives and related components including removal, repair, installation and adjustment of major units and components. <b>Prerequisite:</b> DSET1110 <b>Corequisite:</b>				This course is for students in their second semester of study in the English for Academic Purposes (EAP) cohort and pairs with a content course. Students will continue to develop language skills necessary to read and understand field-specific texts. <b>Prerequisite:</b> Course placement is determined by assessment, EAP0096 <b>Corequisite:</b> Enrollment in paired MnTC course is required for students registering for this course			
<b>DSET 2240</b>	<b>Supervised Occupational Experience II</b>	<b>3</b>	<b>0.00/0.00/3.00</b>	<b>EAP 98</b>	<b>Editing Strategies II</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Students will apply skill sets previously learned related to truck and/or other diesel-powered equipment. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>				This course is for students in their second semester of study in the English for Academic Purposes (EAP) cohort and enrolled in ENGL1101: College Writing. The course will continue student development of editing skills as well as build a strong foundation of research skills, including the critical analysis of sources. Students will write responses to sources: summarizing, paraphrasing and quoting materially responsibly. <b>Prerequisite:</b> EAP0095 <b>Corequisite:</b> ENGL1101			
<b>DSET 2242</b>	<b>Advanced Engines and Fuel Systems</b>	<b>6</b>	<b>2.00/4.00/0.00</b>	<b>EAP 99</b>	<b>Reading and Editing Strategies II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is designed to give students an understanding of medium- and heavy-duty diesel engines manufactured by, but not limited to, Caterpillar, Cummins, Detroit Diesel, Navistar, Volvo and Mercedes Benz. Areas of study include base engine components, intake and exhaust systems, emission control devices, lubrication systems, cooling systems and fuel systems. <b>Prerequisite:</b> DSET1132, DSET1134 <b>Corequisite:</b>				This course is for students in their second semester of study in the English for Academic Purposes (EAP) cohort and pairs with ENGL1101: College Writing and an academic content course. Students will continue to develop language skills necessary to read and understand a variety of texts. The course also will continue development of editing skills and build research skills, including the critical analysis of sources. <b>Prerequisite:</b> EAP0094 and ENGL0097 <b>Corequisite:</b> ENGL1101			
<b>DTRK 1140</b>	<b>Supervised Occupational Experience 1</b>	<b>7</b>	<b>0.00/0.00/7.00</b>	<b>ECE 1105</b>	<b>Introduction to Early Childhood Education</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Students will apply skill sets previously learned related to medium- and heavy-duty trucks at a sponsoring dealer or fleet shop. Students may be introduced to curriculum skill sets to be delivered in future semesters. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>				This course provides an overview of the early childhood profession through exploring and examining aspects such as historical roots of the profession, theory, program types for children birth through age 8, career opportunities, personal characteristics of professionals, developmentally appropriate practice and ethics. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DTRK 2214</b>	<b>Suspension and Alignment</b>	<b>3</b>	<b>1.00/2.00/0.00</b>	<b>ECE 1107</b>	<b>Child Growth and Development</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course will cover the procedures used in repair, inspection, rebuilding and alignment of steering and suspension systems. Vehicle Department of Transportation inspections will also be covered. <b>Prerequisite:</b> DSET1100, TRNS1102 <b>Corequisite:</b>				This course provides an overview of the developmental stages of children ages prenatal through 8 including physical, social, emotional, language, cognitive and creative development. While studying the integration of theory and developmentally appropriate best practice, students will observe children and analyze characteristics of development at various stages. Attention will be focused on theory, developmentally appropriate, best practice and environmental factors that may affect development. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DTRK 2238</b>	<b>Transmissions and Drive Systems</b>	<b>4</b>	<b>1.00/3.00/0.00</b>	<b>ECE 1109</b>	<b>Health, Wellness and Nutrition</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is designed to give the student an understanding of the theory, operation, troubleshooting and repair of modern medium- and heavy-duty truck transmission, differential and driveline components. Areas of study include the operation, inspection, disassembly and assembly of various manufacturers including but not limited to Allison, Eaton, Meritor, Rockwell and Mack. <b>Prerequisite:</b> DSET1110 <b>Corequisite:</b>				This course will guide students in understanding the teacher strategies and skills needed to establish and maintain a physically and psychologically safe, healthy learning environment for young children ages birth through 8. Topics include preventing illness and accidents, handling emergencies, providing health, safety and nutrition educational experiences within the daily routine, meeting children's basic nutritional needs, child abuse and neglect, childhood stress, trauma and current health, safety and nutrition-related issues. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>DTRK 2240</b>	<b>Supervised Occupational Experience II</b>	<b>4</b>	<b>0.00/0.00/4.00</b>	<b>ECE 1111</b>	<b>Diverse Children and Family Relations</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Students will apply skill sets previously learned related to medium- and heavy-duty trucks at a sponsoring dealer or fleet shop. Skill sets will be identified in a training plan developed by industry and instructor. <b>Prerequisite:</b> <b>Corequisite:</b>				This course covers the relationship between the caregiver/teacher, child, family and community. Students will explore teaching and environmental strategies that promote understanding and support diverse cultural and family structures. Students will examine cultural diversity/dynamics, bias, sensitivity, theory and the importance of the context of family, culture and society as they relate to learning and child development.			
<b>DTRK 2242</b>	<b>Advanced Engines and Fuel Systems</b>	<b>6</b>	<b>2.00/4.00/0.00</b>				
This course is designed to give the student an understanding of the theory, operation, troubleshooting and repair of modern medium- and heavy-duty truck diesel engines. Areas of study include base engine components, intake and exhaust systems, emission control devices, lubrication systems, cooling systems and fuel systems on but not limited to the following manufacturers: Caterpillar, Cummins, Detroit, Navistar, Mack and Volvo truck diesel engines.							

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<b>Prerequisite:</b> ECE1105, ECE1107, ECE1109 <b>Corequisite:</b>				Microeconomics stresses the concepts of scarcity, production possibilities, supply and demand curves, elastic and inelastic goods and services, competition, monopolies, oligopolies, poverty and income distribution in the United States. In general, microeconomics examines the functioning of individual industries and the behavior of the individual. <b>Prerequisite:</b> <b>Corequisite:</b>			
ECE 1113	Behavior Guidance	3	2.00/1.00/0.00	ED 2205	Introduction to Education and Technology	2	2.00/0.00/0.00
This course provides an examination 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. Emphasis is on exploring, observing and practicing problem prevention and positive child guidance strategies through coursework and a lab experience. This course contains an off-site lab experience that will assist in guiding students to obtain the skills necessary to become a successful professional within early childhood settings. All students will be required to obtain and pass a Minnesota background check prior to completing 30 hours at an approved lab site. <b>Prerequisite:</b> ECE1105, ECE1107, ECE1109 <b>Corequisite:</b>				This course is an introduction to the career of teaching, along with the development of technology skills. Specific variables related to teaching as a profession are explored including professional roles and responsibilities, students, curriculum and the structure of schools. This course is to be taken concurrently with ED 2206. <b>Prerequisite:</b> <b>Corequisite:</b>			
ECE 1115	Creative Activities and Environment	3	3.00/0.00/0.00	ED 2206	Early Field Experience	1	0.00/0.00/1.00
This course provides an overview of developmentally appropriate learning experiences in home, center-based and school settings. Students integrate knowledge of developmental needs, environments and teaching strategies to enhance all areas of a child's emerging development throughout the curriculum. <b>Prerequisite:</b> ECE1105, ECE1107, ECE1109 <b>Corequisite:</b>				This course is an early educational field experience. Students will be placed at a K-12 educational site and be supervised by an experienced instructor. The student's primary role is as an observer of the classroom, but students may be asked to provide assistance in the classroom setting under the instructor's supervision. <b>Prerequisite:</b> <b>Corequisite:</b> ED2205			
ECE 2101	Observation and Assessment	3	2.00/1.00/0.00	ED 2232	Strategies for Working With Individuals With Autism Spectrum Disorders	4	4.00/0.00/0.00
This course provides the student with an opportunity to observe, assess, record, interpret and develop plans to strengthen the development of children. Students will study then carry out numerous informal and formal methods of observing and assessing children and will construct a child study based on assessments gathered throughout the semester. <b>Prerequisite:</b> ECE1111, ECE1113, ECE1115 <b>Corequisite:</b>				This course will introduce students to evidence-based and research-focused intervention strategies commonly implemented when serving individuals with autism spectrum disorders (ASD). Team-based collaborative consultation for individuals diagnosed with ASD is also addressed. Topics include direct instruction, communication skills training, social and emotional skills training and general supportive strategies. This course is cross-listed with PSYC 2232 <b>Prerequisite:</b> <b>Corequisite:</b>			
ECE 2103	Introduction to Special Education	3	3.00/0.00/0.00	ED 2294	Educational Psychology	3	3.00/0.00/0.00
Students will examine strategies that support inclusive programs for children and families along with legal and ethical requirements, eligibility and qualification for services, including but not limited to American Disabilities Act and Individuals with Disabilities Education Act, typical and atypical development. Strategies to adapt curriculum to meet the needs of children with developmental differences and cultivate partnerships with families will also be explored. <b>Prerequisite:</b> ECE1111, ECE1113, ECE1115 <b>Corequisite:</b>				This course is intended to provide an overview of the theories and principles from psychology that are applicable to the teaching profession. The course addresses motivation, learning, development, instruction, assessment and classroom management, and it is designed to be a foundation for future methods and issues courses in education. <b>Prerequisite:</b> <b>Corequisite:</b>			
ECE 2105	Internship	3	0.00/0.00/3.00	EDUC 1113	Career and Life Planning	2	2.00/0.00/0.00
This course provides an opportunity to apply knowledge and skills in an actual child development setting. Students will observe and assess children's behavior, facilitate free choice play, implement adult-directed learning experiences and maintain professional relationships.This course can be taken only after students have completed the first three semesters of the program or with instructor approval. <b>Prerequisite:</b> ECE2101, ECE2103 <b>Corequisite:</b>				This course is designed to assist students in developing career exploration skills and strategies through self-exploration, cultural perceptions, and career and college major identification. Students will identify potential major and career possibilities. <b>Prerequisite:</b> <b>Corequisite:</b>			
ECE 2107	Introduction to Language and Literacy	3	3.00/0.00/0.00	ELEC 1100	Electrical Safety	1	1.00/0.00/0.00
This course provides an overview of language and literacy development for children birth to age 8. Students will research, evaluate, plan and design developmentally appropriate language and literacy-rich experiences for children. Students also will learn teaching strategies utilized to promote literacy development within the program/school setting and home. <b>Prerequisite:</b> ECE2101, ECE2103 <b>Corequisite:</b>				This course provides students with an understanding of occupational safety practices and requirements associated with working in the electrical industry. It also covers the purpose and enforcement of general safety rules. <b>Prerequisite:</b> <b>Corequisite:</b>			
ECON 1150	Essentials of Economics	3	3.00/0.00/0.00	ELEC 1102	Introduction to Electric Circuit Theory	4	2.00/2.00/0.00
Meets MnTC Goal Areas 2 and 5. This course is an introductory study of economics and exposes the student to a variety of economic concepts. In order to enjoy a successful career, people need to understand how economics impacts the environment in which they live and work. This course helps satisfy those needs by exploring the principles of microeconomics, macroeconomics and international economics. At the microeconomic level, students will learn how the choices they make affect particular markets. They will examine resource allocation and pricing structure by analyzing demand and supply applications. Students will survey the competitive environment by exploring the market structures of perfect competition, monopolistic competition, monopoly and oligopoly. At the macroeconomic level, students will learn about the business cycle by analyzing the gross domestic product (GDP), the inflation rate, the unemployment rate, deficit spending, the national debt and other economic indicators. They will also investigate the debate over activism and non-activism in monetary and fiscal policies. Finally, the student will examine international issues including tariffs/quotas, foreign exchange, the concept of comparative advantage and trends in globalization. This course is not intended for business or economics majors. <b>Prerequisite:</b> <b>Corequisite:</b>				This introductory course provides the student with knowledge of electrical theory including atomic structure, Ohm's law, series circuits, parallel circuits, complex circuits and sine wave principles as related to the National Electrical Code. <b>Prerequisite:</b> <b>Corequisite:</b>			
ELEC 1104	Introduction to National Electrical Code	2	2.00/0.00/0.00	ELEC 1107	Introduction to Residential Wiring	3	1.00/2.00/0.00
This course provides the student with an introduction to the National Electrical Code. The student develops basic skills and understanding of the National Electrical Code and how it applies to electrical applications in the field. <b>Prerequisite:</b> <b>Corequisite:</b>				This course provides a fundamental technical understanding of residential wiring. Basic wiring skills for residential occupancies will be practiced in lab settings while applying National Electrical Code standards. <b>Prerequisite:</b> <b>Corequisite:</b>			
ELEC 1108	Electrical Circuit Theory	4	2.00/2.00/0.00	ELEC 1110	Electric Motors and Generators	4	2.00/2.00/0.00
This course provides the student with an understanding of complex AC circuits, single-phase and three-phase circuit connections, transformer principles and calculations. <b>Prerequisite:</b> ELEC1102 <b>Corequisite:</b>				This course provides a fundamental understanding of electric motor and generator theory and basic skills. This course includes types, construction, operation, installation and maintenance of electric motors and generators. <b>Prerequisite:</b> ELEC1102 <b>Corequisite:</b>			
ECON 2222	Microeconomics	3	3.00/0.00/0.00				

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<b>ELEC 1112 Residential Wiring</b> 3 1.00/2.00/0.00 This course provides students with expanded technical understanding and skills necessary for residential wiring. Students will be provided with experience for installations common to residential structures including general receptacles, lighting and designated circuit layout and installation. <b>Prerequisite:</b> ELEC1107 <b>Corequisite:</b>				<b>Corequisite:</b>			
<b>ELEC 1114 National Electrical Code</b> 2 2.00/0.00/0.00 This course provides students with an understanding of National Electrical Code articles related to overcurrent protection, raceways, special systems, panelboards, motors, compressors, transformers and the State Electrical Act. <b>Prerequisite:</b> ELEC1104 <b>Corequisite:</b>				<b>ELEC 2202 Heating/Cooling Controls</b> 3 1.00/2.00/0.00 This course introduces basic electric heating, gas, oil, heat pump and cooling system installation and control. Topics include installing wiring for heating and air conditioning systems, replacing controls, measuring instruments and schematic interpretation. <b>Prerequisite:</b> ELEC1107 <b>Corequisite:</b>			
<b>ELEC 1115 Solar Photovoltaic Installation</b> 1 1.00/0.00/0.00 This course covers the installation of photovoltaic (PV) solar panels and associated equipment. Topics include principles of operation, payback, safety concerns, site selection, system types and sizing. The primary focus is how to install the units so they are in compliance with the National Electrical Code. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>ELEC 2205 Introduction to Commercial Wiring</b> 3 1.00/2.00/0.00 This course examines the material and design aspects of commercial wiring. Topics include raceways, boxes, design requirements for conduit layouts, circuit overcurrent protection and lighting. <b>Prerequisite:</b> ELEC1104, ELEC1122 <b>Corequisite:</b>			
<b>ELEC 1116 Conduit/Tool Applications</b> 2 0.00/2.00/0.00 Numerous applications and skills will be developed in this course including bending, threading and installation of various types of conduit. This course also provides a review of the operation and safety of both hand and power tools used in the construction electricity field. <b>Prerequisite:</b> ELEC1100 <b>Corequisite:</b>				<b>ELEC 2206 Introduction to Motor Control Applications</b> 3 2.00/1.00/0.00 This course provides an understanding of motor control symbols, line diagrams, contractors, starters and operating circuits. Lab procedures demonstrate components, circuitry and operation learned in theory. Measured data is recorded and interpreted. <b>Prerequisite:</b> ELEC1108, ELEC1110 <b>Corequisite:</b>			
<b>ELEC 1118 Electrical Services</b> 3 2.00/1.00/0.00 This course covers requirements and installation of service entrance equipment. Topics include service materials, installation procedures, meters, service and conduit sizes, panel types, bonding, grounding and overcurrent protection. <b>Prerequisite:</b> ELEC1104 <b>Corequisite:</b>				<b>ELEC 2208 Programmable Logic Controllers</b> 2 1.00/1.00/0.00 This course covers the theory, operation, installation, hardware, software and practical applications of programmable logic controllers (PLC). Basic PLC programming techniques for counters, timers and sequencers will be presented. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>ELEC 1122 Introduction to Electrical Materials</b> 1 0.00/1.00/0.00 This course provides the student with an introduction to the electrical material used in industry. The student develops basic skills and understanding of the material and how it applies to electrical applications in the field. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>ELEC 2211 Electronic Motor Control</b> 3 2.00/1.00/0.00 This course provides application of basic theory and operation to electronic motor control including semi-conductors, rectifiers, regulators and amplifiers. <b>Prerequisite:</b> ELEC1108 <b>Corequisite:</b>			
<b>ELEC 1124 Introduction to Electrical Blueprint Reading</b> 2 1.00/1.00/0.00 This course provides the student with a working knowledge of residential blueprints and specifications. The student gains an understanding of blueprints, then interprets and applies this knowledge to the electrical industry. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>ELEC 2212 Commercial Wiring</b> 3 1.00/2.00/0.00 This course covers materials and design aspects of commercial wiring, in particular lighting and fuse applications. Topics include lighting and lamp installation and selection, fuse selection, special outlets, load schedule, short circuit calculations and emergency illumination. <b>Prerequisite:</b> ELEC2205 <b>Corequisite:</b>			
<b>ELEC 1130 Electrical Blueprints</b> 3 2.00/1.00/0.00 The student will learn to read commercial blueprints with an emphasis on electrical circuitry including lighting, power, service, feeders and special systems. The course also introduces the student to computer-aided design (CAD) drawings. <b>Prerequisite:</b> ELEC1124 <b>Corequisite:</b>				<b>ELEC 2214 Industrial Wiring</b> 2 1.00/1.00/0.00 This course covers the installation methods and materials used in industrial wiring. Topics include transformers, busways, motor installation, industrial metering, overcurrent system coordination, ground detection, grounding systems, surge protection, distribution, special systems and industrial hazardous locations, and the study of the National Electrical Code relating to these topics. <b>Prerequisite:</b> ELEC1114 <b>Corequisite:</b>			
<b>ELEC 1140 Power-Limited Exam Prep</b> 2 2.00/0.00/0.00 This course covers the knowledge base associated with the Minnesota Power-Limited Technician license and includes all of the topics identified in the Minnesota Board of Electricity PLT study guide. Subjects covered include those found in the National Electrical Code and in Minnesota laws and rules. Additional subjects covered include technical terminology, formulas and procedures that are essential elements of the PLT examination, not all of which are found in the NEC. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>ELEC 2216 Motor Control Application</b> 3 1.00/2.00/0.00 This course provides an advanced understanding of circuits controlling motors. Topics include jogging, braking, plugging, reduced voltage starting, phase loss protection, latching relays, time delay relays and safety requirements. Lab procedures demonstrate components, circuitry and operation learned in theory. Measured data is recorded and interpreted. <b>Prerequisite:</b> ELEC2206 <b>Corequisite:</b>			
<b>ELEC 1170 Predictive Maintenance Technology</b> 2 1.00/1.00/0.00 This course is designed to introduce students to the current predictive maintenance technology used in the best maintenance practices of top-performing companies in industry. The course will cover infrared thermography, vibration analysis, ultrasonic detection, oil spectrum analysis, motor current analysis and other technologies. These methods are used in electrical and mechanical maintenance programs in industry to predict failures of electrical connections, equipment, bearings and other critical machines. Students will also be introduced to best maintenance practices and their impact on the future of industry in the United States. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>ELEC 2217 Building Automation I</b> 2 0.00/2.00/0.00 This course introduces students to building automation systems. These systems are becoming critical required components used for green buildings, energy conservation and building safety systems. Topics covered in this course include electrical energy production, alternative energy sources and interconnection of renewable sources to existing power systems. This course also covers green utilization equipment and controls such as lighting, heating, ventilating and air conditioning, and plumbing. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>ELEC 1175 Best Maintenance Practices I</b> 2 1.00/1.00/0.00 More than 70 percent of equipment failures in industry and manufacturing are self-induced by a company's own maintenance workers, policies or attitudes, resulting in downtime or lost production. This course covers the best maintenance practices as determined by top industrial and manufacturing companies. This course covers permanent repairs as related to specific tasks such as bearing replacement, chains, belts, coupling, lubrication, proper alignment and packing and seals. <b>Prerequisite:</b>				<b>ELEC 2218 Building Automation II</b> 2 0.00/2.00/0.00 This course is a continuation of Building Automation I. Topics covered include more critical building safety and security systems. These systems include fire systems and security and access control systems; voice, data and video systems; and automated building operations. Students will gain hands-on experience installing, programming and troubleshooting live systems. <b>Prerequisite:</b> ELEC2217 <b>Corequisite:</b>			
<b>ELEC 2220 Electrician Internship</b> 3 0.00/0.00/3.00 This course provides the student with the opportunity to work for an electrician or in another approved electrical setting. The student will experience working at the job site with other employees and under various working conditions. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>ELEC 2222 Advanced Programmable Logic Controllers</b> 3 1.00/2.00/0.00 This course presents practical applications of Advanced Programmable Logic Controllers			



Course #	CourseTitle	CR	Lec/Lab/OJT
<p>(APC) with emphasis on advanced programming techniques and analog modules, input devices and hands-on wiring of Programmable Logic Controller (PLC) circuits. PLC programs are created and installed for operation of actual electrical equipment.</p> <p><b>Prerequisite:</b> ELEC2208</p> <p><b>Corequisite:</b></p>			
ELEC 2225	Transformers	2	0.00/2.00/0.00
<p>This course covers the concepts of transformer operation. Single-phase and three-phase (polyphase) transformer operation and installation methods are explored. Included in the course are the following topics: transformer operation, transformation relationships, transformer losses, transformer types, transformer testing, series and parallel operation, connections, instrument transformers and maintenance procedures. National Electrical Code requirements for transformer installations are developed and utilized.</p> <p><b>Prerequisite:</b> ELEC1108</p> <p><b>Corequisite:</b></p>			
ELEC 2228	Electrical Troubleshooting	1	0.00/1.00/0.00
<p>This course provides an application of principles of construction electricity to a variety of situations for the purpose of identifying and solving electrical problems. Emphasis is placed on electrical circuits pertaining to residential, commercial, industrial and motor control applications.</p> <p><b>Prerequisite:</b> 36 credits of ELEC courses</p> <p><b>Corequisite:</b></p>			
ELEC 2230	Electrical Building Information Modeling	2	1.00/1.00/0.00
<p>This course will provide the student with an introduction to Building Information Modeling (BIM) concepts, terminology and application of best practices being used in the electrical industry.</p> <p><b>Prerequisite:</b> ELEC1130</p> <p><b>Corequisite:</b></p>			
ELEC 2234	Hydraulics/Pneumatics	2	1.00/1.00/0.00
<p>This course provides the knowledge of pneumatic and hydraulic controls necessary for the electrician employed in an industrial setting.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELEC 2236	Industrial Motor Maintenance	2	1.00/1.00/0.00
<p>This course includes principles of industrial motor maintenance and experience with maintenance and troubleshooting situations common to industrial settings.</p> <p><b>Prerequisite:</b> ELEC1110</p> <p><b>Corequisite:</b></p>			
ELEC 2238	Low Voltage Wiring	2	1.00/1.00/0.00
<p>This course provides students with an understanding of installation procedures and National Electrical Code (NEC) requirements for coax, telephone, fire alarm, security, fiber optic, cat 4, cat 5 and other low-voltage wiring systems.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELEC 2240	Code Update	1	1.00/0.00/0.00
<p>This course provides the experienced electrician and advanced student with an overview of the National Electrical Code (NEC) and the State Electrical Act and can be used in preparing for the journeyman or masters electrical exam.</p> <p><b>Prerequisite:</b> 30 ELEC credits, Approval of instructor.</p> <p><b>Corequisite:</b></p>			
ELEC 2244	National Electrical Code Changes	1	1.00/0.00/0.00
<p>This course covers recent changes in the National Electrical Code and how they affect current wiring practices. The course is approved for continuing education hours.</p> <p><b>Prerequisite:</b> ELEC1104</p> <p><b>Corequisite:</b></p>			
ELEC 2246	Advanced Electronics	2	1.00/1.00/0.00
<p>This course provides theory, operation and practical applications of various field-effect transistors, thyristors, photosensitive devices, sensing devices and wave chopping circuitry.</p> <p><b>Prerequisite:</b> ELEC2211</p> <p><b>Corequisite:</b></p>			
ELEC 2248	Code Applications	2	1.00/1.00/0.00
<p>This course applies the principles of the National Electrical Code to job-specific situations.</p> <p><b>Prerequisite:</b> ELEC1104, ELEC1114</p> <p><b>Corequisite:</b></p>			
ELEC 2250	Special Topics/Projects	2	0.00/2.00/0.00
<p>The student works with an advisor and instructor to develop a contract with specific goals in areas deemed applicable to the construction electricity industry and the student's career plan. This opportunity may be limited by conditions such as instructor/lab/material availability.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELL 50	English Language Learner Foundations	4	3.00/1.00/0.00
<p>This grammar-based course is for non-native learners of English and is designed to prepare students to succeed in college-level fundamental courses. The course supports progress toward fluency in the English skill areas of speaking, listening, reading and writing through intensive study of grammatical structures. Content is chosen especially to provide sound models for needed basic written forms.</p> <p><b>Prerequisite:</b></p>			

Corequisite:

ELL 60	English Language Learner Reading	3	3.00/0.00/0.00
<p>This reading course is for non-native learners of English. Students will learn the skills and vocabulary necessary to read college-level materials with emphasis given to effective note taking and summarizing. Students will engage in frequent large and small group discussions of reading material and be exposed to a variety of reading strategies.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELL 65	American English Expressions	2	2.00/0.00/0.00
<p>This vocabulary course is for non-native learners of English. Students will learn common idiomatic expressions used in North American English, with emphasis on expressions grouped by cultural themes. It is designed to develop both language and cultural fluency by exploring the idioms Americans use regularly and the cultural background of those expressions.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELL 1020	English Language Learner Listening Comprehension and Speaking	3	3.00/0.00/0.00
<p>This course is for non-native learners of English. Students will develop the listening and speaking skills necessary for participating in college-level classroom discussion, incorporating oral presentation and fostering critical listening skills needed for taking notes and understanding lectures.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELL 1060	English Language Learner Writing I	4	3.00/1.00/0.00
<p>This writing course is for non-native learners of English and is designed to prepare students for ELL1080: ELL Writing II. Students will learn the short essay form for expository writing, emphasizing sentence and paragraph structures as well as editing for increased accuracy.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELL 1080	English Language Learner Writing II	3	3.00/0.00/0.00
<p>This writing course is for non-native learners of English and is designed to prepare students for college-level writing tasks and/or courses. Students will learn multiple-paragraph essay forms with an emphasis on paraphrasing, summarizing, quoting and analyzing sources. Students will inventory patterns of error and create an individual plan for increasing accuracy.</p> <p><b>Prerequisite:</b> ELL1060, Placement into the course</p> <p><b>Corequisite:</b></p>			
ELL 1090	Editing for College Writing	2	2.00/0.00/0.00
<p>This support course is for non-native speakers of English enrolled in ENGL1101: College Writing. Students will practice applying linguistic structures for integrating source material, identifying patterns of error and applying strategies for increasing sentence-level accuracy in their writing.</p> <p><b>Prerequisite:</b> successful completion of ELL1080, ENGL0097, or ENGL0096, or placement by assessment</p> <p><b>Corequisite:</b> ENGL1101</p>			
ELWT 1102	Electrical Line Worker Theory I	4	2.00/2.00/0.00
<p>This course provides the student with basic electrical theory involved in the production and use of electrical energy. In addition, the student practices basic direct current circuitry calculations and rigging skills including basic knots and splices pertaining to the electrical industry.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELWT 1104	Electrical Structure Installation	5	2.00/3.00/0.00
<p>This course provides the student with the introductory knowledge and skills necessary to properly install electrical structures with hand tools and with mechanized structure installation machinery.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELWT 1106	Climbing Electrical Structure	4	0.00/4.00/0.00
<p>This course provides the student with the knowledge and skills to safely climb and frame various electrical structures to heights of 50 feet. Topics include free-hand and safety-strap climbing, and installation and removal of pole line hardware.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELWT 1108	Construction of Overhead Structures	3	0.00/3.00/0.00
<p>This course provides the student with the technical understanding and skill necessary to construct overhead high voltage structures. Topics include interpretation of industry specification manuals, identification of overhead hardware, construction techniques and tool use.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELWT 1110	Line Worker Theory II	4	2.00/2.00/0.00
<p>This course provides the study of the principles of alternating current high voltage distribution circuitry. Included in this course are mathematical computation of AC power, conductor application including practice at armor rodding, hand and pre-formed ties, overvoltage and overcurrent installations, and street lighting circuits.</p> <p><b>Prerequisite:</b> ELWT1102</p> <p><b>Corequisite:</b></p>			

Course #	CourseTitle	CR	Lec/Lab/OJT
ELWT 1112	Transformers	2	0.00/2.00/0.00
<p>This course provides the student with the knowledge and skills necessary for mounting and connecting transformers to primary and secondary systems. The course will also cover paralleling of closed and open banks.</p> <p><b>Prerequisite:</b> ELWT1108</p> <p><b>Corequisite:</b> ELWT1110</p>			
ELWT 1114	Line Construction Reports	2	2.00/0.00/0.00
<p>This course provides the student with an understanding of the design of line work construction drawings and equipment installation orders.</p> <p><b>Prerequisite:</b> ELWT1108</p> <p><b>Corequisite:</b></p>			
ELWT 1116	Pole Top and Bucket Rescue	1	0.00/1.00/0.00
<p>This course provides the student with an understanding of procedures necessary to complete a rescue of a line worker disabled while on a pole or in an aerial device.</p> <p><b>Prerequisite:</b> ELWT1106</p> <p><b>Corequisite:</b></p>			
ELWT 1118	Field Construction I	3	0.00/3.00/0.00
<p>This course covers the installation of single-phase high voltage systems under actual field conditions. The overhead construction component of the course includes structural assembly, including grounding requirements, guying, conductor installation including stringing and tying, single-phase transformer, capacitor and regulator installation. The second component of the course is underground installation, covering trencher operation, primary and secondary cable termination, services, pad mount transformers and sectionalizing cabinets, and street lighting.</p> <p><b>Prerequisite:</b> ELWT1106</p> <p><b>Corequisite:</b></p>			
ELWT 1120	Field Construction II	3	0.00/3.00/0.00
<p>This course covers the installation of multi-phase high voltage systems under actual field conditions. The overhead section will cover structure assembly including grounding, structural guying, conductor installation including stringing and tying, multi-phase transformer installation, capacitor installation, regulator installation, and the use of protective cover-up material and hot sticks. The underground section will cover multiple cable installation, primary and secondary cable termination, three-phase pad mount transformer installation and multi-phase sectionalizing cabinet installation.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ELWT 1122	Field Construction III	3	0.00/3.00/0.00
<p>This course gives the student a basic understanding of overhead transmission structure construction and installation requirements for 69KV systems. Students will also participate in two industry hot line schools, one sponsored by the Minnesota Municipal Utilities Association and the other by the Minnesota Rural Electric Cooperatives.</p> <p><b>Prerequisite:</b> ELWT1120</p> <p><b>Corequisite:</b></p>			
ELWT 1130	Electrical Line Worker Internship	2	0.00/0.00/2.00
<p>This course will concentrate on the student receiving apprentice line work skills under the supervision of an appropriate industry representative.</p> <p><b>Prerequisite:</b> Instructor approval</p> <p><b>Corequisite:</b></p>			
ELWT 1132	Electrical Line Worker Internship	3	0.00/0.00/3.00
<p>In this course, the student will learn apprentice line work skills under the supervision of an appropriate industry representative.</p> <p><b>Prerequisite:</b> Instructor approval</p> <p><b>Corequisite:</b></p>			
EMST 1000	Introduction to Emergency Medical System	1	1.00/0.00/0.00
<p>In this course, students explore the history and current trends of the emergency medical system (EMS). Student will learn the professional roles and responsibilities of the EMS team, implement primary injury prevention activities to reduce death, disability and health care costs, and examine ethical and legal issues affecting the EMS.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 1010	Emergency Pharmacology	2	1.00/1.00/0.00
<p>In this course students will learn the basics of medication including safe administration, dosage calculation, drug actions and uses. Students will learn how to safely administer medications by mouth, injection and intravenous (IV) methods. Students also will learn how to start an IV.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> EMST1000</p>			
EMST 1020	Patient Assessment	2	1.00/1.00/0.00
<p>In this course, students will learn techniques to obtain and document medical history and physical assessment from patients across the life span. Students will learn how to communicate assessment findings with other members of a medical team. Students will integrate therapeutic communication, physiological, psychological and sociological changes across the life span and developmental stages.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> EMST1000</p>			
EMST 1030	Emergency Cardiopulmonary Care	5	4.00/1.00/0.00
<p>Students in this course integrate pathophysiological principles and assessment findings to formulate field impressions and treatment plans for patients with cardiovascular or respira-</p>			

<p>tory conditions. Students will use basic life support skills for airway management and learn advanced techniques to establish and maintain a patent airway.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> EMST1000, EMST1020</p>			
EMST 1040	Special Populations	2	1.00/1.00/0.00
<p>Students in this course will explore labor, delivery, and postpartum and newborn care in the prehospital setting. Students will learn to care for patients who are at different developmental stages, from different cultural backgrounds and experiencing mental health issues, and also how to both safely care for and transport bariatric patients.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 1050	Paramedic Clinical I	1	0.00/0.00/1.00
<p>In this course, students will provide quality and safe care to patients from diverse groups. Students will demonstrate therapeutic communication and maintain professionalism.</p> <p><b>Prerequisite:</b> EMST1000, EMST1010, EMST1020, EMST1030</p> <p><b>Corequisite:</b></p>			
EMST 1060	Emergency Medical System Operations	2	2.00/0.00/0.00
<p>In this course the paramedic student will learn standards and guidelines ensuring safe and effective medical transport by ground and air. Students will learn incident management techniques; develop an awareness of safe operations while working crime scenes, emergencies and rescue scenarios; and learn how to evaluate hazardous material emergencies, call for appropriate resources and work in a cold zone.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 2000	Paramedic Medical I	2	2.00/0.00/0.00
<p>This course is designed to integrate pathophysiological principles and assessment findings to formulate a field impression and implement field treatment plans for patients with neurological problems, endocrine problems, allergic and anaphylactic reactions, and gastro-enterological and urological problems.</p> <p><b>Prerequisite:</b> BIOL2262, BIOL2263, EMST1030</p> <p><b>Corequisite:</b></p>			
EMST 2010	Traumatic Emergencies	2	1.00/1.00/0.00
<p>In this course the paramedic student will learn physics of motion to predict the likelihood of injury. Assessment findings will be used to formulate a field impression and implement a field treatment plan.</p> <p><b>Prerequisite:</b> BIOL2262, BIOL2263, EMST1030</p> <p><b>Corequisite:</b></p>			
EMST 2020	Paramedic Medical II	2	2.00/0.00/0.00
<p>Students will learn to safely treat patients with environmental conditions, infectious and communicable diseases, and mental health or behavioral emergencies.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> EMST2000</p>			
EMST 2040	Paramedic Lab I	2	0.00/2.00/0.00
<p>In this laboratory course, students will learn how to apply electrocardiogram (EKG) leads, interpret EKGs and administer medications.</p> <p><b>Prerequisite:</b> EMST1010</p> <p><b>Corequisite:</b> EMST2020</p>			
EMST 2050	Paramedic Lab II	2	0.00/2.00/0.00
<p>Students in this laboratory course will participate as a team member and a team leader in the efficient care of patients with advanced needs who are experiencing medical and/or traumatic conditions. Students will learn to predict future pathology from patient and family histories.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> EMST2040</p>			
EMST 2201	Paramedic Clinical II	4	0.00/0.00/4.00
<p>The paramedic student will continue the clinical experience utilizing advanced skills, modeling professional behavior and recognizing personal weaknesses in order to continue to promote self-improvement.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> EMST2211, EMST2261, EMST2270, EMST2280</p>			
EMST 2211	Advanced Cardiac Life Support	2	1.00/1.00/0.00
<p>This course is designed for health care providers who direct or participate in the management of cardiopulmonary arrest or other cardiovascular emergencies. Students will enhance their skills in recognition and treatment of cardiopulmonary arrest, immediate post-cardiac arrest, acute arrhythmia, acute coronary syndrome (ACS) and stroke.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 2261	Pediatric Advanced Life Support	2	1.00/1.00/0.00
<p>In this course, students will reinforce skills in the care of pediatric patients experiencing cardiopulmonary arrest including a systematic approach to pediatric assessment, basic life support, pediatric advanced life support (PALS) treatment algorithms and effective resuscitation team dynamics.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 2271	Prehospital Trauma Life Support	2	1.00/1.00/0.00
<p>This course is designed to prepare the emergency medical services provider with an organized approach to providing care to a trauma patient. This course is designed to give</p>			

Course #	CourseTitle	CR	Lec/Lab/OJT
<p>the student the knowledge to obtain the best possible patient outcome in a traumatic emergency. This course uses the latest methods provided by the National Association of Emergency Medical Technologists in cooperation with the American College of Surgeons.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 2280	Advanced Medical Life Support	2	1.00/1.00/0.00
<p>This advanced medical life support course provides students an in-depth study of caring for people experiencing medical emergencies.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
EMST 2292	Paramedic Capstone Experience	2.00 - 5.00	
<p>Students in this course will demonstrate entry-level competence as paramedics in supervised internship experiences.</p> <p><b>Prerequisite:</b> EMST2010, EMST2050</p> <p><b>Corequisite:</b> EMST2201, EMST2211, EMST2261, EMST2271, EMST2280</p>			
ENG 1101	Ethics and the Engineering Profession	3	3.00/0.00/0.00
<p>This course covers ethical theories, professional responsibilities and social impacts as they relate to engineering teamwork skills, design and engineering careers.</p> <p><b>Prerequisite:</b> There are no prerequisites for this course.</p> <p><b>Corequisite:</b></p>			
ENGL 91	English Foundations	3	3.00/0.00/0.00
<p>This course integrates the beginning levels of college-level reading and writing. Students will practice various reading strategies and develop proficiency in comprehending, summarizing and interpreting college-level texts as well as practice strategies designed to strengthen their writing skills, including grammar, usage and mechanics.</p> <p><b>Prerequisite:</b> Course placement is determined by assessment</p> <p><b>Corequisite:</b></p>			
ENGL 96	Reading and Writing Strategies	6	6.00/0.00/0.00
<p>This hybrid course integrates college-level reading and writing. Students will practice various reading strategies and develop proficiency in comprehending, summarizing, analyzing and interpreting college-level texts as well as practice strategies designed to strengthen their writing skills, including grammar, usage and mechanics. Students also will practice all stages of the writing process, from invention and drafting to revising and editing, as they create well-structured sentences, paragraphs, essays and other types of writings.</p> <p><b>Prerequisite:</b> Placement by assessment.</p> <p><b>Corequisite:</b></p>			
ENGL 97	English Strategies	3	3.00/0.00/0.00
<p>This course is designed to prepare students for college-level reading and writing tasks across the disciplines. Students will practice strategies in order to develop reading proficiency and writing skills. They also will engage in all stages of the writing process, from invention and drafting to revising and editing, as they respond to texts and specific writing situations.</p> <p><b>Prerequisite:</b> Course placement is determined by assessment or successful completion of ENGL 0091.</p> <p><b>Corequisite:</b></p>			
ENGL 98	Accelerated English	3	3.00/0.00/0.00
<p>This course must be taken in conjunction with a linked section of College Writing (ENGL1101) taught by the same instructor. It is designed to prepare students for college-level reading and writing tasks across the disciplines. Students will practice strategies in order to develop reading proficiency and writing skills. They also will engage in all stages of the writing process, from invention and drafting to revising and editing, as they respond to texts and specific writing situations.</p> <p><b>Prerequisite:</b> Course placement is determined by assessment</p> <p><b>Corequisite:</b></p>			
ENGL 1101	College Writing	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 1. This is an introductory writing course designed to prepare students for later college and career writing. The course focuses on developing fluency through a process approach, with particular emphasis on revision. Students will consider purpose and audience, read and discuss writing and further develop their own writing processes through successive revisions to produce polished drafts. Course work will include an introduction to argumentative writing, writing from academic sources and a short research project.</p> <p><b>Prerequisite:</b> Completion of ELL1080, ENGL0096, or ENGL0097 with a grade of C or higher OR placement into college-level English.</p> <p><b>Corequisite:</b></p>			
ENGL 1205	Writing About Literature	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 1. This course builds on the foundations of College Writing and provides students with additional opportunities to develop fluency in their writing through a process approach. Students will read critically from a variety of literary genres, explore meaning through academic research and respond through discussion and writing.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 1210	Writing About Current Issues	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 1. This course builds on the foundations of College Writing and provides students with additional opportunities to develop and refine their writing through a process approach. Students will explore current issues by critically reading a variety of texts, conducting academic research and responding through discussion and writing.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			

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ENGL 1215	Professional and Technical Writing	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 1. This course provides instruction in writing and designing professional and technical documents, including print and non-print correspondence, descriptions, instructions, reports and proposals, along with promotional material. Analysis, critical thinking and synthesis of sources will be covered, along with the development of presentation skills. Coursework also includes a formally documented, multi-source professional project.</p> <p><b>Prerequisite:</b> ENGL 1101 College Writing</p> <p><b>Corequisite:</b></p>			
ENGL 2200	Introduction to Creative Writing	3	3.00/0.00/0.00
<p>This course meets MnTC Goal Area 6F. The creative writing course focuses on the writing of short fiction, poetry and plays. It is a course designed to offer students practice in the composition of these three modes, with room for exploration of each genre's sub-categories. Emphasis will be on writing original work and on learning the skills needed to revise this work in order to achieve a desired response from an audience. This course will emphasize helping students learn to develop their creative voice and incorporate study of published works to aid students in this goal. This course counts as a fine arts course; it places emphasis on the creation of fine arts as opposed to the formal, critical analysis of them. Course delivery will include a traditional class format as well as workshop settings, where students' work will be read, analyzed and critiqued by others in the class. The course may include the following: presenting and submitting manuscripts, analyzing the motivation for writers, editing and criticism, techniques for reading work aloud and analyzing masterpiece models. Evaluation of course competencies may be based on writing journals, portfolios, presentations, large and small group discussions, collaborative tasks, manuscripts (completed or works in progress) and/or public readings of student works.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2221	Creative Writing: Poetry	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 6F. This creative writing course focuses on the writing of poetry. It is a workshop designed to offer students practice in the composition of poetry and poetic modes of writing. Emphasis will be on writing original work and on learning the skills needed to write successful poetry. The course will emphasize helping students learn to develop their creative voice. This course counts as a fine arts course; it places emphasis on the creation of fine arts as opposed to the formal, critical analysis of them.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2222	Creative Writing: Fiction	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 6F. This creative writing course focuses on the writing of short fiction. It is designed to offer students practice in the composition of fiction and other narrative modes of writing. Emphasis will be on writing original work and on learning skills needed to write narratives that achieve a desired effect on an audience. The course will emphasize helping students learn to develop their creative voice. This course counts as a fine arts course; it places emphasis on the creation of fine arts as opposed to the formal, critical analysis of them. The course may include analyzing masterpiece models, writing in the genre of short fiction and possibly creative essays, biography, autobiography, and/or travelogues. Students will present and submit manuscripts, discuss each other's work in a workshop format and will be expected to edit and critique both their own and fellow students' works.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2223	Creative Writing: Personal Narrative	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 6F. This creative writing course focuses on the writing of memoir. It is a workshop designed to offer students practice in the composition of memoir, from autobiographical vignettes to fully developed personal narratives. Emphasis will be on writing and critiquing original work as well as reading and modeling exemplary memoir writing. This course counts as a fine arts course as it emphasizes the creation of fine arts as opposed to the formal critical analysis of them.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2228	A Well Examined Life: Reading and Writing Memoir	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6F and 7. This course focuses on the writing of personal memoir as well as an in-depth study of the literary genre of memoir; it may also include creative essay writing. It is a workshop designed to offer students practice in the composition of memoir and other narrative modes of writing, as well as a study of the memoir as literature. This course places emphasis on the creation of fine arts as well as the formal, critical analysis of them.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2230	Environmental Literature	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 10. This course will focus on responding to texts that inspire greater awareness of and appreciation for the environment and that explore environmental challenges. Students will gain experience with critical thinking and reading as they examine perspectives, explore attitudes and analyze current problems/solutions through discussions, writings and other activities.</p> <p><b>Prerequisite:</b> ENGL 1101</p> <p><b>Corequisite:</b></p>			
ENGL 2234	Introduction to Literature: Short Stories	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 7. This literature course will increase students' understanding of individual and group differences through a close study of short stories. Issues of race, gender, class, tradition and value will be the focus of the course as illuminated by the literature. The course will also cover the basic elements of short stories. Stories studied</p>			

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<p>may include selections from various ethnic groups, genders or classes.</p> <p><b>Prerequisite:</b> ENGL0050, ENGL0075, ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2235	Introduction to Literature: Drama	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 8. This literature course will introduce students to the growing interdependence of the people of the world through a close study of drama. Studying drama written by various writers around the world will allow students to develop an understanding of and an appreciation for the human condition and culture. The course will also cover the basic elements and concepts of drama.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2236	Introduction to Literature: Novel	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 7. This literature course will involve students in a close reading of selected novels that focus on individual and group differences in both the U.S. and abroad. Attention will be paid to the traditions and values of the writers and as portrayed in the literature. Basic concepts and elements of the novel also will be studied.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2237	Introduction to Literature: Short Prose	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 9. This literature course will focus on the ethical dimensions of political, social and personal life as conveyed in short prose. The basic elements and concepts of short prose will be studied.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2238	Literature, Illness and the Human Condition	3	3.00/0.00/0.00
<p>This course meets MnTC Goal Areas 6 and 9. Students will read fiction and nonfiction literary texts as a means for understanding issues related to health, illness and the human condition. Through discussions, writings and projects, students will analyze the readings in order to learn about the literary genres, explore the range of responses to the issues (including their own) and identify and reflect about ways people exercise their roles as responsible members of their communities and citizens of the world.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2239	Nature Writers	3	3.00/0.00/0.00
<p>This course meets MnTC Goal Areas 2, 6 and 10. This course will focus on texts written by great nature writers. While special emphasis will be placed on those works that stress conservation and ecology, others will enable students to see the human struggle with the environment as protagonist. Material may also include travel writing, as well as the more recent directions toward urban nature and nontraditional/multicultural perspectives. Texts may include nonfiction, novels, poetry and plays. Students will gain experience in reading critically and writing logical, sound papers that deal with environmental issues and text analysis.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2302	American Ethnic Literature	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 7. This multi-genre literature course is a study of significant writers and selected works presenting diverse groups based on race, ethnicity, gender, class, culture, etc. The origins, contributions and changing dynamics of specific groups in the United States will be studied through reading, analysis and discussion.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2304	Introduction to Literature, Native American Focus	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 2 and 6. This introductory literature course introduces students to the study of poetry, drama, memoir and short fiction through the study of Native North American writings. Students will employ critical reading/thinking skills and analytical and creative writing skills in order to more fully understand the literature.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2310	Introduction to Mythology	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 6. This course introduces students to the major myths of Greece and Rome. The course will cover myths, mythological and heroic figures, and how mythology influences culture and literature. The course may also include an introduction to other world mythologies (Norse, Celtic, Native American or others).</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2314	Introduction to Shakespeare	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 6. This course introduces students to William Shakespeare through the study of a selection of plays and poetry. Focus is placed on making Shakespeare's language accessible, interpreting the works from various contexts, and identifying universal and timeless themes.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2321	Women in Literature	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 7. This course examines the ways in which culture, ethnicity, religion, class and sexuality distinguish literature written by female authors from different countries and historical periods. Texts will cover a variety of authors and genres, as well as themes, issues and theories specific to literature written by women.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			

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ENGL 2322	Banned Literature	3	3.00/0.00/0.00
<p>Meets MnTC Goal Area 2, 6 and 7. This course is an in-depth study of literature that has been banned or challenged. The course focuses primarily on the study of literature, but part of the lectures, discussions and student responses will address the topic of censorship. Students will read from a variety of genres.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2323	Horror and Supernatural Fiction	3	3.00/0.00/0.00
<p>This course meets MnTC Goal Areas 2 and 6. This course is an in-depth study of literary texts that fall under the category of horror and/or supernatural fiction. While the focus is on this genre, the course may also address sub-categories of detective fiction, science fiction and fantasy.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2324	Travel Literature	3	3.00/0.00/0.00
<p>This course meets Goal Areas 2, 6 and 10. This course is an in-depth study of travel literature. This course will primarily focus on modern travel literature, but some readings of early explorers will establish context for the changes within the genre, for example, from medieval pilgrimages and the Victorian Grand Tour to travelogues and road narratives. The course will also address various purposes for travel such as adventure, exploration and spirituality, as well as trends in modern travel writing such as blogs and eco-tourism.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ENGL 2325	Contemporary World Literature	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This course provides students an opportunity to read, discuss and analyze contemporary literature from around the world. The focus of the course is on fiction, although students may also be introduced to other contemporary world literature such as poetry, non-fiction and drama.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2372	Children's Literature	3	3.00/0.00/0.00
<p>This course meets MnTC Goal Areas 2, 6 and 7. This course introduces students to children's literature. Students will read and respond to diverse, traditional and contemporary texts. Emphasis will be placed on reading, analyzing, interpreting and evaluating children's literature from various contextual frameworks, such as the development of the genre, cognitive development, censorship and depictions of family, race and gender.</p> <p><b>Prerequisite:</b> ENGL1101</p> <p><b>Corequisite:</b></p>			
ENGL 2374	The Poetics of Rock Lyrics	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2 and 6. This course focuses on the study of poetry and poetic techniques through the lyrics of rock music. Specifically, the course will include studies of artists from the rock &amp;#039;n&amp;#039; roll era (1950s through today).</p> <p><b>Prerequisite:</b> ENGL1101, Or concurrent enrollment</p> <p><b>Corequisite:</b></p>			
ENGR 1100	Project Management	1	1.00/0.00/0.00
<p>This course provides an overview of the construction industry and introduces the student to the duties and responsibilities of the construction professional. The emphasis of this course will be on the importance of the industry and career possibilities for successful students.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ENGR 2210	Engineering Mechanics I	3	3.00/0.00/0.00
<p>This course provides an introduction to the principles of mechanics, including equilibrium of particles and rigid bodies; distributed forces, centroids and centers of gravity; moments of inertia of areas; analysis of simple structures and machines; and various types of friction.</p> <p><b>Prerequisite:</b> MATH1134</p> <p><b>Corequisite:</b></p>			
ENGR 2220	Engineering Mechanics II	3	3.00/0.00/0.00
<p>This course introduces the theory and application of dynamics of particles and rigid bodies. Topics include the kinematics and kinetics of particles and rigid bodies (translational and rotational), principles of work and energy, and principles of impulse and momentum.</p> <p><b>Prerequisite:</b> ENGR2210, MATH1135</p> <p><b>Corequisite:</b></p>			
ENGR 2230	Mechanics of Materials	3	3.00/0.00/0.00
<p>This course provides an introduction to the study of stress, strain, deformation and failure of elastic bodies subjected to external forces. Topics include the relationships between the applied loads and the resulting stresses and deformations in an elastic body, stress-strain relations and the design of structural members subjected to known loads.</p> <p><b>Prerequisite:</b> ENGR2210</p> <p><b>Corequisite:</b></p>			
ENGR 2970	Internship Experience	1.00 - 3.00	
<p>This course is designed to provide students with a monitored meaningful work experience related to their field of interest. This experience will increase their employability and enhance their life skills. Completion of this course requires a written report and an evaluation from the student's supervisor. Each internship is an individualized experience, therefore this course is offered with variable credits and may be repeated up to two times. The student may choose from one, two or three credits as prearranged with the internship site supervisor and corresponding faculty. Each credit will require a minimum of 45 hours of</p>			



Course #	CourseTitle	CR	Lec/Lab/OJT
on-the-job learning. This course will be graded pass/fail only. <b>Prerequisite:</b> Instructor approval <b>Corequisite:</b>			
ENGT 1100	Introduction to Building Information Modeling	3	3.00/0.00/0.00
Building Information Modeling (BIM) is increasingly recognized as a best practice in construction, building design and related disciplines. BIM provides processes and technologies to improve productivity and efficiency in these industries. This course will provide the student an introduction to BIM concepts, terminology and application of best practices. <b>Prerequisite:</b> CADD1000, CONM1101, Instructor Approval <b>Corequisite:</b>			
ENGT 1118	Construction and Manufacturing Math	3	3.00/0.00/0.00
This course covers the application of common geometric and trigonometric calculations related to the construction and manufacturing industries. <b>Prerequisite:</b> MATH0055 <b>Corequisite:</b>			
ENGT 1126	Engineering Graphics	3	1.00/2.00/0.00
This course introduces and develops basic skills in drawing, lettering, orthographic projection, sections and dimensioning. Students in this course will apply the basic fundamentals of pictorial drawing, including isometric, oblique, perspective, shade and shadow, and freehand sketching. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENGT 1134	Office Systems and Equipment	3	1.00/2.00/0.00
This course covers the application of Windows software systems in coordination with AutoCAD software as well as general office equipment set-up and use. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENST 2001	Fundamentals of Utilities	4	4.00/0.00/0.00
This course provides a general overview of the electric, gas and telecommunications industries. The course will cover fossil fuel and renewable energy sources for electric power generation, its history and projected needs for the future. The course also covers the natural gas utility from the ground to the consumers, its history and projected needs for the future. Also covered are the telecommunications industry and how the land phone and cell phone systems operate. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENST 2002	Energy Safety Principles	1	1.00/0.00/0.00
This course is designed to explore the principles and practices of health and safety in an energy services-related construction environment. Topics covered in this course include personal protective equipment, safe work practices, hazardous materials, employee protection and regulations of the Environmental Protection Agency (EPA), Occupational Safety and Health Act (OSHA) and pertinent safety codes/standards. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENST 2222	Blueprint Reading for Energy Industry	2	2.00/0.00/0.00
This course will introduce students to reading and interpreting system and strand maps for the gas, electric and communication industry. Students will also be introduced to reading building blueprints and staking and pole framing sheets. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENST 2223	GPS Mapping	2	1.00/1.00/0.00
This course covers basic information to help the student understand GPS uses in the utility industries, data collection options, processing the collected data and field procedures used to plan a utility distribution route. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENTR 1100	Introduction to Entrepreneurship	3	3.00/0.00/0.00
This course is designed to introduce students to the entrepreneurial process from conception to birth of a new venture. Students will examine elements in the entrepreneurial process - personal, sociological and environmental - that give birth to a new enterprise. Critical factors for starting a new enterprise such as alternative career prospects, family, friends, role models, the state of the economy and the availability of resources will be explored. Students will be introduced to practical tools they can use to further their careers in business, both in entrepreneurship and in more traditional company environments. This course simulates the experiences that entrepreneurs undergo in conceiving, launching and operating new businesses. The course enables students to evaluate an entrepreneurial career for themselves. In doing so, it provides aspiring entrepreneurs with a framework for selecting, funding and starting their own new ventures. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENTR 1400	Opportunity Analysis	3	2.00/1.00/0.00
In this course, students will assess their individual or organization's skills, talents, education, and work experiences for potential business opportunities. They will also examine their external environment to identify trends and needs in the marketplace for potential business opportunities. Students will then screen potential business ideas by practicing primary and secondary research methods. <b>Prerequisite:</b> <b>Corequisite:</b>			

ENTR 1800	Business Internship	3	0.00/0.00/3.00
This course is designed to provide the student with a purposeful occupational experience in a business environment related to his or her program of study. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. Each internship is an individualized experience. Therefore, this course offers a flexible, variable credit experience. The student may choose from 1, 2 or 3 credits, depending on the number of hours pre-arranged with the internship site supervisor. Each credit will require 45 hours of on-the-job learning. <b>Prerequisite:</b> advisor consent <b>Corequisite:</b>			
ENTR 2200	Entrepreneurial Field Studies	3	0.00/0.00/3.00
This course exposes students to business owners and practicing entrepreneurs currently managing ongoing entrepreneurial enterprises. The purpose of the course is to develop mentor relationships with successful practicing business owners and to gain first-hand experience about the knowledge, skills and abilities necessary to be a successful entrepreneur. Students will submit reports throughout the semester addressing questions that integrate entrepreneurship and other business coursework with their work experience. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENTR 2220	Business Ethics/Professionalism	3	3.00/0.00/0.00
This course examines issues related to ethics in business and their impact upon society, the economy and the environment. Students will increase their awareness in making decisions based on ethical judgments. Students will examine the roles, responsibilities and conflicts of business management in the context of organizational ethics. Students will analyze case studies of workplace behavior and define appropriate professional conduct in various workplace scenarios including dress, language and other emerging trends. <b>Prerequisite:</b> <b>Corequisite:</b>			
ENTR 2222	Business Plan Development	3	2.00/1.00/0.00
This course covers the steps in creating a business plan. Areas that will be addressed and developed are industry analysis, strategic positioning, marketing and sales strategy, operations, management and organization, and financials. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1001	Introduction to Equine Science	1	1.00/0.00/0.00
This course introduces the student to the basics of equine breeds, types of horses, including characteristics and uses, and husbandry practices. It will also cover aspects of the equine industry such as career paths and necessary job skills. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1050	Equine Anatomy	3	2.00/1.00/0.00
This course provides an overview of equine anatomy, physiology and disease management. This course allows students to learn basic anatomy and physiology using a systems approach specific to the equine. The student will apply this knowledge to the subjects relevant to equine health management such as equine diseases, disease prevention (vaccination and husbandry), lameness, performance and parasite control. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1060	Equine Reproduction and Nutrition	3	3.00/0.00/0.00
This course introduces the student to the management of the breeding stallion, reproducing mare and newborn foal. It will discuss the anatomy and endocrinology of the reproductive system, the mare estrus cycle, spermatogenesis and cooled and frozen semen insemination techniques. Fundamentals of equine nutrition, feed selection, digestive anatomy and ration evaluation will also be covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1130	Stable Operations I	1	0.00/1.00/0.00
Students will have hands-on experience working in an operational equine facility including training, boarding, riding and lessons. Students will help with day-to-day care and will share the responsibilities of the horse's health and well-being, including feeding, parasite control and medical attention. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1131	Stable Operations II	2	1.00/1.00/0.00
Students will have hands-on experience working in an operational equine facility such as training, boarding, riding and lessons. Students will help with day-to-day care and will share the responsibilities of the horse's health and well-being including feeding, parasite control and medical attention. This advanced section may also include first aid, vaccinations and foaling procedures. The program capstone project, including a business plan, and the program portfolio project will be completed in this course. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1140	Western Horsemanship	3	1.00/2.00/0.00
The student will learn safety, grooming, handling, tack identification and its uses, tacking, showing techniques, correct body position and riding in western disciplines. A large emphasis will be on horse and rider body communication through balance and coordination. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1150	Fundamentals of Riding Instruction	2	1.00/1.00/0.00
The student will be provided training in how to give clear, practical and comprehensible			

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instruction. Varied instruction styles will be covered, as well as developing lesson plans, executing lesson plans, problem solving and instruction management. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1160	English Equitation	3	1.00/2.00/0.00
The student will learn safety, grooming, handling, tack identification and its uses, tacking, showing techniques, correct body position and riding in hunt seat, dressage and jumping disciplines. A large emphasis will be on horse and rider body communication through balance and coordination. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1170	Introduction to Horse Training	1	0.00/1.00/0.00
Students will learn through demonstration how to work with an untrained young horse or an older horse to correct problems and maintain the horse. Training theories, safety, grooming, handling, tacking, identifying tack and its uses, artificial and natural aids and their uses, grooming and showing techniques will also be included. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1180	Equine Evaluation	2	2.00/0.00/0.00
This course focuses on equine judging including conformation, breed characteristics and type and their importance in evaluation. Also covered are performance evaluation, criteria and scoring methods, as well as preparation and delivery of oral reasons. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1190	Farrier Science	2	1.00/1.00/0.00
This course will introduce the student to the basics of horse handling, hoof and leg anatomy and physiology from a farrier's perspective. The course will include theory and demonstrations of proper trimming and shoeing. The student will demonstrate correct trimming and shoeing on cadaver feet. The concept of corrective farrier work will also be introduced and demonstrated. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 1200	Equine Events Management	1	1.00/0.00/0.00
This course provides an experience in the planning, marketing, facility preparation and horse show management necessary to run a successful nationally sanctioned equine event. In partnership with the Red Horse Ranch Arena, students will be involved in all aspects of hosting a selection of breed, cutting, reining and barrel racing shows throughout the semester. This will include all aspects of planning and marketing an equine event, record-keeping, facility preparation, set-up and tear-down, and day-of-show management. This course is repeatable for credit. <b>Prerequisite:</b> <b>Corequisite:</b>			
EQSC 2200	Recognition and Management of Equine Disorders	3	3.00/0.00/0.00
This course will cover the practical aspects of recognizing and managing equine infectious and metabolic disease, lameness and performance problems and breeding issues. Vaccination protocols and parasite prevention will be included. This course will build on the knowledge gained in EQSC 1050 and 1060 and be custom fitted to each student's specific discipline relevant to his or her internship site. <b>Prerequisite:</b> EQSC1050, EQSC1060 <b>Corequisite:</b>			
EQSC 2300	Applied Stable Operations	3	3.00/0.00/0.00
This course will build on the knowledge from EQSC 1130 and 1131. Caring for horses, their environment, nutrition including feeds and feeding, behavior and disease management within a holistic stable/farm/ranch environment will be explored and analyzed. The course will be customized to be relevant to the student's internship experience and will include a capstone project consisting of an in-depth analysis and evaluation of the student's internship facility and business. <b>Prerequisite:</b> EQSC1130, EQSC1131 <b>Corequisite:</b>			
EQSC 2501	Equine Internship	6	0.00/0.00/6.00
This course will provide the student practical experience and on-the-job training relevant to the equine industry. The internships will take place at sites throughout the country or world. These sites are all working farms, ranches, clinics, breeding facilities, stables, etc. All disciplines (English, western, ranch, breeding, veterinary, riding, training, showing, etc.) are represented in order to meet a student's specific area of interest. Students will be required to meet written goals and objectives and undergo evaluations from their host supervisors. Student academic progress will also be monitored via the M State online learning platform. <b>Prerequisite:</b> EQSC1001, EQSC1050, EQSC1060, EQSC1130, EQSC1131, EQSC1140, EQSC1150, EQSC1160, EQSC1170 <b>Corequisite:</b>			
ESTH 1801	Advanced Skin Treatments	1	1.00/0.00/0.00
In this course students learn about advanced skin care techniques including lymph drainage, chemical peels, microdermabrasion and spa body treatments. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 1100	Introduction to Fire Service	2	2.00/0.00/0.00
This course covers the basic information that the student will need to understand the fire protection career field. It will provide an overview of the firefighter selection process and assist in preparing the student for the competitive selection process. It will also provide ad-			

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ditional information on fire protection careers other than firefighter. This course will cover the history of public fire protection; basic terminology; the chemistry, physics and behavior of fire; fire suppression; fire-based emergency medical services; hazardous materials response; fire prevention; and physical fitness training requirements. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 1106	Firefighter I and II	3	3.00/0.00/0.00
This course covers the objectives of the Minnesota State Fire Chiefs Association (MSFCA) for certification as a Firefighter I and Firefighter II. The MSFCA objectives are based on the National Fire Protection Association's (NFPA) 1001: Standard for Fire Fighter Professional Qualifications. This will prepare the student to function at or above the minimum level of training for entry into a fire protection career field. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 1108	Firefighter I and II Skills	4	0.00/4.00/0.00
This course covers the objectives of the Minnesota State Fire Chiefs Association (MNFCA) for certification as a Firefighter I and II. The MNFCA objectives are based on National Fire Protection Association (NFPA) 1001 Standard for Fire Fighter Professional Qualifications. This will prepare the student to function at or above the minimum level of training for entry into a fire protection career field. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 1130	Technical Rescue	3	1.00/2.00/0.00
This course will cover the basic technical rescue techniques required from National Fire Protection Association (NFPA) 1670, Standard on Operations and Training for Technical Search and Rescue Incidents. <b>Prerequisite:</b> FIRE1100, FIRE1106, FIRE1108 <b>Corequisite:</b>			
FIRE 1140	Fire Inspection and Code Enforcement	3	1.00/2.00/0.00
This course will cover basic fire inspection practices based on National Fire Protection Association (NFPA) 1031, Standards for Professional Qualifications for Fire Inspectors and Plan Examiner. <b>Prerequisite:</b> FIRE1100, FIRE1106, FIRE1108 <b>Corequisite:</b>			
FIRE 1150	HazMat Operational	3	2.00/1.00/0.00
This course is designed to teach the necessary skills to protect yourself, your fellow responder and the public from exposure in a hazardous materials incident. The course meets the requirements of the OSHA (Occupational Safety and Health Administration) 1910.120 for the First Responder Operation level. The student will learn how to recognize and identify the presence of hazardous materials, the proper protective clothing to use, how to decontaminate properly, how to establish an Incident Command System and the proper standard operating procedures to maintain safety at the incident scene. The course follows the NFPA (National Fire Protection Association) Standard 472 requirements for the First Responder Operational level. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 1152	Building Construction	3	2.00/1.00/0.00
This course will cover basic building construction techniques. It will also address safety features of today's buildings in relation to firefighter safety, fire behavior and building behavior when subjected to fire conditions. <b>Prerequisite:</b> FIRE1100, FIRE1106, FIRE1108 <b>Corequisite:</b>			
FIRE 1180	Building Construction for Fire Protection	3	3.00/0.00/0.00
This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, pre-planning fire operations and operating at emergencies. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 2020	Fire and Emergency Services Administration	3	3.00/0.00/0.00
This course introduces the student to the organization and management of a fire and emergency services department and the relationship of the government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics and leadership from the perspective of the company officer as described in the National Fire Protection Association's (NFPA) 1021 Fire Officer Professional Qualifications 2009 Edition for state certification for Fire Officer I and Fire Officer II. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 2030	Fire Instructor I	2	2.00/0.00/0.00
This course introduces students to the various objectives of the National Fire Protection Association (NFPA) 1041 Fire Service Instructor Professional Qualifications 2009 Edition for state certification for Fire Instructor I. This will prepare the student to function at the minimum level of training for a fire service instructor. <b>Prerequisite:</b> <b>Corequisite:</b>			
FIRE 2040	Fire Protection Systems	3	3.00/0.00/0.00
This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. <b>Prerequisite:</b> <b>Corequisite:</b>			

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<b>FIRE 2050</b>	<b>Fire Prevention</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course provides fundamental knowledge relating to the field of fire prevention. Topics include history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FIRE 2060</b>	<b>Strategy and Tactics</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course provides the principles of fire ground control through utilization of personnel, equipment and extinguishing agents.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FIRE 2080</b>	<b>Fire Service Leadership and Management</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course will explore the skills necessary to function as a supervisor within a tight-knit, family-like setting. Topics will include motivating employees; group dynamics; managing change; organizational behavior; organizational culture; performance evaluations; leadership theories; group cohesiveness; generational considerations; and personal leadership styles.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FNCS 1110</b>	<b>Introduction to Financial Services</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course covers the history of banking, bank organizational structure, the Federal Reserve System and the types of services provided by financial institutions. Deposit, loan and consumer services will be emphasized. Topics include checking accounts, savings accounts, credit cards, electronic funds transfer, loan products, loan processing, trusts, bank profitability, deregulation and safety of bank funds. This course also gives attention to the industry's concern about customer service, sales, marketing and competition.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FNCS 1114</b>	<b>Consumer Lending</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the fundamental procedures used by consumer lenders in making lending decisions. The student will perform loan interviewing, credit investigation, loan pricing and the preparation of documents for consumer loans. Students will develop notes, security agreements, contracts and other supporting credit documents. Topics will include consumer loan servicing, credit products, marketing, loan documentation, loan portfolio management, lien searches and the functions of the Uniform Commercial Code.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FNCS 1119</b>	<b>Personal Finance Products/Customer Service</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the sale of new checking, savings and certificate of deposit accounts and other financial products. The student will prepare account applications as well as necessary forms and documents for the sale of all types of financial products typically offered in financial service institutions. The student will also role play simulated sales of financial products. Topics include checking accounts, savings accounts, certificates of deposits, loan payments and all other financial products and services.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FNCS 2221</b>	<b>Real Estate Lending</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the fundamental procedures used by mortgage lenders and support staff in providing loans to homeowners. The student will prepare real estate financing applications, appraisals, truth in lending forms, disclosure settlement statements, collateral releases and other supporting credit documentation. Topics include mortgage types, FHA/VA/conventional financing, second mortgages, loan documentation, title insurance, foreclosure and appraisals.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FYE 1000</b>	<b>Student Success Strategies</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course will help students develop practical strategies for success in college and in life. Students will engage in interactive assignments to explore, identify and clarify goals and will develop a better understanding of themselves by analyzing personal choices.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>FYE 1101</b>	<b>First Year Experience</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is designed to help M State students strengthen and develop critical and creative thinking skills associated with a college academic experience, make social adaptations to a new environment and make connections with faculty, staff and resource offices. Topics include an understanding of individual risks and barriers, multiculturalism, life and career planning and personal responsibility. This course is also designed to help students develop the basic skills necessary for academic success in college. Additional topics to be discussed may include but are not limited to time management, study skills, note- and test-taking skills, motivation, and community and campus resources.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 1000</b>	<b>Gas Utility Field Training I</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This is an introductory laboratory course that prepares students for basic field utility work, including safety procedures and equipment operation. This course focuses on hands-on application and is intended to help students become confident in safely operating basic gas utility equipment.			
<b>Prerequisite:</b>			

Corequisite:

<b>GAS 1001</b>	<b>Underground Utility Locating</b>	<b>2</b>	<b>0.00/2.00/0.00</b>
This course provides the skills and procedures necessary to locate and accurately mark underground utilities.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 1002</b>	<b>Gas Service Welding I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course provides an opportunity for students to develop the knowledge, skills and understanding required for employment in this field. Students will learn how to weld pipe utilizing oxyacetylene and gas metal arc welding, welding safety, weld faults and causes, weld joint design and fit up.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 1003</b>	<b>Gas Utility Equipment Training</b>	<b>5</b>	<b>1.00/4.00/0.00</b>
This is an Introductory course that prepares students for basic field utility work. The course includes safety procedures, equipment operations and maintenance.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 1004</b>	<b>Gas Utility Field Training II</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This course provides practice in applied gas utilities tasks with a focus on installation. Students have theory and applied training with the installation of gas meters, valves, regulators and plastic pipe.			
<b>Prerequisite:</b> GAS1000			
<b>Corequisite:</b>			
<b>GAS 1005</b>	<b>Gas Service Welding II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course provides an opportunity for students to develop the knowledge, skills and understanding required for employment in this field. Students will understand how to position pipe welding utilizing gas metal arc welding and shielded metal arc welding processes, pipe fit up and pipe weld testing according to American Petroleum Institute (API) Standard 1104 code.			
<b>Prerequisite:</b> GAS1002			
<b>Corequisite:</b>			
<b>GAS 1500</b>	<b>Metallurgy</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course provides students with knowledge of the manufacturing of iron and steel, mechanical and physical properties of metals, metal identification, macro and microscopic grain structures, welding metallurgy, applied heat treating processes, and weld failures and fractures.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 2001</b>	<b>Forklift Certification</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This course offers an Occupational Safety and Health Administration-compliant program consisting of field training, a knowledge test and a hands-on evaluation for all forklift operations.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 2002</b>	<b>Gas Utility Field Training III</b>	<b>5</b>	<b>1.00/4.00/0.00</b>
This course provides practice in gas utility tasks with a focus on gas mains. The students have theory and applied training with the installation and repair of steel gas mains and services, line testing and leak detection procedures,			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 2003</b>	<b>Gasless Leak Detection</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course will provide hands-on training for responding to gas emergencies and conducting hazardous leak investigations.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GAS 2600</b>	<b>Electric and Gas Appliances</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This course provides the student with the skills necessary for the installation, maintenance and repair of residential electric/gas appliances.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 1100</b>	<b>Macintosh Production Processes</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers general processes, workflow methods and utilization of the Macintosh Operating System features in a graphic design or production environment.			
<b>Prerequisite:</b>			
<b>Corequisite:</b> None			
<b>GDTC 1105</b>	<b>Adobe Photoshop I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the fundamental functions of Adobe Photoshop to manipulate and combine digital images.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 1113</b>	<b>Design and Layout I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
As the first of three layout and design courses in a series, this foundational course introduces students to the basic elements and principles of design. Students will produce a variety of design projects that will familiarize them with the creative process, basic design theories, branding philosophies and production techniques. Most projects will be created			

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using Adobe Creative Suite applications.			
<b>Prerequisite:</b>			
<b>Corequisite:</b> GDTC1120			
<b>GDTC 1115</b>	<b>Design and Layout II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
As the second of three layout courses in a series, students will expand upon their basic design knowledge by learning advanced methods of style, typography, layout grids, identity development and branding. Increasingly complex projects will require students to employ more sophisticated methods of research, concept development, design strategy and assessment. Students will create a variety of projects in Adobe software.			
<b>Prerequisite:</b> GDTC1113			
<b>Corequisite:</b>			
<b>GDTC 1120</b>	<b>Adobe InDesign I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
In this course, students will be introduced to basic through intermediate functions of Adobe InDesign. Developing proficiency in software vocabulary, applied techniques and overall efficiency will be emphasized throughout the course. Students will create a variety of industry-related graphic design projects that effectively incorporate type and imagery in single- and multiple-page InDesign documents. These projects will involve simple to complex tasks that will reinforce students' basic design knowledge and skills.			
<b>Prerequisite:</b>			
<b>Corequisite:</b> GDTC1113			
<b>GDTC 1124</b>	<b>Interactive Design I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course focuses on design principles and technical specifications for interface design using digital imaging software, hypertext markup language and cascading style sheets to create and edit interactive and multimedia projects.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 1126</b>	<b>Digital Photography</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
In this course students will develop basic photographic skills and knowledge using a digital camera for a variety of assignments.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 1135</b>	<b>Adobe Illustrator I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers fundamental functions of Adobe Illustrator to create basic illustrations and layout.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 1150</b>	<b>Process Printing Theory</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course provides foundational theory on print process as well as printing terminology. Focus is on theory and not on application of technology, using books, lectures and industry tours, if available.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 2120</b>	<b>Adobe InDesign II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course builds upon the skills and knowledge acquired in the Adobe InDesign I course. More advanced tools and techniques will be taught, and students will again be designing a variety of industry-related graphic design projects to demonstrate their skills and design knowledge. Assignments will include both print and interactive projects, and students will be taught how to independently construct and output these projects to industry standards.			
<b>Prerequisite:</b> GDTC1120			
<b>Corequisite:</b>			
<b>GDTC 2203</b>	<b>Electronic Image Manipulation</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the fundamental functions of Adobe Photoshop or other raster-based equivalent software to manipulate and combine digital images.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 2205</b>	<b>Adobe Photoshop II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers digital image creation, manipulation and preparation for output using a variety of advanced functionalities of Adobe PhotoShop.			
<b>Prerequisite:</b> GDTC1105			
<b>Corequisite:</b>			
<b>GDTC 2212</b>	<b>Design and Layout III</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
As the third of three layout courses in a series, this course focuses on brand and identity development. Each student develops his or her own fictitious company that will include a visual identity and supporting brand materials. Additional applications of these concepts are explored in the form of self-promotional projects. Special emphasis is placed on research, marketing techniques, rationale and presentation.			
<b>Prerequisite:</b> GDTC1113, GDTC1115			
<b>Corequisite:</b>			
<b>GDTC 2224</b>	<b>Interactive Design II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course focuses on the understanding and use of content management systems, database software and principles of user interface and user experience design to create and edit responsive interactive design projects for web and mobile purposes.			
<b>Prerequisite:</b> GDTC2203, GDTC2214			
<b>Corequisite:</b>			
<b>GDTC 2230</b>	<b>Design Portfolio</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course focuses on planning, creating and assembling an industry-ready graphic design portfolio. Students will each develop a plan to work toward their individual portfolio goals.			

Branding one's self for the job search process will be covered, and students will be assigned self-promotional projects for this purpose. Multiple assignments will provide students an opportunity to practice presenting their portfolio to large and small groups.			
<b>Prerequisite:</b> GDTC2120, GDTC2205, GDTC2212			
<b>Corequisite:</b>			
<b>GDTC 2238</b>	<b>Design Studio</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Students will produce design projects with content and media of their particular interest. Work will be completed on a contractual basis between the student and instructor. Additional projects and activities will be assigned to gain experience in industry and client processes. Specific emphasis will be placed on refining skills and producing professional-level projects for student portfolios.			
<b>Prerequisite:</b> GDTC2203, GDTC2212, GDTC2242			
<b>Corequisite:</b>			
<b>GDTC 2240</b>	<b>Lighting Techniques</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
In this course students will develop an understanding of natural and indoor lighting. They will also demonstrate the capabilities of flash-mount lighting; demonstrate their ability to effectively use multiple flash functions, settings and techniques; and demonstrate proper use and settings of strobe lighting components. Students will also learn how to use settings for box and umbrella lighting techniques, critique lighting methods used in different venues and demonstrate soft box lighting techniques for product photography.			
<b>Prerequisite:</b>			
<b>Corequisite:</b>			
<b>GDTC 2242</b>	<b>Electronic Publishing</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Students will learn in-depth technical skills necessary for page layout design. A variety of design projects will be assigned that will teach students to effectively incorporate type and imagery in single- and multiple-page documents. These projects will involve simple to complex tasks that will reinforce students' basic design skills.			
<b>Prerequisite:</b> GDTC1113			
<b>Corequisite:</b>			
<b>GDTC 2242</b>	<b>Electronic Publishing</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Students will learn in-depth technical skills necessary for page layout design. A variety of assigned design projects will teach students to effectively incorporate type and imagery in single- and multiple-page documents. These projects will involve simple to complex tasks that will reinforce students' basic design skills.			
<b>Prerequisite:</b> GDTC1113			
<b>Corequisite:</b>			
<b>GDTC 2245</b>	<b>Adobe Illustrator II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course covers the use of Adobe Illustrator to create and manipulate electronic illustrations, logos and artwork.			
<b>Prerequisite:</b> GDTC1135			
<b>Corequisite:</b>			
<b>GDTC 2246</b>	<b>Advanced Photography and Imaging</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
In this course students will learn how to photograph in Raw File Format (RAW). Students will demonstrate setting components for Raw File Format and develop a clear understanding of the different computer file formats, file sizes, resolution, pixels per inch (PPI) and mega pixels. They will also demonstrate color correction; red, green, blue (RGB), cyan, magenta, yellow and black (CMYK). Students will identify CMYK profiles, develop a high degree of competency in manipulating photographs using Photoshop, and understand the importance of computer monitor calibration for color quality. Additionally, students will demonstrate advanced photography framing techniques and focus on how various lenses, aperture settings and film speeds work together.			
<b>Prerequisite:</b> GDTC1126			
<b>Corequisite:</b>			
<b>GDTC 2250</b>	<b>Design Campaigns</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
In this course, students will apply branding, advertising and graphic design principles to build integrated campaigns. These campaigns will require students to employ a variety of media such as print, digital, social media, wearable, out-of-home and some non-traditional applications. Students will learn preparatory research and basic marketing planning to lay the groundwork for their projects.			
<b>Prerequisite:</b> GDTC1124, GDTC2212, GDTC2278			
<b>Corequisite:</b>			
<b>GDTC 2258</b>	<b>Graphic Design Professional Practices</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course addresses the professional practice of graphic design technology. The course will cover interviewing skills, presentation techniques, freelance business operation, proposals and management, resume and cover-letter writing, job research/job offer and portfolio preparation.			
<b>Prerequisite:</b> GDTC2212, GDTC2278			
<b>Corequisite:</b>			
<b>GDTC 2276</b>	<b>Graphic Design Internship</b>	<b>3</b>	<b>0.00/0.00/3.00</b>
Students are placed temporarily in a partnering graphic industry establishment where they are able to utilize their graphic design technology skills in a real-world experience.			
<b>Prerequisite:</b> GDTC2203, GDTC2212			
<b>Corequisite:</b>			
<b>GDTC 2278</b>	<b>Digital Preflight</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Students will create and analyze electronic files to identify and resolve potential conflicts that may arise in different production processes. A variety of design projects will be produced using Adobe applications, with an emphasis on file construction and production preparation.			
<b>Prerequisite:</b> GDTC2242			



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<b>Corequisite:</b>				of ornamental plants. The course exposes students to regional golf landscape and garden center industries through lectures, field trips and guest speakers.			
<b>Prerequisite:</b>				<b>Corequisite:</b>			
<b>GEOG 1110</b>	<b>World Geography</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>GOLF 2402</b>	<b>Golf Internship</b>	<b>1.00 - 3.00</b>	
Meets MnTC Goal Areas 5 and 8. Students will gain an understanding and appreciation of the spatial relationship of the physical and human elements of our world with an emphasis on the interdependence of nations and peoples. Geography describes the earth's environments and gives character to places through words, maps and graphics, and this course will explore these elements and their contributions to the diversity of world geographics. Students will become aware of how the world and the earth's people interact in local regions and in patterns around the globe.				This course provides students with the opportunity to apply knowledge and skills in an operational golf environment. Students will perform activities in an employer-supervised industry setting that are consistent with program outcomes. Depending on the employee assignment, this course may emphasize the duties golf professionals face in industry regarding communication, decision-making, professional and ethical behavior, organizational policies, time and resource management, and customer service. This course may be repeated for credit.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GEOG 1160</b>	<b>Global Physical Geography</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>GOLF 2500</b>	<b>Fundamentals of Golf Instruction</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 8 and 10. This course emphasizes the interactions of biological, geographical and climactic systems in the development of the patterns of regional environments on the surface of the earth and their interactions with human activities.				This course provides the student with the materials and means to teach the fundamentals of the golf swing. Emphasis is on the skills it takes to be an instructor of golf lessons. These skills include but are not limited to communication, patience, coordination, knowledge of the golf swing, troubleshooting an individual's swing, and the ability to instruct both individuals and groups.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GLST 1510</b>	<b>Global Studies: Natural Science</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>GSMS 1110</b>	<b>First Aid / CPR</b>	<b>1</b>	<b>0.50/0.50/0.00</b>
Meets MnTC Goal Areas 3 and 8. This travel-abroad course combines a classroom component with a travel experience which includes scheduled academic activities in international locations as determined by the instructor. Students will study and experience unique ecosystems and biodiversity, as well as cultural and societal differences of the travel abroad location. This course includes field or lab-like activities, including a field notebook and ecosystem analysis.				This course teaches basic life support using American Heart Association or American Red Cross guidelines and first aid using American Academy of Orthopaedic Surgeons (AAOS) or American Red Cross Guidelines.			
<b>Prerequisite:</b> Permission of the instructor is required.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GOLF 1100</b>	<b>Rules of Golf</b>	<b>1</b>	<b>1.00/0.00/0.00</b>	<b>HCCC 1000</b>	<b>Healthcare Core Curriculum</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course reviews the rules of golf in detail. Students develop a clear understanding of how to navigate the rule book by studying "The Rules of Golf" and "The Decisions on the Rules of Golf." Emphasis is placed on practical hands-on application of the rules and decisions on the golf course. Proper course set-up and marking a golf course for an official USGA event are also discussed. The course prepares students to take the USGA Rules Exam.				The Healthcare Core Curriculum is a standardized 64-hour competency-based course introducing students to health care careers. The course includes basic knowledge health care workers need in order to contribute to the delivery of safe and effective care in rapidly changing health care environments. Students who take the Nursing Assistant Skill Set concurrently will be prepared to take the nursing assistant certification examination.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b> Students interested in taking the nursing assistant certification exam are required by the MN Department of Health to take HCCC 1001 Nursing Assistant Skill Set concurrently.			
<b>GOLF 1101</b>	<b>Golf Club Repair</b>	<b>1</b>	<b>0.00/1.00/0.00</b>	<b>HCCC 1001</b>	<b>Nursing Assistant Skill Set</b>	<b>2</b>	<b>0.00/2.00/0.00</b>
This course introduces students to the art of golf club design and repair. Focus is on the technology and techniques involved, the correct processes by which clubs are properly designed and repaired, and the equipment currently available to custom design and repair in today's industry. Custom design and repair lab setup and establishing a successful design and repair business are also discussed.				This laboratory and clinical course is to be taken concurrently with the HCCC1000 Healthcare Core Curriculum course for students interested in taking the nursing assistant certification examination. This course provides students the laboratory and clinical hours required for the nursing assistant curriculum. The course may not be taken independently of the HCCC1000 Healthcare Core Curriculum course.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> Clear Minnesota Department of Health criminal background check, Demonstration of required immunizations			
<b>Corequisite:</b>				<b>Corequisite:</b> HCCC1000			
<b>GOLF 1102</b>	<b>Tournament Operations</b>	<b>1</b>	<b>1.00/0.00/0.00</b>	<b>HEAT 2218</b>	<b>Gas Heating</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
The course provides an overview of golf tournament operations. Students establish, facilitate, design and operate a golf tournament. Emphasis is on the checklist required to operate a successful golf tournament. Calligraphy, tournament types and tournament marketing are also discussed.				This course covers gas heating units, primarily furnaces. Emphasis is placed on understanding the operating systems and the operating sequence as it exists within the furnace, including mechanical, electrical and combustion. Diagnosis and repair of malfunctioning furnaces is a significant portion of this course.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GOLF 1200</b>	<b>Introduction to Golf Fundamentals and Methods</b>	<b>3</b>	<b>2.00/1.00/0.00</b>	<b>HEAT 2220</b>	<b>Oil Heating</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course discusses the fundamentals of golf necessary to play at the beginning recreational level. It includes discussion of rules, etiquette, equipment and terminology. The course will be a combination of classroom lecture and golf course experience.				This course covers the use of oil as a means used to heat various media including air and water.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> CONE1102, PLBG1128			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GOLF 2100</b>	<b>Pro Shop Operations and Management</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HIST 1101</b>	<b>Western Civilization: Ancient to 1600s</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course introduces students to the role of management in golf facility operations. Emphasis is on the administration of course procedures, tee times and retail space. Pro shop operations and the impact on customer and player relations are analyzed. Player performance analysis and instructional methodology are also discussed.				Meets MnTC Goal Areas 5 and 8. This course provides a discussion of the political, economic, cultural and social factors which have shaped the history of Western Civilization. Topics include ancient civilizations, the development of the major religions of the Western world, the Medieval period, the Renaissance and Reformation, the rise of capitalism, the development of the nation state and the Age of Absolutism.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GOLF 2200</b>	<b>Turf Management</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HIST 1102</b>	<b>Western Civilization: 1600s to the Present</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course introduces students to the management of golf course turfgrass and landscaping. Focus is on the ecology of turf, maintenance operations, irrigation and the equipment necessary for course care. Pest and weed control management, chemical handling and the environmental impact of golf are also discussed.				Meets MnTC Goal Areas 5 and 8. This course provides a discussion of the political, economic, cultural and social factors which have shaped the history of Western Civilization. Topics include the Glorious, French and Industrial Revolutions, Napoleon and the Napoleon Wars, the two world wars, and the rise and collapse of communism.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GOLF 2201</b>	<b>Soils and Fertilizers</b>	<b>3</b>	<b>2.00/1.00/0.00</b>	<b>HIST 1110</b>	<b>Western Civilization: Ancient-1400&amp;#039;s</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is a study of soils and plant nutrition as related to golf course maintenance. Emphasis is on physical and chemical properties, water, organic matter and life of golf course soils. Process and methods of supplying nutrients to plants will be discussed.				Meets MnTC Goal Areas 5 and 8. This course provides a discussion of the political, economic, cultural and social factors which have shaped the history of the Western world. Topics include Mesopotamia, the Hebrews, the Greeks, the Romans, the rise of Christianity, feudalism and manorialism, the rise of Islam, the Merovingians and the Carolingians.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>GOLF 2202</b>	<b>Introduction to Golf Landscape and Horticulture</b>	<b>3</b>	<b>2.00/1.00/0.00</b>				
This course introduces students to the industry of golf management, golf course landscape and horticulture. Students also will be introduced to the use, production and maintenance							

Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Prerequisite:</b>				the 20th century. Topics covered include the Progressive Era, World War I, the Roaring 20s, the Great Depression, the New Deal, World War II, the Cold War, the Korean Conflict, scientific advancements of the 1950s and 1960s, the Civil Rights Movement, the Cuban missile crisis, the Vietnam War and Watergate.			
<b>Corequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1111</b>	<b>Western Civilization: 1400&amp;#039;s-1600&amp;#039;s</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HIST 2220</b>	<b>Minnesota and Northern Plains History</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 8. This course provides a discussion of the political, economic, cultural and social factors which have shaped the history of the Western world. Topics include the Renaissance, the rise of capitalism, the Reformation, the emergence of nation states and the Age of Absolutism.				Meets MnTC Goal Areas 5 and 10. This survey course explores the cultural, social, political and economic development of Minnesota and the northern Great Plains. Topics will include the significance of geography and natural resources, relations between Native American and European populations, and key events in the economic and political development of the region. Emphasis will be placed on the interaction between human development and the natural environment.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1112</b>	<b>Western Civilization: 1600&amp;#039;s-1800&amp;#039;s</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 1150</b>	<b>Introduction to Health Care Delivery</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 8. This course provides a discussion of the political, economic, cultural and social factors that have shaped the history of the Western world. Topics include the English Revolution, the Intellectual Revolution, the French Revolution and the Industrial Revolution.				This course is a study of the historical development of the health care delivery system. The student is given an opportunity to learn about the role of the health information professional and how this role is integrated into the health care delivery system. Ethical standards in health information management are covered.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> None			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1113</b>	<b>Western Civilization: 20th Century</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 1152</b>	<b>Health Information Systems</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
Meets MnTC Goal Areas 5 and 8. This course provides a discussion of the political, economic, cultural and social factors which have shaped the history of the Western world. Topics include Marxism, the Industrial Revolution, the Age of Progress, World War I, the rise of fascism, World War II and the Cold War.				This course is a study of the basic health information systems, both paper-based and electronic, with an emphasis on electronic. Primary and secondary records will be defined. Other areas to be covered are basic documentation requirements and the management of paper records. An introduction to classification systems, taxonomies, nomenclatures, terminologies and clinical vocabularies is provided. An electronic health record (EHR) educational system is used extensively in this course as a foundation for EHR utilization throughout a health care organization.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> HITM1150			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1201</b>	<b>American History to 1877</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 1153</b>	<b>Introduction to Electronic Health Records</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 7. This course provides a discussion of the political, economic, cultural and social factors which have shaped American history. Topics include European exploration and colonization, the American Revolution and Founding period, the rise of democracy and industrialization, sectional conflict, the Civil War and Reconstruction.				This course introduces the student to the evolution of paper health records to the electronic version. The stages of preparation of electronic health record development will be identified. Students will be given the opportunity to research the technologies that support the electronic health record. Also, the challenges of electronic health record implementation will be discussed.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> Permission of instructor.			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1202</b>	<b>American History since 1877</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 1155</b>	<b>Medicolegal Aspects</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Meets MnTC Goal Areas 5 and 7. This course provides a discussion of the political, economic, cultural and social factors which have shaped American history. Topics include the Gilded Age, populism, progressivism, isolationism, American involvement in the two World Wars, the Cold War, Vietnam, the civil rights movement and the debate over American exceptionalism.				This course focuses on the application of legal principles, policies, regulations and standards for the control and use of health information. Emphasis is on the proper release of patient information and legal procedures involved in court disclosure of health record information. An electronic health record system is utilized for tracking the request and disclosure of protected patient information.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> HITM1150			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1500</b>	<b>European Experience</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 1159</b>	<b>Professional Practice Experience Functions</b>	<b>2</b>	<b>0.00/0.00/2.00</b>
Meets MnTC Goal Areas 5 and 8. This course combines an on-campus component with a trip to Europe. During the on-campus portion of the course students will learn about major events in British and French history such as the French Revolution, the Napoleonic era, the War of the Roses and the reign of Henry VIII. After the on-campus component is completed, students embark on a 10-day trip to Paris and London, where they visit historical sites they studied during the on-campus portion of the course.				This course provides the student with practical applications of theories in the field of health information technology. Under the supervision of a qualified health information professional, the student gains professional practice experience in basic health record functions.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> HITM1155			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1600</b>	<b>History of Baseball</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 1159</b>	<b>Professional Practice Experience Functions</b>	<b>2</b>	<b>0.00/0.00/2.00</b>
Meets MnTC Goal Area 5. This course deals with the history of baseball in America. The course examines the origin of baseball, the development of professional baseball, the creation of baseball leagues, the business of baseball, baseball scandals, labor relations, great moments in baseball history, baseball curses and the steroids era. The course not only examines the history of the game itself, but also emphasizes the ways in which baseball has shaped American society and American society has shaped baseball.				This course provides the student with practical applications of theories in the field of health information technology. Under the supervision of a qualified health information professional, the student gains professional practice experience in basic health record functions.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> HITM1155			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 1700</b>	<b>The History of America's National Parks</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 2202</b>	<b>Computer Applications in Healthcare</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
Meets MnTC Goal Areas 5 and 10. This course examines the history of America's national parks. From the creation of the first national park, Yellowstone, to the controversial expansion of the national park system in Alaska in the 1970s, this course explores the competing values of development and preservation.				This course develops the health information technology student's knowledge of computer theory and application in the areas of system collection, storage and retrieval.			
<b>Prerequisite:</b>				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 2211</b>	<b>American History: the Colonial Period</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 2204</b>	<b>Fundamentals of Electronic Health Records</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
Meets MnTC Goal Areas 5 and 7. The course content is the colonial period in American history. Topics include the Age of Exploration, early American settlements, the rise of colonial regions in America, the clash of cultures and races, the American Revolution and the Articles of Confederation.				This course focuses on electronic health records and other computer systems used in health care. The course also covers software applications, system selection and implementation, data quality, storage and retrieval, security and privacy, and how these systems and issues affect and are affected by the health information management profession. An electronic health record system is used in this course.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> CPTR1104, HITM1150			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 2212</b>	<b>American History 19th Century</b>	<b>3</b>	<b>3.00/0.00/0.00</b>	<b>HITM 2211</b>	<b>Basic Pharmacology for Coders</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 7. This is the second course in an American history sequence. The course content is America's 19th century, defined as the 1780s to 1877. Consideration is given to the Constitution of 1787, the Washington administration, Jeffersonian policies, the War of 1812, the slavery controversy, the Civil War and Reconstruction.				This course introduces the coding student to basic pharmacology concepts and drug categories as related to current coding guidelines. Emphasis is placed on commonly used drugs and their effects on body systems. Drug reference utilization is included.			
<b>Prerequisite:</b>				<b>Prerequisite:</b> HLTH1116			
<b>Corequisite:</b>				<b>Corequisite:</b>			
<b>HIST 2213</b>	<b>American History: 20th Century</b>	<b>3</b>	<b>3.00/0.00/0.00</b>				
Meets MnTC Goal Areas 5 and 7. This course covers the history of the United States during							

Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT
HITM 2214	Introduction to International Classification of Diseases (ICD) Coding	3	2.00/1.00/0.00	HITM 2270	Professional Practice Experience Management	1	0.00/0.00/1.00
<p>This course covers an in-depth study of the International Classification of Diseases (ICD). The edition taught is based on the industry's currently required classification system. Sample exercises and medical records are used to develop skill and accuracy in assigning diagnostic and procedure codes based on the health care setting. Coding guidelines appropriate to the health care setting will be applied.</p> <p><b>Prerequisite:</b> BIOL2260, BIOL2261, HLTH1116, HLTH2208</p> <p><b>Corequisite:</b></p>				<p>This course provides the student with practical application of classroom theories and coursework. Under the supervision of a qualified health record professional , the student gains professional practice experience in supervisory and management functions.</p> <p><b>Prerequisite:</b> Permission of the instructor.</p> <p><b>Corequisite:</b></p>			
HITM 2216	Introduction to Procedure Coding	3	1.00/2.00/0.00	HITM 2272	Professional Practice Experience Coding	2	0.00/0.00/2.00
<p>This course is an introduction to procedural coding guidelines using Current Procedural Terminology (CPT), the Center for Medicare and Medicaid Services Healthcare Common Procedure Coding System (HCPCS) classification systems, and the International Classification of Diseases-Procedure Coding System (ICD-PCS) current classification systems. Students will practice assigning procedure codes to clinical information found in a health record while maintaining ethical coding standards by adhering to current regulations and guidelines in procedural code assignment.</p> <p><b>Prerequisite:</b> BIOL2260, HLTH1116</p> <p><b>Corequisite:</b></p>				<p>This course provides the student with practical application of classroom theories and coursework. Under the supervision of a qualified supervisor, the student gains professional practice experience in coding and reimbursement.</p> <p><b>Prerequisite:</b> HITM2216, HITM2282</p> <p><b>Corequisite:</b></p>			
HITM 2218	Intermediate Procedure Coding	3	1.00/2.00/0.00	HITM 2275	Health Record Documentation	1	1.00/0.00/0.00
<p>This course is a continuation of coding guidelines using the current classification system. Students will practice assigning procedure codes to clinical information found in a health record while maintaining ethical coding standards. Current regulations and guidelines in code assignment will be covered. A Web-based coding system is introduced and utilized in procedure code assignment.</p> <p><b>Prerequisite:</b> HITM2216</p> <p><b>Corequisite:</b></p>				<p>This course allows students to review and apply the applicable accreditation standards for health record documentation. Students also will review and apply payer requirements and professional practice standards. The policies of uniform content and format will be applied.</p> <p><b>Prerequisite:</b> HITM1160</p> <p><b>Corequisite:</b></p>			
HITM 2230	Medical Science for Health Information Professionals	3	3.00/0.00/0.00	HitM 2280	Registered Health Information Technology Exam Review	1	1.00/0.00/0.00
<p>This course provides students with an understanding of fundamental concepts of pathological conditions and therapeutics associated with multiple medical conditions. A working knowledge of the nature and cause of disease processes including the etiology, signs, symptoms and diagnostic evaluation are covered. Appropriate treatment modalities are covered for each body system, including pharmacological, preventative, palliative, therapeutic and surgical. This allows health information professionals to apply diagnosis and treatment knowledge to code assignment according to current guidelines.</p> <p><b>Prerequisite:</b> BIOL2260, HLTH1116</p> <p><b>Corequisite:</b></p>				<p>This course will assist students in preparing to write the American Health Information Management Association's Registered Health Information Technology exam. Students will systematically review the content of the exam according to the American Health Information Management Association's curriculum comprised of the defined domain, subdomains and tasks . Discussions will assist students in locating published study aids and practice exams.</p> <p><b>Prerequisite:</b> Permission of the instructor</p> <p><b>Corequisite:</b></p>			
HITM 2236	Advanced International Classification of Diseases (ICD) Coding	2	1.00/1.00/0.00	HITM 2282	Introduction to Diagnosis Coding	3	1.00/2.00/0.00
<p>This course is a continuation of the in-depth study of the International Classification of Diseases (ICD) coding and reimbursement in the health care delivery system. Coursework in ICD-10 is included.</p> <p><b>Prerequisite:</b> Permission of instructor</p> <p><b>Corequisite:</b></p>				<p>This course focuses on the International Classification of Diseases (ICD) coding system. Emphasis will be placed on the correct process of utilizing the alphabetic index and tabular list for diagnosis code assignment according to current coding conventions and guidelines. Students will interpret clinical information found in the health record in order to assign diagnosis codes while maintaining ethical coding standards.</p> <p><b>Prerequisite:</b> BIOL2260, HLTH1116</p> <p><b>Corequisite:</b></p>			
HITM 2238	Advanced Coding CPT	2	1.00/1.00/0.00	HITM 2283	Intermediate Diagnosis Coding	3	1.00/2.00/0.00
<p>This course is a continuation of the in-depth study of the Physician's Current Procedural Terminology (CPT) coding system.</p> <p><b>Prerequisite:</b> HITM2216</p> <p><b>Corequisite:</b></p>				<p>This course is a continuation of coding guidelines using the current International Classification of Diseases. Students will practice assigning diagnosis codes to clinical information found in a health record while maintaining ethical coding standards. Current regulations and guidelines in code assignment will be covered. A Web-based coding system is introduced and utilized in diagnostic code assignment.</p> <p><b>Prerequisite:</b> HITM2282</p> <p><b>Corequisite:</b></p>			
HITM 2250	Supervisory Leadership in Health	3	3.00/0.00/0.00	HITM 2284	Advanced International Classification of Diseases,Tenth Edition	2	1.00/1.00/0.00
<p>This course provides practical instruction in supervisory and management principles from a health information management (HIM) perspective. The principles introduced will provide a foundation and path for sound management practice and decision making. The course covers theories of management, supervisory and management functions in HIM, change management, legal aspects, policies, procedures, accounting methodologies and the support of diversity in the workplace. Staff recruitment, retention, training and development in HIM are also covered.</p> <p><b>Prerequisite:</b> HITM1150</p> <p><b>Corequisite:</b></p>				<p>This course is a continuation of the in-depth study of the International Classification of Diseases, 10th Edition.</p> <p><b>Prerequisite:</b> HITM2282</p> <p><b>Corequisite:</b></p>			
HITM 2252	Quality Management & Statistics	3	2.00/1.00/0.00	HITM 2290	Health Care Data Management and Analysis	3	1.00/2.00/0.00
<p>This course covers the components of quality improvement systems, including quality assessment, utilization review and risk management. This course is also a study of collecting, computing, analyzing, interpreting and presenting numerical data relating to health care services.</p> <p><b>Prerequisite:</b> HITM1152</p> <p><b>Corequisite:</b></p>				<p>This course provides an outline of enterprise-wide information management and governance and the use of statistics and manipulation of data in the health care setting. A hands-on approach uses real-world examples showing students how to identify the problem, find the right data, generate the statistics and present the information to other users. Students learn how the quality of data and its management affect the sustainability and viability of health care organizations.</p> <p><b>Prerequisite:</b> HITM2204, MATH0085</p> <p><b>Corequisite:</b></p>			
HITM 2253	Quality Management Studies	3	2.00/1.00/0.00	HLTH 1110	Introduction to Anatomy and Physiology	3	3.00/0.00/0.00
<p>This course covers the components of quality improvement systems such as quality assessment, performance improvement, utilization management, risk management and credentialing. Also included is preparation for licensing and accreditation surveys.</p> <p><b>Prerequisite:</b> HITM1150</p> <p><b>Corequisite:</b></p>				<p>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.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HITM 2263	Reimbursement Systems	3	2.00/1.00/0.00	HLTH 1111	Personal and Community Health	3	3.00/0.00/0.00
<p>This course covers the current reimbursement systems that are used in inpatient and outpatient settings in the health care industry. The revenue cycle management process will be covered, including the importance of clinical documentation improvement, chargemaster processes and procedures, compliance strategies, and fraud surveillance and reporting.</p> <p><b>Prerequisite:</b> HITM1150</p> <p><b>Corequisite:</b></p>				<p>This course studies the dimensions of wellness and how each dimension is affected by personal health choices. It also studies how the personal choices of society affect the community. This course is designed to help the student maintain good physical, mental and social well-being. Some of the topics covered include anatomy and physiology, emotional and mental health, drug use and abuse, and nutrition and fitness. We will examine the importance of communities in providing access to personal health choices and health care, and how as a society we restrict personal health choices socioeconomically, racially and by gender.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HLTH 1112	Introduction to Home Health	1	1.00/0.00/0.00
				<p>This course builds on the nursing assistant course to introduce the concepts of home care</p>			

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				HLTH 2215	EMT Basic	6	4.00/2.00/0.00
				<p>This course follows the current National Standard Curriculum and will include all skills and classroom information necessary to provide emergency care at the basic life support level. Modules presented include preparation of the EMT-B, airway, patient assessment (medical and trauma), medical/behavioral emergencies and OB/GYN, trauma, infants and children, ambulance operations and interventions (medications and semi-automatic defibrillation). Upon successful completion of the EMT-B course, the student will be eligible to take the state/national registry computer and practical examinations.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HONS 1101	Introduction to Honors	1	1.00/0.00/0.00
				<p>Meets MnTC Goal Area 2. This course is intended to be taken by students within the Honors Program during the first semester of the program.This is a variable content reading course which will emphasize critical thinking but be directed toward the academic interests of faculty and students. Each student will present a proposal for a capstone honors project at the end of the course.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HONS 2900	Honors Capstone Seminar	1	1.00/0.00/0.00
				<p>Meets MnTC Goal Area 2. This course is intended to be taken by students within the Honors Program during the final semester of the program. The course is a variable content reading course which will emphasize critical thinking but be directed toward the academic interests of faculty and students. Each student will present a capstone honors project at the end of the course.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 1122	Human Resource Management	3	3.00/0.00/0.00
				<p>This course is an introduction to the basic principles of human resource functions and services. It provides a background and understanding for further human resource courses.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 1126	Talent Acquisition	3	3.00/0.00/0.00
				<p>This course covers the basic knowledge of the factors to be considered and the strategies used in the employment process.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 1130	Benefits Administration	3	3.00/0.00/0.00
				<p>This course covers basic knowledge and information about the various types of benefits that are typically offered by employers for their employees.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 1134	Training and Development	3	3.00/0.00/0.00
				<p>This course covers basic information about the characteristics of effective training and development programs in building an engaged workforce.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 2204	Policy Administration	3	3.00/0.00/0.00
				<p>This course covers basic information and understanding of the need for human resources policies in an organization, types of policies, the process of policy formulation and how policies are used.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 2212	Strategic Compensation	3	3.00/0.00/0.00
				<p>This course provides an understanding of employee compensation both direct and indirect, and how it relates to business strategy.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 2224	Employee/Labor Relations	3	3.00/0.00/0.00
				<p>This course covers basic information about the history and current role of labor unions, current labor laws and the rights of employees.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 2245	Human Resources Internship	1.00 - 4.00	
				<p>This course is designed to provide the student with a purposeful occupational experience in the human resources field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the training site to provide experience related to the skills and knowledge acquired in the program. One credit of internship is equal to 45 hours of internship.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
				HRES 2254	Human Resource Competency Evaluation	3	2.00/1.00/0.00
				<p>This course reviews and reinforces the principles covered in the Human Resource program through the development of simulated activities related to program outcomes. Students will demonstrate the skills needed in conducting an effective job search.</p> <p><b>Prerequisite:</b> Instructor approval required for enrollment into capstone HRES course.</p> <p><b>Corequisite:</b></p>			
HUM 1101	Introduction to the Humanities	3	3.00/0.00/0.00				



Course #	CourseTitle	CR	Lec/Lab/OJT
<p>Meets MnTC Goal Areas 2 and 6. This course serves as a general introduction to the role that humanities such as the arts, literature and philosophy play in shaping humanity&amp;#039;s conception of itself and society. This course serves to expand the student&amp;#039;s knowledge of the human condition and human cultures, especially the values expressed in works of human imagination and thought.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 1105	Religion in the Humanities	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This course is an exploration and study of religious expression and experience as well as an introduction to the world's major religions. The focus of the course will be on human expression of religious belief and philosophy in literature, film, music and art, and it will cover a variety of world religions including Buddhism, Hinduism, Islam, Judaism and Christianity. Throughout the course, students will explore diversity and human religious expression as a way of enhancing their global perspective.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 1110	Native American Culture	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 7. This course is an interdisciplinary study of the social and cultural life of Native Americans, primarily the Plains Indians. Students consider traditional and contemporary expressions of Native peoples as well as the history from which these expressions spring, especially the impact that contact with European peoples had and continues to have on Native American ways of life.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 1120	Culture of Italy	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This multidisciplinary course will introduce students to a close study of the art, drama and music of Italy. Students will develop an appreciation of the Italian culture and an understanding of the integration of the arts within the culture. Upon completion of HUM 1120, students will be eligible for GLST 1121 Humanities Italy.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 1132	Women in the Humanities	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 7. This course is a study of the contributions of women in the humanities as writers, artists and social reformers with emphasis on 20th century women. The course will incorporate individual studies of Quaker women, frontier women, African American women and Native American women.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 1134	Global Perspectives for Women	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This course is a multi-disciplinary study designed to enhance international perspective on women in the humanities with emphasis on 21st-century women&amp;#039;s cultural contributions as composers, artists and social reformers. The course will incorporate studies on women of China, Latin America and Europe.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 1201	Religion and the American Experience	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 7. This course will explore the relationship between religion and the ongoing development of American culture, especially as it relates to the role diversity plays in American history, arts, entertainment and institutions. Students will explore the variety of religious traditions that have been a part of the American experience and how they impacted and adapted to a changing national identity. Topics may include Native American thought and colonialism, the part played by Protestantism in the development of American ideals, the role of race and immigration in American religious identity, and the contemporary struggle among traditional Christian thought, secularism, reclaimed primal religions and modern world religions.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2210	Introduction to Film	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2 and 6. This course offers students an overview of the elements that comprise &amp;quot;telling stories on film.&amp;quot; Students will study shot, angle, lighting, mise en scene, movement, editing, sound, etc. The course will also consider how film elements work to present various ideologies. Students will become familiar with open and closed forms and the distinctions between realism, classicism and formalism. Students will participate in film analysis using the concepts above.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2230	World Cinema	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This course will introduce students to films from non-English speaking countries around the globe. The course will study stories and societies through cinema, readings and lecture. Students will consider their own worldview while they screen films and analyze multiple themes and ideas as a means of enriching their global perspective.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2236	Technology in the Humanities	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2, 6 and 8. Developments in the arts, architecture, science, philosophy and education and studies in human interaction are often provoked by changes in technology. Early changes in military technology made it possible for civilizations to take charge of various places on the world's stage. However, over time, changes in how the world was understood, motivated by general advances in global exploration, astronomy</p>			

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<p>and other sciences as well as specific inventions such as movable type, proved even more instrumental in driving people to new and different understandings of what it means to be human. This course explores how technology impacts developments in a culture's world view and tries to anticipate how future changes in technology might alter the course of otherwise established ways of life.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2281	Culture of the British Isles	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This multidisciplinary course will introduce students to a close study of the art, literature and music of the British Isles with an emphasis on England, Ireland and Wales. Students will develop an appreciation of the Irish, English and Welsh cultures and an understanding of the integration of the arts within each culture. Registering for Humanities 2281 will make each student eligible for GLST 2291: Humanities British Isles.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2293	Field Experience: Europe	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. This course provides a travel-abroad experience taken to encourage studies in the humanities involving visits to sites that are often discussed in the traditional classroom. The course includes scheduled academic activities in preparation for the trip. Students continue their studies in cities such as London, Paris, Rome, Munich or other locations as determined by the instructor.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2295	Field Experience: The East	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 6 and 8. Meets MnTC Goal Areas 6 and 8. A travel abroad experience taken to encourage studies in the humanities involving visits to sites that are often discussed in the traditional classroom. The course includes scheduled academic activities in preparation for the trip.The students continue their studies in countries in the East, Middle East and Eastern Europe as determined by the instructor.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HUM 2301	Heroes, Moral and Cultural	3	3.00/0.00/0.00
<p>Meets MnTC Goal Areas 2 and 6. The term &amp;quot;hero&amp;quot; is sometimes used synonymously with the term &amp;quot;role model,&amp;quot; and in this class we will identify what characteristics are present in the heroic figure as well as explore the motives of the hero. Why do we expect our heroes to suffer? The vast majority of heroes are single; why? Is it related to the notion of &amp;quot;incorruptibility,&amp;quot; or is it to spare them the &amp;quot;hard decisions&amp;quot; (to save a spouse or three other strangers)? Are there links or analogies to the story of Jesus? What do we admire about heroes? Is it the chameleon property? What kinds of things can be considered &amp;quot;superpowers&amp;quot; and what do they represent figuratively, metaphorically, mythically, symbolically, morally and culturally? Are heroes archetypically different according to gender, or are heroes gender-neutral? Are heroes representatives of the culture they originate in, or are they products of that culture, or both? Are heroes representatives of a particular moral position, or are they a &amp;quot;generic good?&amp;quot; These are the types of questions we will explore in this class.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HVAC 1102	Duct Fitting Construction	3	1.00/2.00/0.00
<p>Standard sheet metal fittings will be constructed in this class. Familiarity with sheet metal shop equipment and various tools will be gained through the layout and construction of sheet metal projects. All fittings in this class will be found in standard duct applications.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HVAC 1103	Electricity for Heating, Ventilating and Air Conditioning	4	2.00/2.00/0.00
<p>This course explains DC and AC theory, beginning with mathematically solving and hooking up series DC circuits and advancing into solving and hooking up AC resistance in series, parallel and combination circuits. HVAC relays and contactors and furnace safety devices are studied and wired in the lab. There is a dual emphasis on reading and then hooking up and troubleshooting schematic drawings. Magnetism and the generation of AC transformers as applied to HVAC, inductors and inductance-resistance parallel and series combination circuits are solved using trigonometry. Capacitance is introduced and applied as a function in understanding AC motors.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HVAC 1104	Heating, Ventilating and Air Conditioning Electrical Controls	3	1.00/2.00/0.00
<p>This course covers the wiring of typical heating and cooling circuits, as well as the installation of heating and air conditioning systems.</p> <p><b>Prerequisite:</b> HVAC1103</p> <p><b>Corequisite:</b></p>			
HVAC 1128	Heating, Ventilating, and Air Conditioning Design and Installation	5	2.00/3.00/0.00
<p>This course includes an overview of various heating controls and appliances. Topics will include blueprints as applied to estimating heating and cooling loads; gas piping as installed in residential and light commercial jobs; safe heating, ventilating and air conditioning practices; various venting codes and requirements; and the sizing of furnaces, duct work and piping.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HVAC 1224	Gas and Oil Heating	3	1.00/2.00/0.00

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<p>This course covers residential gas and oil heating units, primarily forced air furnaces. Emphasis is on understanding the sequence of operation, proper adjustment, efficiency measurement and safety. This course also includes the diagnosis and repair of malfunctioning furnaces.</p> <p><b>Prerequisite:</b> HVAC1128</p> <p><b>Corequisite:</b></p>			
HVAC 2202	Air Handling	2	1.00/1.00/0.00
<p>The dynamics of handling fluid masses of air will be studied. The focus will be on moving and replacing air at given velocities, quantities and temperatures.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
HVAC 2202	Air Handling	2	1.00/1.00/0.00
<p>This course studies the handling of masses of air, with attention paid to moving and replacing air at given velocities, quantities, temperatures and humidity. Additional attention to friction loss in ductwork, and the calculation of it, will involve various design applications and actual lab layout.</p> <p><b>Prerequisite:</b> HVAC1128</p> <p><b>Corequisite:</b></p>			
HVAC 2214	Hot Water Heating	2	2.00/0.00/0.00
<p>This course covers both hot water baseboard and in-floor heating, with emphasis on calculations involved in hydronic heating.</p> <p><b>Prerequisite:</b> HVAC1128</p> <p><b>Corequisite:</b></p>			
HVAC 2221	Heat Pump Theory and Operation	3	2.00/1.00/0.00
<p>This course will cover the various methods by which mechanical processes are used to move heat from different sources into residential housing. Some attention to commercial methods will be offered. An example of this would be use of the compression cycle of refrigeration to extract heat from the outside air.</p> <p><b>Prerequisite:</b> HVAC1103</p> <p><b>Corequisite:</b></p>			
HVAC 2290	Heating, Ventilating, and Air Conditioning Internship	1	0.00/0.00/1.00
<p>This course will add to the student&amp;#039;s electrical knowledge regarding circuits and schematics.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IHS 1293	OSHA 10-Hour General Industry Safety	1	1.00/0.00/0.00
<p>This course is designed for general industry workers under the Occupational Safety and Health Administration (OSHA) 29 CFR 1910 who need to receive additional training on job site-specific hazards. Students will learn the entry-level safety training required for OSHA 10-Hour General Industry course authorization. In addition to the 10-hour mandatory requirements, students will also be trained in five hours of additional OSHA elective material. Industries served by this course include but are not limited to health care, manufacturing, warehousing, distribution, retail and education.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IHS 1296	OSHA 10-Hour Construction Safety	1	1.00/0.00/0.00
<p>This course is designed for construction workers under Occupational Safety and Health Administration (OSHA) 29 CFR 1926 who need to receive additional training on job site-specific hazards. Students will learn the entry-level safety training required for OSHA 10-Hour Construction course authorization. In addition to the 10-hour mandatory requirements, students will also be trained in five hours of additional OSHA elective material.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IHS 2292	OSHA 30-Hour General Industry Safety	2	2.00/0.00/0.00
<p>This course is designed for workers under Occupational Safety and Health Administration (OSHA) 29 CFR 1910 who need to receive additional training on jobsite-specific hazards related to their place of employment. Students will learn the skills necessary for OSHA 30-Hour General Industry course authorization.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IHS 2297	OSHA 30-Hour Construction Safety	2	2.00/0.00/0.00
<p>This course is designed for construction workers under the Occupational Safety and Health Administration (OSHA) 29 CFR 1926 who need to receive additional training on job site-specific hazards. Students will learn the skills necessary for OSHA 30-Hour Construction course authorization.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
ILS 1100	Integrative Learning Seminar I	1	1.00/0.00/0.00
<p>This course meets MnTC Goal Area 2. Students will begin to develop collegiate-level, transferable skills as they are introduced to the M State core abilities and liberal arts and sciences shared values. Students will begin to learn how to critically evaluate information and ideas, how to determine the ethical implications that come with decision making, and how to communicate effectively as they develop an understanding of course materials through written and oral exercises. Students will establish a digital folio, which will allow them to demonstrate their growing understanding and mastery of the shared values and core abilities.</p> <p><b>Prerequisite:</b> Assessment into ENGL1101</p> <p><b>Corequisite:</b></p>			

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ILS 2100	Integrative Learning Seminar II	2	2.00/0.00/0.00
<p>Meets MnTC Goal Area 2. This course provides a cohesive, integrative learning experience for the liberal arts and sciences student. The student will integrate skills and knowledge developed and acquired throughout his or her course of study in the disciplines. The course requires the student to embark on a comprehensive inter-disciplinary academic quest designed to demonstrate research, oral and written communication, and critical thinking skills.</p> <p><b>Prerequisite:</b> Completion of 40 credits, ILS1100</p> <p><b>Corequisite:</b></p>			
IMMA 1110	Introduction to Power and Mechancial Systems	3	1.00/2.00/0.00
<p>This course will provide an overview of the design, operation and maintenance principles of basic mechanical system components. The terminology, theory, application and construction of mechanical components dealing with power transfer found within the typical factory will be discussed. The course is designed to provide an understanding of the basic physics principles that govern mechanical power transmission through the use of belt, chain and gear drives, clutch and braking mechanisms, coupling devices, linear actuators and bearings.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IMMA 1112	Mechanical Blueprint Reading	2	2.00/0.00/0.00
<p>This course will teach the fundamentals of blueprint reading and will include the interpretation of geometric construction, multi-view projection, dimensioning, auxiliary and sectional views. The course will also include the identification of drafting symbols and conventional methods of presentation.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IMMA 2223	Fluid Power Lab	2	1.00/1.00/0.00
<p>This class teaches the skills of construction, control and operation of hydraulic and pneumatic systems coupled with electrical/electronic controls. Participants will perform hands-on experiments to construct circuits that teach the operation of individual components as well as complete systems used in real-world applications. Assemblies involving fluid power and the modern control components used to regulate it will be emphasized.</p> <p><b>Prerequisite:</b> An accuplacer arithmetic score of 57 or completion of Math 0052, MATH0052</p> <p><b>Corequisite:</b></p>			
IND 1110	Introduction to the Industrial Workplace	3	3.00/0.00/0.00
<p>This course provides an introduction to the industrial workplace focusing on the work ethic, workplace costs, project management, workplace training and problem solving.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IND 1160	Food Manufacturing Science	3	3.00/0.00/0.00
<p>This course provides students with an introduction to the science of food manufacturing. The course will cover the cleaning and sanitizing processes involved in safe food handling. Students will learn how to identify food safety hazards and will gain an understanding of the chemical, regulatory agencies and sampling processes involved in food manufacturing.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IND 1500	Introduction to Steel Welding	2	1.00/1.00/0.00
<p>This course will educate the student in the basic welding and cutting processes used in the welding industry. The skills developed in the lab include gas metal, gas tungsten and shielded metal arc welding processes and the oxy/fuel and plasma arc cutting processes on mild steel in the flat position. Safety in welding and cutting will be covered relating to the welding and cutting processes being used in class.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IND 1501	Basic Steel Welding	4	1.00/3.00/0.00
<p>This course will educate the student in basic welding and cutting processes used in the welding industry. The skills developed in the lab include gas metal, gas tungsten and shielded metal arc welding processes and the oxy/fuel and plasma arc cutting processes on mild steel in the flat and horizontal positions. Safety in welding and cutting will be covered relating to the welding and cutting processes being used in class.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IND 1502	Basic Print Reading for Welders	3	3.00/0.00/0.00
<p>In this course students will learn how to read basic engineered drawings for welders and interpret the welding symbols system. The students&amp;#039; knowledge can then be applied to manufacturing, construction and repair industries.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
INTE 1100	Industry Internship Experience	3	0.00/0.00/3.00
<p>This is a three-credit internship experience designed to acquaint students with an industry environment. This experience is designed to integrate the coursework taken and contribute to the student&amp;#039;s personal and/or professional career goals. The internship is a training and mentoring period in actual service or employment.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
IPP 1111	Introduction to Interpreting	3	3.00/0.00/0.00
<p>This course introduces the field of interpreting and the role of a sign language interpreter. It covers interpreting as a field of professional practice, the current nature of the field, the variety of employment opportunities, interpreter training, interpreter certification and professional ethical standards.</p>			

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<b>Prerequisite:</b> ASL1114, Grade of B or better in ASL1114 <b>Corequisite:</b>			
<b>IPP 1112</b>	<b>Beginning American Sign Language to English</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on the process of interpreting, provides practice of necessary skills and procedures and applies aptitude and theory to the translation process. This course focuses on lexical development, syntactical language comparisons, voice production techniques, interpreting process analysis and diagnostic assessment. The course content centers on techniques for sign-to-voice interpreting. <b>Prerequisite:</b> ASL1114, Grade of B or better in ASL1114 <b>Corequisite:</b>			
<b>IPP 1113</b>	<b>Beginning English to American Sign Language</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on the development of consecutive and simultaneous interpreting skills from English to American Sign Language. This course will initiate language analysis along with theoretical and practical skills related to the interpreting process. The course content centers on techniques for voice-to-sign interpreting. <b>Prerequisite:</b> ASL1114, Grade of B or better in ASL1114 <b>Corequisite:</b>			
<b>IPP 2112</b>	<b>Advanced American Sign Language to English</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course provides additional practice in specific skill areas related to sign-to-voice interpreting. This course focuses on advanced lexical development, syntactical language comparisons, voice production techniques, interpreting process analysis and diagnostic assessment. The course content is at an intermediate to advanced level of speed and complexity along with voice production techniques for simultaneous sign-to-voice interpreting for increasingly complex language exchanges. <b>Prerequisite:</b> Grade of B or better in IPP1112, IPP1112 <b>Corequisite:</b>			
<b>IPP 2113</b>	<b>Advanced English to American Sign Language</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course provides additional practice in specific skills related to voice-to-sign interpreting. This course focuses on advanced development of simultaneous interpreting skills. This course centers on critical thinking and processing skills at an intermediate level with determining language needs within a variety of interpreting settings. The course content is at an intermediate to advanced level of speed and accuracy along with translation techniques for simultaneous English -to-American Sign Language interpreting. <b>Prerequisite:</b> Grade of B or better in IPP1113, IPP1113 <b>Corequisite:</b>			
<b>IPP 2114</b>	<b>Educational Interpreting</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces the role and responsibilities of an interpreter in a mainstream educational environment. This course focuses on increasing the awareness of current techniques, issues and ethics in mainstreaming education practices. <b>Prerequisite:</b> Grade of B or better in IPP1111, IPP1111 <b>Corequisite:</b>			
<b>IPP 2215</b>	<b>Topics in Interpreting</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course focuses on continued development of interpreting skills. The course content consists of special topics in the area of interpreting including team interpreting, athletics, religion, medical, legal, deaf/blind and video interpreting. This course also focuses on preparation for certification exams. <b>Prerequisite:</b> Grade of B or better in IPP1111, IPP1111 <b>Corequisite:</b>			
<b>IPP 2216</b>	<b>Practicum</b>	<b>1</b>	<b>0.00/0.00/1.00</b>
This course is designed to introduce various models and experiences of interpreting and to prepare for the tasks required for functioning as a professional interpreter. This course includes practical workplace experience by observation of an interpreter at work. Students are expected to observe working interpreters in a variety of field settings. <b>Prerequisite:</b> Grade of B or better in IPP1111, IPP1111 <b>Corequisite:</b>			
<b>IPP 2217</b>	<b>Interpreting Internship</b>	<b>6</b>	<b>0.00/0.00/6.00</b>
This course is a supervised interpreting opportunity in an educational, community, service agency or other setting. This course includes completion of documentation, assignments for portfolio, problem solving, site orientation, student performance evaluations, observation of certified interpreters, collaboration with certified interpreters, professional job expectations and actual interpreting experience. This internship abides by the National Association of the Deaf (NAD)-Registry of Interpreter for the Deaf (RID) Code of Professional Conduct. <b>Prerequisite:</b> Instructor approval, IPP2216 <b>Corequisite:</b> ASL2100, grade of B or better in ASL2100			
<b>IPP 2218</b>	<b>Internship Seminar</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course provides an open forum to discuss situations arising from interpreter assignments during the internship. This course focuses on final preparations for entering the interpreting field. <b>Prerequisite:</b> IPP2216 <b>Corequisite:</b>			
<b>ITSS 1100</b>	<b>Information Technology Help Desk</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is an introduction to information technology user support. Important skill sets involving customer service, troubleshooting, user support management, product evaluation, user support management and user training are introduced. This course also emphasizes teamwork and technical writing. <b>Prerequisite:</b> <b>Corequisite:</b>			

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<b>ITSS 1120</b>	<b>Information Technology Research and Documentation</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
Using the World Wide Web, students will research current trends and technical issues in information technology. Research topics will include software applications, hardware products, security issues, and technical problems and solutions. Students will develop technical documentation and training materials for the purpose of supporting end users. Emphasis will also be placed on refining Web searching skills to locate vendor documentation, trade journals, white papers and other useful IT resources. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>ITSS 2100</b>	<b>Supporting End-User Applications</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course emphasizes the knowledge, skills and abilities necessary to improve the productivity of the computer user. Students will learn about providing support for the user&#039;s computer, including the operating system and the software applications installed on the computer. <b>Prerequisite:</b> ITSS1100 <b>Corequisite:</b>			
<b>ITSS 2200</b>	<b>Professional Standards and Practices in Information Technologies</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course is designed to explore ethical issues, procedural matters and policy concerns that impact how information technology solutions are implemented and managed in the business world. This course explores the principles that information technology professionals can apply when considering the best options for dealing with such issues as privacy, intellectual property, data use and the ethical and legal obligations of IT specialists. Students will learn how good business practices and strong ethical decision-making can have a positive impact on an organization and society in general. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>LEAD 1001</b>	<b>The Emerging Leader</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
The emerging leader course allows students to understand leadership concepts, strategies and skills in a workplace setting that aligns with their career interests. Students practice workplace skills and self-reflection in preparation for a leadership role in a community or workplace. This course is designed to encourage community leadership and involvement and to help students see their leadership potential. LEAD 1001 is the classroom course. Students must also register for LEAD 1002, in which students choose mentors and spend 45 hours in a business or nonprofit environment. <b>Prerequisite:</b> <b>Corequisite:</b> LEAD1002			
<b>LEAD 1002</b>	<b>Emerging Leader Experience</b>	<b>1</b>	<b>0.00/0.00/1.00</b>
The emerging leader course allows students to understand leadership concepts, strategies and skills in a workplace setting that aligns with their career interests. Students will practice workplace skills and self-reflection in preparation for a leadership role in a community or workplace. This course is designed to encourage community leadership and involvement and to help students see their leadership potential. LEAD 1002 is the community experience course in which students choose mentors and spend 45 hours in a business or nonprofit environment. Students must also register for LEAD 1001, the classroom course. <b>Prerequisite:</b> <b>Corequisite:</b> LEAD1001			
<b>LSR 1100</b>	<b>Introduction to Limited Scope Radiography and Patient Care</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course explores the role of limited scope radiographers. Foundational principles that address ethical and legal aspects, professionalism and interpersonal communication skills are presented. The course also includes patient care and monitoring techniques, medical emergencies, universal precautions and infection control processes. <b>Prerequisite:</b> <b>Corequisite:</b> HLTH1110, HLTH1116			
<b>LSR 1120</b>	<b>Image Production I</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
This course is designed to introduce the student to image acquisition techniques. A comprehensive review of technical factors and their impact on image quality will be covered, along with technique charts and their components. Students also will be introduced to x-ray production processes, the fundamental properties of x-rays and the basic components of imaging equipment. <b>Prerequisite:</b> HLTH1110, HLTH1116, LSR1100 <b>Corequisite:</b> LSR1140, LSR1160			
<b>LSR 1140</b>	<b>Radiation Protection</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course presents an overview of the principles of radiation protection. Included are the radiation protection responsibilities of the limited scope radiographer for patients, self and others (e.g., physicians, general public, health care team members, etc.); x-ray interactions with matter; the As Low As Reasonably Achievable (ALARA) concept; and the basic methods of radiation protection. Also incorporated are radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations. <b>Prerequisite:</b> HLTH1110, HLTH1116, LSR1100 <b>Corequisite:</b> LSR1120, LSR1160			
<b>LSR 1160</b>	<b>Radiographic Procedures I</b>	<b>5</b>	<b>2.00/3.00/0.00</b>
This course provides the information students need to perform radiographic/imaging procedures related to the thoracic viscera and the upper and lower extremities (including shoulder girdle and podiatric exams). General medical and radiographic terminology, anatomy, routine positions and projections will be the focus of the class. Radiographic equipment and accessory manipulation, selection of technical factors, correct body mechanics, and patient care skills and monitoring techniques will be practiced in the lab. <b>Prerequisite:</b> HLTH1110, HLTH1116, LSR1100 <b>Corequisite:</b> LSR1120, LSR1140			

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<b>LSR 1220</b>	<b>Image Production II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course will build on and expand the student&#8217;s knowledge of the factors that govern and influence the production and archival of radiographic images. A review of previously introduced technical factors will be covered with a specific focus on their impact on the digital image acquisition processes and image quality. Digital image characteristics, processing, display and image identification techniques will be covered. <b>Prerequisite:</b> LSR1120, LSR1140, LSR1160 <b>Corequisite:</b> LSR1230, LSR1240, LSR1260, LSR1280			
<b>LSR 1230</b>	<b>Imaging Equipment and Quality Control</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course addresses the functional, physical and design components of radiographic (fixed and mobile) equipment. Intricate details of the equipment are covered, including but not limited to equipment circuitry, generators, transformers, x-ray tube components and functions, and digital imaging detectors and processing components. The course is also designed to introduce the student to radiographic equipment and accessory quality control. <b>Prerequisite:</b> LSR1120, LSR1140, LSR1160 <b>Corequisite:</b> LSR1220, LSR1240, LSR1260, LSR1280			
<b>LSR 1240</b>	<b>Radiobiology</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course provides basic knowledge of cellular and molecular structures of the human body and explores the effects radiation can have on these structures and the body as a whole. Factors affecting biological response are presented, including acute and chronic effects of radiation exposure. The course also covers radiation quantities, units used to express radiation exposure, and dose limiting systems designed to protect patients, workers and the general public. <b>Prerequisite:</b> LSR1120, LSR1140, LSR1160 <b>Corequisite:</b> LSR1220, LSR1230, LSR1260, LSR1280			
<b>LSR 1260</b>	<b>Radiographic Procedures II</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This course provides the information students need to perform radiographic/imaging procedures related to the spine and skull (including paranasal sinuses and facial bones). General medical and radiographic terminology, anatomy, routine positions and projections will be the focus of the class. Radiographic equipment and accessory manipulation, selection of technical factors, correct body mechanics, and patient care skills and monitoring techniques will be practiced in the lab. <b>Prerequisite:</b> LSR1120, LSR1140, LSR1160 <b>Corequisite:</b> LSR1220, LSR1230, LSR1240, LSR1280			
<b>LSR 1280</b>	<b>Radiographic Clinical I</b>	<b>4</b>	<b>0.00/0.00/4.00</b>
This course will provide the student with opportunities to get hands-on experience in a variety of clinical settings. The student will work under the direct supervision of a registered radiologic technologist and will practice radiographic positioning and equipment manipulation to achieve diagnostic quality images. The focus of this clinical experience will be to obtain and pursue competence in radiographic exams of the chest, upper extremity, shoulder girdle and lower extremity (including podiatric exams). <b>Prerequisite:</b> LSR1120, LSR1140, LSR1160 <b>Corequisite:</b> LSR1220, LSR1230, LSR1240, LSR1260			
<b>LSR 1380</b>	<b>Radiographic Clinical II</b>	<b>7</b>	<b>0.00/0.00/7.00</b>
This course will provide the student with additional opportunities to get hands-on experience in a variety of clinical settings. The student will work under the direct supervision of a registered radiologic technologist and will practice radiographic positioning and equipment manipulation to achieve diagnostic quality images. The focus of this clinical experience will be to obtain and pursue competence in radiographic exams of the spine, skull, paranasal sinuses and facial bones. <b>Prerequisite:</b> LSR1220, LSR1230, LSR1240, LSR1260, LSR1280 <b>Corequisite:</b>			
<b>MATH 55</b>	<b>Foundational Mathematics</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course presents basic mathematical operations. The course concepts cover operations on whole numbers, integers, fractions and decimals, as well as the applications of percents, ratios, proportions, measurements and basic geometry. <b>Prerequisite:</b> None <b>Corequisite:</b> None			
<b>MATH 85</b>	<b>Elementary Algebra I</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course provides both a foundation for further study of general and technical mathematics and preparation for applying mathematics in daily life and other college coursework. Topics include problem solving and critical thinking using properties of numbers and algebra. Through the study of mathematics, students will work on developing self-assessment and goal-setting skills, utilizing resources and gaining an understanding of the level of commitment necessary to succeed in an academic or real-world setting. <b>Prerequisite:</b> Math 0055 Foundational Mathematics or appropriate placement test score. <b>Corequisite:</b>			
<b>MATH 95</b>	<b>Elementary Algebra II</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course is the study of algebraic concepts including identifying linear and nonlinear functions, solving equations, manipulating and graphing linear equations and inequalities in two variables, utilizing rules for exponents, performing operations on polynomials, factoring polynomials and solving equations using factoring. <b>Prerequisite:</b> Math 0085 or appropriate placement test score <b>Corequisite:</b>			
<b>MATH 1000</b>	<b>Technical Mathematics</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course presents basic mathematical topics as they are applied in a technical program. The course includes a review of basic mathematical operations and continues with the development of algebraic and trigonometric skills in a technical setting. Most concepts will			

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be applied through course-specific problems. This course is not an MnTC Goal Area 4 mathematics course, nor does it prepare students for taking an MnTC Goal Area 4 mathematics course. <b>Prerequisite:</b> MATH0055, placement by assessment <b>Corequisite:</b>			
<b>MATH 1020</b>	<b>Intermediate Algebra</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course includes equations of lines, systems of equations, rational expressions and equations, functions, radical expressions and equations, complex numbers, absolute value equations and inequalities, and solving quadratic equations using factoring, completing the square and the quadratic formula. <b>Prerequisite:</b> Math 0095 with a grade of C or higher, placement by assessment <b>Corequisite:</b>			
<b>MATH 1100</b>	<b>World of Math</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. This course will introduce you to mathematical approaches to question asking, understanding, problem solving and presentation. Practice in these areas may include problems involving sequences, methods of counting, probability, logic, statistics, general problem solving and other topics. <b>Prerequisite:</b> MATH1020 <b>Corequisite:</b>			
<b>MATH 1101</b>	<b>Mathematical Reasoning</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. This course will introduce you to mathematical approaches to question asking, understanding, problem solving and presentation. Students will apply mathematical principles to varied disciplines including an exploration of a variety of social and global issues. Students will experience mathematics as a creative and evolving discipline. Practice in these areas may include problems involving sequences, methods of counting, probability, logic, statistics, finance, general problem solving and other topics. This course is not intended to prepare students for any subsequent course. It provides an alternative pathway to completing a college-level liberal arts mathematics course and is not intended for science, technology, engineering or math (STEM) students. Prerequisites: A grade of C or better in MATH 0095 or appropriate score on the math placement exam. <b>Prerequisite:</b> Completion of MATH 0095 with a grade of C or higher OR placement into college-level Math. <b>Corequisite:</b>			
<b>MATH 1102</b>	<b>Finite Math</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is an introduction to systems of linear equations and inequalities, matrices, linear programming, mathematics of finance and elementary probability and statistics. This course is intended for all liberal arts and science students, but is highly recommended for students in areas of management, health sciences and other applied technologies. <b>Prerequisite:</b> MATH1020 <b>Corequisite:</b>			
<b>MATH 1114</b>	<b>College Algebra</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. This course includes rational, polynomial, exponential, logarithmic, inverse and quadratic functions. The course also includes equations, inequalities, complex numbers and systems of linear equations. Additional topics may include matrices and determinants. <b>Prerequisite:</b> MATH1020, or by placement exam <b>Corequisite:</b>			
<b>MATH 1115</b>	<b>Functions/Trigonometry</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. This course includes trigonometric functions, right triangle trigonometry, radian measure and circular functions, identities, equations, inverse functions, oblique triangles, complex numbers, vectors, polar coordinates and conic sections. <b>Prerequisite:</b> MATH1114 <b>Corequisite:</b>			
<b>MATH 1116</b>	<b>College Trigonometry</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. Topics include trigonometric functions, right triangle trigonometry, radian measure and circular functions, identities, equations, inverse functions, laws of cosines and sines. Optional topics may include complex numbers, vectors and polar coordinates. <b>Prerequisite:</b> MATH1114 <b>Corequisite:</b>			
<b>MATH 1118</b>	<b>Precalculus</b>	<b>5</b>	<b>5.00/0.00/0.00</b>
Meets MnTC goal areas 2 and 4. This course includes trigonometric identities and polynomial, exponential, logarithmic, rational and trigonometric functions, their inverses and their graphs. Optional topics may include matrices and determinants, conic sections, vector concepts and polar coordinates. <b>Prerequisite:</b> Math 1020 with a C or better or by placement score, MATH1020 <b>Corequisite:</b>			
<b>MATH 1122</b>	<b>Applied Calculus and Linear Algebra</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. This course is an introduction to optimization, the simplex method, differential and integral calculus with an emphasis on application in the areas of business and the life and social sciences. This course is intended for all liberal arts and science students but is highly recommended for students pursuing business careers. <b>Prerequisite:</b> MATH1114 <b>Corequisite:</b>			
<b>MATH 1134</b>	<b>Calculus I</b>	<b>5</b>	<b>5.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 4. This course includes limits and continuity, derivatives, definite and indefinite integrals of algebraic, trigonometric, exponential and logarithmic functions, and applications of the derivative and definite integral. <b>Prerequisite:</b> MATH1115, MATH1116, MATH1118, or by placement exam			



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Corequisite:				all necessary views, layouts, annotations and instructions required for the product to be manufactured while collaborating with a work group similar to those found in industry.			
MATH 1135	Calculus II	5	5.00/0.00/0.00	Prerequisite:	CADD1400, CADD1410, MCDD1106	Corequisite:	
Meets MnTC Goal Areas 2 and 4. This course includes integration of logarithmic, exponential, trigonometric and hyperbolic functions and their inverses. Students will apply techniques of integration. Polar coordinates, conic sections, indeterminate forms, improper integrals and infinite series are also included.				MCDD 1210	Drafting Practices	1	1.00/0.00/0.00
Prerequisite:	MATH1134	The objective of this course is to develop the student's knowledge of engineering communications, attitudes and finances.					
Corequisite:							
MATH 1207	Elementary Statistics	3	3.00/0.00/0.00	Prerequisite:		Corequisite:	
Meets MnTC Goal Areas 2 and 4. This course will investigate descriptive and inferential statistical concepts including measures of central tendency, measures of variation, measures of position, frequency tables, statistical graphs, probability distributions, hypothesis tests, confidence intervals, regression and correlation. TI calculators, MINITAB or EXCEL may be used for data analysis.				MCDD 2112	Geometric Dimensioning and Tolerancing	2	2.00/0.00/0.00
Prerequisite:	by placement, MATH1114, MATH1118			The objective of this course is to develop the student's understanding and application of a self-defined set of symbols, rules, definitions and conventions used to describe the size, form, orientation and location of part features.			
Corequisite:							
MATH 1213	Introduction to Statistics	4	4.00/0.00/0.00	Prerequisite:	CADD1000, MCDD1104	Corequisite:	MCDD1106
Meets MnTC Goal Areas 2 and 4. Topics include data summary, frequency distributions, plots, graphs, measures of central tendency, variation, probabilities, probability distributions and confidence intervals. Hypothesis testing of means, proportions and variances will be conducted using the z-test, t-test, chisquare-test, f-test and ANOVA. Optional topics may include nonparametric statistics, sampling and simulation.				MCDD 2122	Geometric Dimensioning and Tolerancing	3	2.00/1.00/0.00
Prerequisite:	MATH1114, MATH1118, or by placement exam			The objective of this course is to develop the student's understanding and application of a self-defined set of symbols, rules, definitions and conventions used to describe the size, form, orientation and location of part features.			
Corequisite:							
MATH 2200	Principles of Arithmetic	3	3.00/0.00/0.00	Prerequisite:	CADD1100, MCDD1106	Corequisite:	
Meets MnTC Goal Areas 2 and 4. This is primarily a mathematics rather than a methods course. Concepts covered include arithmetic as a system of thought, number and sets, basic number operations and their underlying formal logic, number structure and basic geometry concepts.				MCDD 2200	Advanced Modeling with SolidWorks	3	2.00/1.00/0.00
Prerequisite:	MATH1100, MATH1114			This course covers advanced part modeling, assembly modeling, sheet metal, weldments and presentation files in the latest version of the SolidWorks drawing software package.			
Corequisite:							
MATH 2231	Calculus III	4	4.00/0.00/0.00	Prerequisite:	CADD1400, MCDD1106	Corequisite:	
Meets MnTC Goal Areas 2 and 4. The course content includes a study of vectors in the plane and space, differentiation and integration of vector-valued functions, and partial differentiation, multiple integrals, including line and surface, in rectangular, polar, cylindrical, spherical and other systems, and a study of Stokes's Theorem, Green's Theorem, Theorem, and the Divergence Theorem.				MCDD 2204	Mechanical Engineering Drawing III	4	1.00/3.00/0.00
Prerequisite:	MATH1135			The objective of this course is to explore advanced applications of various industry drawing methods. Students will be introduced to and will construct drawings related to multiple drafting and engineering disciplines.			
Corequisite:							
MATH 2257	Linear Algebra	3	3.00/0.00/0.00	Prerequisite:	CADD1000, MCDD1106	Corequisite:	
Meets MnTC Goal Areas 2 and 4. The course focuses on systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors.				MCDD 2206	Mechanical Engineering Drawing IV	2	1.00/1.00/0.00
Prerequisite:	MATH1134			This course introduces the student to multiple specialized computer programs to create working drawings for manufacturing and construction.			
Corequisite:							
MATH 2259	Differential Equations	4	4.00/0.00/0.00	Prerequisite:	CADD1102	Corequisite:	
This course includes first and second order differential equations with applications in physics, electrical engineering and chemistry. It also includes Laplace transforms, matrices, series solutions and systems of differential equations.				MCDD 2210	Advanced Modeling with Inventor	3	2.00/1.00/0.00
Prerequisite:	MATH2231			This course covers advanced part modeling, assembly modeling, sheet metal, frame generator and presentation files in the latest version of the Inventor drawing software package.			
Corequisite:							
MCDD 1104	Mechanical Engineering Drawing I	4	1.00/3.00/0.00	Prerequisite:	CADD1410, MCDD1106	Corequisite:	
The objective of this course is to develop the student's knowledge and use of machine drafting, lettering, line identity and application, orthographic projection, dimensioning practices, and section and auxiliary drawings.				MCDD 2220	Mechanical Engineering Drawing IV	3	2.00/1.00/0.00
Prerequisite:				This course introduces the student to multiple specialized computer programs to create working drawings for manufacturing and construction.			
Corequisite:							
MCDD 1106	Mechanical Engineering Drawing II	4	0.00/4.00/0.00	Prerequisite:	CADD1000	Corequisite:	
The objective of this course is to develop the student's use and knowledge of pictorial drawings, sheet metal, pattern layout and welding drawing. Mechanical fasteners will be identified.				MCDD 2230	3D Printing and Prototyping	2	1.00/1.00/0.00
Prerequisite:	MCDD1104			This course covers the basic concepts of rapid prototyping for manufacturing utilizing three-dimensional printers and scanning equipment.			
Corequisite:							
MCDD 1114	Manufacturing Processes	2	2.00/0.00/0.00	Prerequisite:	CADD1400, CADD1410, CADD2120	Corequisite:	
The objective of this course is to develop the student's understanding of processes for casting, molding, forming, separating and assembling a variety of manufacturing-related materials.				MCDD 2246	Tool Design	3	2.00/1.00/0.00
Prerequisite:				The objective of this course is to develop an understand of jigs, fixtures, dies and their function in mass production, from the basic levels of component pieces through design and implementation.			
Corequisite:							
MCDD 1124	Mechanical Drafting Applications I	3	1.00/2.00/0.00	Prerequisite:	CADD1400, CADD1410, MCDD1106	Corequisite:	MCDD2200, MCDD2210
The objective of this course is for students to develop a set of working drawings of an existing machine project. A genealogy chart, final and sub-assembly drawings, detail drawings, parts lists and part numbering system will be completed.				MCDD 2248	CNC Application	3	1.00/2.00/0.00
Prerequisite:	CADD1000, MCDD1104			The objective of this course is to develop the student's knowledge of computer numerical control components and basic programming codes.			
Corequisite:							
MCDD 1124	Mechanical Drafting Applications I	3	1.00/2.00/0.00	Prerequisite:	CADD1114, MCDD1106	Corequisite:	
The objective of this course is for the student to develop a set of working drawings of an existing product. Students will be required to reverse engineer the product and create				MCDD 2252	Mechanical Drafting Applications II	4	1.00/3.00/0.00
Prerequisite:				The objective of this course is to develop the student's knowledge of the processes involved in design development and scheduling. Gearing, shafts, chains, and belts and bearings, along with part, sub-assembly and assembly representations are applied to the student's capstone project.			
Corequisite:							
MCDD 2254	Computer Numerical Control	2	1.00/1.00/0.00	Prerequisite:	MCDD2200, MCDD2210	Corequisite:	
This course develops the student's knowledge of computer numerical control components, machines, and basic programming codes and functions.				MCDD 2254	Computer Numerical Control	2	1.00/1.00/0.00
Prerequisite:	CADD1000			This course develops the student's knowledge of computer numerical control components, machines, and basic programming codes and functions.			
Corequisite:							

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MCDD 2260	Mechanical Drafting Internship	3	0.00/0.00/3.00	Prerequisite:	MEDA1260		
The objective of this course is to develop and apply the student's drafting skills in his or her desired career field. Projects and discussions are coordinated to relate to the student's employment situation in an approved drafting occupation.				Corequisite:			
MCOM 1122	Introduction to Mass Communication	3	3.00/0.00/0.00	MEDA 1602	Medical Assisting Capstone	1	1.00/0.00/0.00
Meets MnTC Goal Areas 5 and 9. This course provides an introductory overview and history of the rapidly growing world of mass communication, with an emphasis on the United States. There will be specific analysis of the media industry including newspapers, radio, television, film, books, magazines, advertising, public relations and new media technology. Topics will include public relations, the role of government, values and ethics, and media effects.				This course is taken concurrently with the Medical Assisting Externship. Students will prepare for a certification exam and discuss practicum experiences.			
Prerequisite:	Assessment into ENGL 1101			Prerequisite:			
Corequisite:				Corequisite:	MEDA1601		
MCOM 1142	Popular Culture and Social Media	3	3.00/0.00/0.00	METC 1112	Manufacturing Processes	4	2.00/2.00/0.00
Meets MnTC Goal Area 7. This course explores various mediums including books, magazines, newspapers, radio, film, television and Internet and the implications of each on society. The ever-changing social mediums will be explored, along with the impact they have on communication. Topics may include social networking sites, implications of advertising and the evolution of reality television.				This course teaches the fundamentals of traditional and non-traditional manufacturing processes including mass reducing, mass conserving, joining, material treatment and surface treatment processes. Hands-on experiences in laboratories provides class participants with basic skills in machining, welding and wood processing technologies.			
Prerequisite:				Prerequisite:			
Corequisite:	ENGL1101			Corequisite:			
MCS 2230	Multicultural America	3	3.00/0.00/0.00	METC 1152	Safety and Accident Prevent	3	3.00/0.00/0.00
Meets MnTC Goal Area 7. This course provides an introduction to multicultural perspectives on American education. Given that the United States is becoming more culturally diverse and operates within an increasingly globalized world, citizens need to be equipped to understand the diverse cultures with which they work and interact. This course exposes students to the experiences and challenges of African Americans, American Indians, Chicano/Latinos and Asian Americans in the U.S. educational system from historical and contemporary perspectives.				This course is designed to explore the principles and practices of health and safety in the industrial environment. Topics covered include regulations of the Environmental Protection Agency (EPA), Occupational Safety and Health Act (OSHA and MNOSHA), legal considerations, current legislation, product safety, hazard materials, infection control and employee protection.			
Prerequisite:				Prerequisite:			
Corequisite:				Corequisite:			
MCS 2231	Multicultural America: Service Learning	1	1.00/0.00/0.00	METC 2208	Basic Electricity and Electronics	3	2.00/1.00/0.00
This course provides an introduction to multicultural perspectives on American education via a hands-on experience working and interacting with diverse cultures in an educational setting. The nature of the service learning necessitates that students may meet outside of regular class hours (20-25 hours) and may need their own transportation to service learning sites.				This course surveys the fundamentals of electricity and electronics including electrical/electronic components, AC/DC circuits, electronic devices and applications, basic electronic circuits, and electronic communication and data systems.			
Prerequisite:				Prerequisite:			
Corequisite:	MCS2230			Corequisite:			
MEDA 1150	Pathophysiology, Pharmacology and Nutrition	4	4.00/0.00/0.00	MIS 1100	Business Computers	3	2.00/1.00/0.00
This course covers pathophysiology, pharmacology and nutrition as related to body systems. This will include signs, symptoms and etiology of pathology as well as appropriate drug uses, effects, dangers and precautions as well as routes of administration, dilutions and calculations, management and control. Students will review common prescription abbreviations, forms of medications and basic drug categories.				Students will utilize business computer software applications including word processing, spreadsheets, databases and presentation software to solve business problems, emphasizing professional design and organization. Additional topics include basic computer hardware, computer security and ethics, privacy concerns and professional communication standards.			
Prerequisite:				Prerequisite:			
Corequisite:				Corequisite:			
MKTG 1040	Consumer Behavior	3	3.00/0.00/0.00	MKTG 1050	Direct Selling	3	3.00/0.00/0.00
This course is the study of consumer behavior. It provides a framework to understand the motivations and behaviors influencing consumer decisions. Students will explore the internal, external and situational influences driving the who, what, where and why of consumer behavior. Students will apply consumer behavior concepts to a marketing strategy.				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, he or she will become proficient at all aspects of the sales, presentation and negotiation process. Students will have the opportunity to practice multiple aspects of direct selling in a safe classroom environment. In addition, the student will develop specific sales strategies with other members of the class.			
Prerequisite:				Prerequisite:			
Corequisite:				Corequisite:			
MKTG 1106	Professional Selling	3	3.00/0.00/0.00	MKTG 1110	Customer Service	3	3.00/0.00/0.00
This course covers a fundamental sales approach that can be used as a foundation for future sales courses. The content covers steps used to plan a sales presentation and methods of determining and filling prospect needs or wants.				Customer service can determine both a company's and an employee's success or failure. This course covers the skills necessary for an individual to build and maintain customer loyalty. Strategies needed to sustain a positive work environment will be identified. Evaluating and improving customer service systems, from traditional customer satisfaction measurement tools to technology-based customer relationship management systems (CRM), will be explored.			
Prerequisite:				Prerequisite:			
Corequisite:				Corequisite:			
MKTG 1114	Customer Experience	3	3.00/0.00/0.00	MKTG 1116	Advertising and Promotion	3	3.00/0.00/0.00
Customer-focused, data-driven service strategies are vital to managing, retaining and growing customer relationships. This course will focus on the importance of personalized service, meeting customer needs, problem resolution and service recovery. Organizations with a higher quality customer experience (CX) are enjoying fierce brand loyalty, which is crucial to sustain competitive advantages.				This course focuses on the role of promotion within the marketing plan of an organization.			
Prerequisite:							
Corequisite:							
MEDA 1601	Medical Assisting Externship	4	0.00/0.00/4.00				
Students will complete a practicum in a health care facility, functioning as a member of a health care team and applying skills learned throughout the program.							

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<p>Students will study advertising trends that influence an organization’s promotional strategy. Emphasis will be placed on current advertising media, costs, budgeting, ad development and evaluation. This course will have an active learning environment. Students will create and present a promotional campaign.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 1120	Supervisory Leadership	3	3.00/0.00/0.00
<p>The methods and techniques of leadership and supervision and their applications are emphasized in this course. The content covers such topics as delegation, motivation, training, orienting, evaluating and effectively increasing productivity.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 1128	Business Insights	1	0.00/1.00/0.00
<p>Examination of the marketing industry from manufacturing to the final product is covered in this course. Students analyze the impact of current trends, the economy and technology in the marketplace.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 1130	Leadership Ethics	3	3.00/0.00/0.00
<p>This course is designed to help the individual determine what constitutes ethical issues and gain insight into how an individual can cope with conflicts between personal values and those of the organization where he or she works.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 1138	Leadership Development I	1	0.00/1.00/0.00
<p>This course encourages the personal and professional growth of the student. Emphasis is placed on the development of skills in decision making, problem solving, communications, professionalism and leadership.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 1200	Introduction to Social Media	3	3.00/0.00/0.00
<p>This course provides students with an introduction to several popular social media sites. Emphasis is on how to use social media platforms to successfully market your business and/or products. Special attention will be paid to when this type of marketing is most effective, how to select the most effective social media outlet for your particular target demographic and tracking results.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> CPTR1104</p>			
MKTG 1210	InDesign	3	3.00/0.00/0.00
<p>This course introduces students to digital page layout using Adobe InDesign. This course is for anyone who has to prepare professional business publications. Students will learn how to set type and use digital images to produce effective printed business publications including newsletters, advertising flyers, business forms, brochures, manuals, posters and catalogs. Students will learn how to create and modify pdf files for electronic distribution of publications.</p> <p><b>Prerequisite:</b> CPTR1104</p> <p><b>Corequisite:</b> INTD1108</p>			
MKTG 1280	Search Engine Optimization	3	3.00/0.00/0.00
<p>This introductory class will focus on the Internet marketing strategy of Search Engine Optimization (SEO). It will cover how search engines work, what people search for, the actual search terms or keywords typed into search engines and which search engines are preferred by their targeted audience. Optimizing a website may involve editing its content and HTML and associated coding to both increase its relevance to specific keywords and to remove barriers to the indexing activities of search engines.</p> <p><b>Prerequisite:</b> CPTR1104, INTD1108</p> <p><b>Corequisite:</b> CPTR1104, INTD1108</p>			
MKTG 2204	Advanced Professional Selling	3	2.00/1.00/0.00
<p>This course provides opportunity for the student to apply the steps of a sales presentation by planning and performing sales presentations in role-playing situations. The student applies strategies in sales communications, customer-oriented selling and sales management.</p> <p><b>Prerequisite:</b> MKTG1106</p> <p><b>Corequisite:</b></p>			
MKTG 2206	Sales Management	3	2.00/1.00/0.00
<p>This is an advanced management course that focuses on sales force planning, implementation and control. This course covers the managerial topics of sales planning, staffing, training and directing, as well as analyzing and evaluating the sales force.</p> <p><b>Prerequisite:</b> MKTG1106</p> <p><b>Corequisite:</b></p>			
MKTG 2214	E-Marketing	3	3.00/0.00/0.00
<p>This course examines emerging electronic technologies and their impact on a firm’s marketing strategy. Emphasis is placed on trends in e-marketing as well as the unique opportunities and challenges faced in the electronic environment. Students will apply the components of the traditional marketing mix to an electronic marketing strategy.</p> <p><b>Prerequisite:</b> MKTG1100, MKTG2206</p> <p><b>Corequisite:</b></p>			
MKTG 2218	Retail Management	3	3.00/0.00/0.00
<p>Class emphasis is on the strategic decisions made by retailers and how those decisions impact how, when, where and in what quantities customers will buy. Emphasis is also on</p>			

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<p>hands-on application of the theories and principles introduced in class. Topics include using professional retailing terminology, analyzing environmental influences and identifying how retailers can appropriately respond to those influences as they make operational decisions such as site selection, determining merchandising practices, managing inventory and determining pricing strategies.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 2222	Human Resource Management	3	3.00/0.00/0.00
<p>The purpose of this course is to acquaint the student with the importance of human resource management in contributing to the achievement of an organization's objectives. The content addresses techniques and legal aspects of recruiting, hiring, firing, promotion, documentation, evaluation and other areas essential to the personnel function.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 2225	Omni-Channel Retailing	3	3.00/0.00/0.00
<p>This course will examine a new approach to commerce that is focused on retailers creating a cohesive user experience for customers at every touchpoint. Omni-channel refers to retailers with both a physical and digital presence.</p> <p><b>Prerequisite:</b> BUS2204, BUS2206, MKTG1114, MKTG2000</p> <p><b>Corequisite:</b></p>			
MKTG 2230	Marketing Research	3	2.00/1.00/0.00
<p>This course covers market research principles and procedures that are necessary for marketing professionals to be successful. Topics covered include survey methods and techniques, problem identification, data collection techniques, sample type and size, presentation of findings and using the Internet as a source.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 2232	Marketing Management	3	2.00/1.00/0.00
<p>This is a capstone course designed to be taken near the completion of the required marketing courses. This course is designed to integrate learning acquired in prior marketing courses with an emphasis on strategic marketing planning. This class will involve all aspects of developing a comprehensive marketing plan for a product or service. Students will work in teams to research, develop and present a marketing strategy for a new product.</p> <p><b>Prerequisite:</b> BUS2206</p> <p><b>Corequisite:</b></p>			
MKTG 2234	Computer Marketing Applications	3	2.00/1.00/0.00
<p>This course challenges students to produce computer projects using spreadsheets, databases, graphics and word processing. The emphasis is on documents produced by marketing departments and marketing firms. The student plan, creates, prints and evaluates projects individually and with a team.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 2236	Small Business Management	3	3.00/0.00/0.00
<p>This course provides a summary of many of the major issues faced by anyone starting a small business. The course teaches the fundamentals of small business management by blending basic management principles with tested and proven real world techniques for planning, organizing and operating a small business successfully. The course utilizes a variety of learning tools including the textbook, PowerPoint, lectures, written assignments, cases, websites and hands-on activities.</p> <p><b>Prerequisite:</b> ACCT1012, ACCT2211</p> <p><b>Corequisite:</b></p>			
MKTG 2250	Strategic Selling and Account Management	3	2.00/1.00/0.00
<p>This is an advanced sales course designed to explore and apply proven business practices that are currently being used in the field by sales professionals. Its focus is business-to-business, face-to-face personal selling. Key elements include strategic planning to prepare for sales calls, making sales calls, communicating proposed solutions, overcoming objections and closing sales. Other elements include understanding organizational structure, business-to-business buying behavior, and understanding and influencing multiple decision makers.</p> <p><b>Prerequisite:</b> MKTG1106, MKTG2204</p> <p><b>Corequisite:</b></p>			
MKTG 2290	Management, Marketing and Sales Internship	3	0.00/0.00/3.00
<p>This course is designed to provide students with a valuable work experience within a business environment. This career enrichment course is designed to integrate the coursework taken and contribute to the student’s personal and/or professional career goals. Each internship is a faculty-approved, individualized experience designed with a training plan to meet the professional goals of the student. Emphasis is on providing a relevant work experience that is meaningful for the student and a benefit for the participating organization.</p> <p><b>Prerequisite:</b> Program Faculty Consent.</p> <p><b>Corequisite:</b></p>			
MKTG 2292	Supervised Occupational Experience	3	0.00/0.00/3.00
<p>This class is designed to provide students with an opportunity to explore career paths in the business field while gaining practical work experience. Emphasis will be placed on tailoring the experience to enhance an individual student’s professional and personal skills. This class is designed for maximum flexibility so the experience is meaningful for the student and of benefit to the participating business or organization. This experiential learning allows students to gain insight into one or more careers through job shadowing, service learning, volunteering, externships, event planning, work experience or a combination of these options. This class will include career exploration information as well as work experience to help students clarify their values, personal goals and career interests.</p> <p><b>Prerequisite:</b> Instructor Approval</p>			

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<p><b>Corequisite:</b></p>			
MKTG 2298	Small Business Plan Development	2	1.00/1.00/0.00
<p>This course covers the steps in preparing a business plan. Each student creates a business plan based on a personal business selection.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MKTG 2400	Marketing Management	4	3.00/1.00/0.00
<p>This capstone course is designed to be taken near the completion of the required marketing courses. This course is designed to integrate learning acquired in prior marketing courses with an emphasis on strategic marketing planning. This class will involve all aspects of developing a comprehensive marketing plan for a product or service. Students will work in teams to research, develop and present a marketing strategy for a new product.</p> <p><b>Prerequisite:</b> BUS2206</p> <p><b>Corequisite:</b></p>			
MKTG 2404	Management Strategy	3	3.00/0.00/0.00
<p>From a management perspective, students will study strategic management concepts and analytical techniques. Students will learn how to improve managerial decision-making by using a case study format to assess business opportunities and formulate effective strategies which will enhance the long-term performance of the organization. The course is intended to integrate previous program coursework. This capstone course should be taken during the student’s final semester.</p> <p><b>Prerequisite:</b> ACCT1012, ACCT2211, BUS2204, BUS2206, MKTG1100, MKTG2200</p> <p><b>Corequisite:</b></p>			
MKTG 2410	Marketing, Management, and Sales Capstone	3	3.00/0.00/0.00
<p>The primary role of this capstone course is to provide students an opportunity to integrate the knowledge that they have acquired in program coursework into business situations. Emphasis will be on the integration of key concepts covered in marketing, management, business and communication courses. Students will apply managerial decision making by accessing a business opportunity and formulating strategies to improve the performance of an organization. This class requires students to make connections between ideas and experiences and to synthesize and transfer learning to new, complex business situations.</p> <p><b>Prerequisite:</b> BUS2204, BUS2206, MKTG2204</p> <p><b>Corequisite:</b></p>			
MLT 1110	Phlebotomy Skills	2	1.00/1.00/0.00
<p>This course is designed for phlebotomy and medical laboratory technician students. The course covers knowledge and performance of venipuncture, capillary and arterial blood draws. It also emphasizes other body fluid collection, specimen processing, point-of-care analysis and specimen storage.</p> <p><b>Prerequisite:</b> Admission to either the Medical Laboratory Technician or the Phlebotomy Technician program.</p> <p><b>Corequisite:</b></p>			
MLT 1112	Clinical Phlebotomy	3	0.00/3.00/0.00
<p>This course provides clinical phlebotomy experience for phlebotomy technician students in an affiliate hospital/clinic laboratory under the supervision of qualified technicians and technologists. Training includes blood and body fluid collection, processing and storage.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b> MLT1110</p>			
MLT 1115	Basic Laboratory Techniques	2	0.00/2.00/0.00
<p>This is an introductory course for Medical Laboratory Technology students covering the techniques, interpretation and correlation of results in urinalysis, hematology, chemistry, immunology, microbiology and immunohematology. Other topics included in the course are instrumentation, preparation of reagents, quality assurance and quality control, specimen collection, transportation, analysis and result reporting.</p> <p><b>Prerequisite:</b> Admission to either the Medical Laboratory Technician or the Phlebotomy Technician program.</p> <p><b>Corequisite:</b></p>			
MLT 1123	Immunohematology	4	3.00/1.00/0.00
<p>This course is an introduction to the clinical area of blood banking. The course covers compatibility theory, principles of antigens on red blood cells and antibodies in serum of blood. The course also includes blood typing and other basic immunohematological procedures.</p> <p><b>Prerequisite:</b> Admission to MLT program., MLT1115</p> <p><b>Corequisite:</b></p>			
MLT 1130	Laboratory Calculations	2	2.00/0.00/0.00
<p>This course is designed to present mathematical operations commonly utilized in the medical laboratory. Topics include use of basic math processes, systems of measurement, conversion factors, solutions, dilutions, statistics for laboratory medicine and quality control. Upon completion, students should be able to solve practical problems in the context of the medical laboratory.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
MLT 1215	Hematology	3	2.00/1.00/0.00
<p>This is an introductory course for Medical Laboratory Technician students covering the production, maturation, function and abnormalities of blood cells and coagulation to maintain body homeostasis. The course covers routine hematology procedures to identify normal, abnormal and immature cells. The course also covers coagulation procedures to detect deficiencies and abnormal conditions of blood clotting.</p> <p><b>Prerequisite:</b> MLT1113, MLT1114, MLT1115</p> <p><b>Corequisite:</b></p>			

MLT 1225	Biological Fluids	2	1.00/1.00/0.00
<p>This is an introductory course for Medical Laboratory Technician students. The course is an overview of the urinary system including abnormalities and diseases. The course also covers collection, handling, storage and analysis of urine. The course also includes study of other body fluids including cerebral spinal fluid, amniotic fluid, serous fluid, synovial fluid, sputum, semen and feces.</p> <p><b>Prerequisite:</b> Admission to the MLT program, MLT1113, MLT1114, MLT1115</p> <p><b>Corequisite:</b></p>			
MLT 2130	Diagnostic Chemistry	4	3.00/1.00/0.00
<p>This is an introductory course for Medical Laboratory Technician students which covers the analytical principles, techniques and correlation of results in the science of body chemistry. Other topics included in the course are instrumentation, calculations, preparations of reagents, quality assurance and quality control, specimen collection, transportation, analysis and result reporting.</p> <p><b>Prerequisite:</b> Admission to MLT program., CHEM1100, MLT1115, Or Chem 1101 Or Chem 1111</p> <p><b>Corequisite:</b></p>			
MLT 2150	Introduction to Molecular Diagnostics	2	2.00/0.00/0.00
<p>This course is an introduction to specific molecular biology applications in the laboratory. This course includes a discussion of DNA, genetics, nucleic acid extraction and modification, blotting methods, polymerase chain reaction (PCR) and probe analysis in relation to the diagnosis of various diseases.</p> <p><b>Prerequisite:</b> MLT1115</p> <p><b>Corequisite:</b></p>			
MLT 2219	Clinical Chemistry and Special Chemistry	3	0.00/3.00/0.00
<p>This course provides a clinical experience in the chemistry laboratory at an affiliate hospital. Students learn to perform body chemistry methods on automated and semi-automated instruments under the supervision of qualified laboratory personnel. The course also includes clinical experience in special chemistry testing including hormones, vitamins, therapeutic drug monitoring and drugs of abuse.</p> <p><b>Prerequisite:</b> CHEM1105</p> <p><b>Corequisite:</b></p>			
MLT 2223	Clinical Urinalysis and Body Fluids	2	0.00/0.00/2.00
<p>This course is a clinical experience related to the performance of microbiological testing under the supervision of laboratory personnel at an affiliate laboratory. This course provides further investigation and study of the methods and techniques related to urinalysis and body fluid testing.</p> <p><b>Prerequisite:</b> MLT1115, MLT1123, MLT1215, MLT1225, MLT2130, MLT2315</p> <p><b>Corequisite:</b></p>			
MLT 2224	Clinical Immunohematology	3	0.00/0.00/3.00
<p>This course is a clinical experience related to the performance of immunohematology testing under the supervision of laboratory personnel at an affiliate hospital. This course provides further investigation and study of the methods and techniques related to blood group serology and compatibility testing and selection of the proper blood components for transfusion medicine.</p> <p><b>Prerequisite:</b> MLT1115, MLT1123, MLT1215, MLT1225, MLT2130, MLT2315</p> <p><b>Corequisite:</b></p>			
MLT 2227	Clinical Chemistry and Immunology	3	0.00/0.00/3.00
<p>This is a clinical experience course related to the performance of chemistry and immunology testing under the supervision of laboratory personnel at an affiliate hospital. This course provides further investigation and study of the methods and techniques related to chemistry and immunology testing.</p> <p><b>Prerequisite:</b> MLT1115, MLT1123, MLT1215, MLT1225, MLT2130, MLT2315</p> <p><b>Corequisite:</b></p>			
MLT 2231	Clinical Microbiology	3	0.00/0.00/3.00
<p>This is a clinical experience course related to the performance of microbiological testing under the supervision of laboratory personnel at an affiliate laboratory. This course provides further investigation and study of the methods and techniques related to bacteriology, mycology and parasitology testing.</p> <p><b>Prerequisite:</b> MLT1115, MLT1123, MLT1215, MLT1225, MLT2130, MLT2315</p> <p><b>Corequisite:</b></p>			
MLT 2232	Clinical Hematology and Coagulation	3	0.00/0.00/3.00
<p>This is a clinical experience course related to the performance of hematology and coagulation testing under the supervision of laboratory personnel at an affiliate hospital. This course provides further investigation and study of the methods and techniques related to hematology and coagulation testing.</p> <p><b>Prerequisite:</b> MLT1115, MLT1123, MLT1215, MLT1225, MLT2130, MLT2315</p> <p><b>Corequisite:</b></p>			
MLT 2265	Diagnostic Microbiology	4	3.00/1.00/0.00
<p>This course discusses microorganisms of medical importance in relationship to disease and diagnosis, emphasizing identification of common pathogenic bacteria, fungi, yeast and parasites, specimen collection and introducing virology and immunology. Laboratory covers basic techniques including reasons for specimen rejection, identification of normal flora and pathogens, morphology, classification and culturing of bacteria, identification of bacterial unknowns, fungi and parasites.</p> <p><b>Prerequisite:</b> Assessment into or successful completion of ENGL 1101 or college level reading and writing equivalent.</p> <p><b>Corequisite:</b></p>			
MLT 2315	Immunology	2	1.00/1.00/0.00



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<p>This course is intended for Medical Laboratory Technician students and other health professionals. Topics covered include principles of antigens, antibodies and their combination in health, disease and serological laboratory procedures. The course emphasizes testing and disease diagnosis of disorders such as hepatitis, acquired immune deficiency syndrome, lupus, rheumatoid arthritis, Lyme disease, syphilis, infectious mononucleosis and streptococcal infections.</p> <p><b>Prerequisite:</b> MLT1113, MLT1114, MLT1115, MLT1215, ZOO1122</p> <p><b>Corequisite:</b></p>			
<b>MLT 2346</b>	<b>Clinical Applications</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>The Clinical Applications course is intended to broaden the learner's knowledge and correlate laboratory testing theories with states of health and disease across various clinical courses. Students will evaluate case studies, research new methods, correlate test results to states of health and disease, and prepare for entering the workforce.</p> <p><b>Prerequisite:</b> MLT1115, MLT1123, MLT1215, MLT1225, MLT2130, MLT2315</p> <p><b>Corequisite:</b></p>			
<b>MLT 2350</b>	<b>Professional Issues in Medical Laboratory Technology</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
<p>This course surveys professional issues in preparation for career entry. Emphasis is placed on professional issues, ethics, current topics in health care delivery, governmental regulations, state licensure, societal concerns, cultural diversity, disease prevention, research, public health and environmental testing.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 1104</b>	<b>Drive System Theory</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>This course covers the operational theory of the stern-mounted vertical drives and outboard gear cases. Gear ratios, upper housings, lower housings, inputs and outputs will be investigated. Common drive systems from outboard and stem drive are covered in this course. Identification, theory of disassembly, measurement, shimming and assembly procedures will be outlined in this course. Failure analysis is emphasized during this course.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 1105</b>	<b>Introduction to Marine</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
<p>This course covers information on laws governing the use of public waterways as administered by both state and federal agencies as well as the National Marine Manufacturer's Association regulations. Students will learn the history of marine systems along with the identification of each type. The course also covers the manufacturers' service and parts literature used in the operation of marine businesses, emphasizing the service department.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 1106</b>	<b>Drive System Service</b>	<b>3</b>	<b>0.00/3.00/0.00</b>
<p>This course teaches the repair procedures for the common stern-mounted vertical drive systems built by MerCruiser and outboards built by Mercury Marine and OMC. Complete drive disassembly, measurement, analysis, shimming and rebuilding will be performed. Failure analysis of components will be covered in detail.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 1107</b>	<b>Drive Systems I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
<p>This course covers the operational theory and service of the (clutch-style) Mercury and MerCruiser drives units. Gear ratios, drive shaft housing and gear cases will be investigated. Complete drive disassembly, measurement, analysis, shimming and rebuilding will be performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 1114</b>	<b>Introduction to Boat Rigging</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
<p>This course provides training in the procedures necessary to prepare boats for showroom and customer delivery. Motor mounting, controls, instrumentation and accessories are discussed. Students will perform rigging and adjustment procedures on powerboats.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 1120</b>	<b>Marine Starting and Charging Systems</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
<p>This course teaches the service procedures necessary for off-road products (2-cycle/4-cycle) to repair charging and starting system components. Electrical principles are applied to test and troubleshoot complete circuits as well as components of each. Fundamental rebuilding principles and system analysis are emphasized. Safe battery testing and service are performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2001</b>	<b>Marine Internship</b>	<b>1</b>	<b>0.00/0.00/1.00</b>
<p>This course is designed to provide the student with a purposeful occupational experience in the marine field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the employer to provide experience related to the skills and knowledge acquired in the student's training program. Procedures necessary for new boat preparation, motor mounting, accessories, controls and instrumentation may be practiced at the internship site. Additional skills from completed courses also may be included in the training plan.</p> <p><b>Prerequisite:</b> TRNS1015, TRNS1193</p> <p><b>Corequisite:</b></p>			
<b>MRNT 2002</b>	<b>Marine Internship</b>	<b>2</b>	<b>0.00/0.00/2.00</b>
<p>This course is designed to provide the student with a purposeful occupational experience in</p>			

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<p>the marine field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the employer to provide experience related to the skills and knowledge acquired in the student's training program. Procedures necessary for new boat preparation, motor mounting, accessories, controls and instrumentation are practiced at the internship site. Additional skills from completed courses may be included in the training plan.</p> <p><b>Prerequisite:</b> TRNS1015, TRNS1193</p> <p><b>Corequisite:</b></p>			
<b>MRNT 2107</b>	<b>Drive Systems II</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
<p>This course covers the operational theory and service of the Johnson, Evinrude and Yamaha outboard drive units. Complete drive disassembly, measurement, analysis, shimming and rebuilding will be performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2205</b>	<b>Marine Advanced Fuel Systems</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
<p>This course covers the many types of fuel systems used on current two-stroke and four-stroke higher-end marine products. Most training will be on outboards above 115 horsepower and sterndrives above 135 horsepower. The main focus of this course is on larger carbureted and fuel-injected systems along with fuel distribution and associated parts of those systems.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2206</b>	<b>Electronic Fuel Injection (EFI) Systems</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
<p>This course teaches the theory of operation and service of the electronic fuel injection (EFI) and direct fuel injection (DFI) systems used on sterndrive and outboard applications. Engine predelivery inspection and service will be outlined along with seasonal service, engine preparation and inspection. Students will focus on diagnostic procedures with and without the use of laptops and scan tools.</p> <p><b>Prerequisite:</b> MRnt2001</p> <p><b>Corequisite:</b></p>			
<b>MRNT 2207</b>	<b>Electronic Fuel Injection (EFI) and Advanced Electrical Systems</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
<p>This course teaches the theory of operation and service of the EFI/DFI (electronic fuel injection/direct fuel injection) systems used on sterndrive and outboard applications. The student will also gain a strong grasp of high-tech ignition systems and propulsion control. Engine service will be outlined along with seasonal service, engine preparation and inspection. Students will also focus on diagnostic procedures to increase their troubleshooting skills with the aid of laptops and scan tools.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2211</b>	<b>Engine Service</b>	<b>2</b>	<b>0.00/2.00/0.00</b>
<p>This is a capstone course that will emphasize the perfection of skills acquired by the student during previous training in the marine program. While some new material will be covered, a majority of this course will be a review of earlier information attained but to a much deeper level than previously experienced. The student will focus on troubleshooting, repair and servicing products based upon simulated customer requests and complaints.</p> <p><b>Prerequisite:</b> MRNT2218</p> <p><b>Corequisite:</b></p>			
<b>MRNT 2212</b>	<b>Performance Testing</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>This course will provide instruction in boat performance improvement. Students will study propeller construction and applications. Performance analysis for dynamometer testing and test wheels will be emphasized. Students will conduct performance tests of varied marine products.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2218</b>	<b>Advanced Electrical Diagnosis</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
<p>This course covers the highly technical electrical system used on higher horsepower marine products. Student will perform adjustments and normal service procedures on live units. System troubleshooting procedures will be stressed in this course.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2221</b>	<b>Advanced Drive Systems and Testing</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
<p>This course teaches the service procedures for advanced technology drive systems used in sternmounted vertical drives and outboards. Dual-propeller drive systems, high-speed designs and heavy-duty drive systems will be covered in this course. Complete disassembly, measurement, analysis, shimming and rebuilding procedures will be taught and performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2222</b>	<b>Transom and Mid-Section Service</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
<p>This course teaches the various methods used to couple the engine to the vertical drive on sterndrive applications. On outboards this course covers the mid-sections. Removal and replacement, failure analysis, measurements, disassembly and assembly procedures are performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2223</b>	<b>Advanced Drives</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
<p>This course teaches the service procedures for advanced technology drive systems used in stern-mounted vertical drives. Dual-propeller drive systems, high-speed designs and heavy-duty drive systems will be covered in this course. Complete disassembly, measure-</p>			

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<p>ment, analysis, shimming and rebuilding procedures will be taught and performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2224</b>	<b>Marine Independent Study Lab</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
<p>This course is designed by the student and the instructor to provide an opportunity for the student to gain proficiency in selected competency areas and integrate the skills, knowledge and concepts gained in previous coursework. The student, with instructor approval, will prepare a Lab Activity Plan consistent with 30 hours of lab time. The plan should reflect the following course goals: student knowledge, prior coursework and student skill level. The student will complete a Daily Activity Lab worksheet that will represent work completed and prepare a Lab Activities Outcomes worksheet to determine student efforts and success at completing the Lab Activity Plan and the course.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2227</b>	<b>Transom Plate and Mid-Sections I</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
<p>This course teaches the various methods used to couple the MerCruiser engine to the vertical drive on sterndrive applications. On Mercury outboards this course covers the mid-sections. Removal and replacement, failure analysis, measurements, disassembly and assembly procedures are performed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2228</b>	<b>Transom Plate and Mid-Sections II</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
<p>This course teaches the removal and replacement, failure analysis, measurements, disassembly and assembly procedures on the transom plates of the OMC and Volvo sterndrive applications. This course covers the removal and replacement, failure analysis, disassembly and assembly procedures of the mid-sections of Johnson, Evinrude and Yamaha outboards.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2233</b>	<b>Engine Performance Rebuild and Diagnostics</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
<p>This course covers the disassembly, inspection of serviceability and the return of the equipment to the manufacturer's specifications or to a higher performance level. Included in this course is the analysis/diagnosis of the reason for failure and the prevention of future like failures. Students are welcome to bring in their own engine for this course providing it fits the curriculum.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2238</b>	<b>Marine Four-stroke Outboard Engine Service</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
<p>This course focuses on the tuning, maintenance, diagnosis and adjustment of four-stroke outboard engines. Training will include multiple brands of four-stroke outboards and their related components. This is an excellent course to build upon for complete understanding of the four-stroke outboard.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MRNT 2345</b>	<b>Marine Project Repair</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
<p>Students will learn to repair or improve personal or customer marine equipment by practicing what they will be doing as technicians in the repair field. No projects are off limits, but instructor approval of the projects is required.</p> <p><b>Prerequisite:</b> MRNT2207</p> <p><b>Corequisite:</b></p>			
<b>MUSC 1113</b>	<b>Beginning Class Voice</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. This course provides class instruction in the healthy use of the voice in singing and speaking and practical application of vocal techniques. Recommended for beginning voice students, for non-signers who would like to learn to sing, for anyone who uses his/her voice but especially for music, theater, speech, speech therapy and elementary education majors. A maximum of two semesters may be taken for a credit.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1114</b>	<b>Beginning Class Piano</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. Group piano lessons are designed for students with no piano experience. The course includes an emphasis on solo and ensemble playing as well as improvisation, technique and theory.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1115</b>	<b>America's Musical Heritage</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Areas 6 and 7. This survey course for the general college student introduces the elements, structural designs and historical styles of music. Emphasis is placed on expansion of listening skills, musical experiences, field research and cultural contexts of American music styles, including jazz, country, R&amp;B, hip hop, rap, salsa, reggae and urban folk styles.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1116</b>	<b>World Music</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Areas 6 and 8. This survey course for the general college student introduces the elements, structural designs and historical styles of music. Emphasis is on expansion of listening skills and musical experiences with music of the Western notated tradition (classical music), Native America, Africa, India, Latin America, Asia and Eastern Europe.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			

Course #	CourseTitle	CR	Lec/Lab/OJT
<b>MUSC 1117</b>	<b>Beginning Class Guitar</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. Group guitar lessons are designed for students with no guitar experience. Includes emphasis on solo and ensemble playing as well as technique and theory.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1118</b>	<b>Rock and Pop Music</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6. This survey of rock and pop music for all students provides a comprehensive history of pop music in the United States from its origins to the current sounds of today. Emphasis is placed on the music itself through analysis and critique and covers all styles of rock and pop music from rhythm and blues to metal to rap and beyond.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1118</b>	<b>Rock and Pop Music</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6. This survey of rock and pop music for all students provides a comprehensive history of pop music in the United States from its origins leading up to Elvis Presley to the Beatles to the current sounds of today. Emphasis is placed on the music itself through analysis and critique and covers all styles of rock and pop music such as pop, R&amp;B, country western, soul, Motown, folk, folk rock, heavy metal, rap and hip hop and beyond.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1120</b>	<b>Introduction to Music Technology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6. This course introduces the principal topics of music technology: acoustics, computers, MIDI, digital audio, and tools for music production and scoring. Hands-on experience will be used extensively to enhance understanding. This course will serve as a springboard to further study and exploration of hardware and software tools for music creation.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1121</b>	<b>Basic Theory and Musicianship I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Areas 2 and 6. This course provides basic approaches to the study of music in the Western notated tradition from the 17th century to the present day. It clarifies the fundamental musical elements of melody, harmony, rhythm and form, with emphasis in the tonic-dominant harmony. The course involves analysis and composition and must be taken concurrently with MUSC 1123.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1122</b>	<b>Basic Theory and Musicianship II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
<p>Meets MnTC Goal Areas 2 and 6. This course provides basic approaches to the study of music in the Western notated tradition as the organization and interaction of musical elements: melody, harmony, rhythm, form and color, with emphasis in the tonic-dominant harmony. Involves analysis and composition. It must be taken concurrently with MUSC 1124.</p> <p><b>Prerequisite:</b> MUSC1121</p> <p><b>Corequisite:</b></p>			
<b>MUSC 1123</b>	<b>Sight Singing and Ear Training I</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. This course is designed to improve skills in two areas: 1) to recognize and notate tonal melodies and rhythmic patterns, and 2) to reproduce "at sight"; what is notated. It ust be taken concurrently with MUSC 1121.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1124</b>	<b>Sight Singing and Ear Training II</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. This course is designed to improve skills in two areas: 1) to recognize and notate tonal melodies and rhythmic patterns, and 2) to reproduce "at sight"; what is notated. It must be taken with MUSC 1122.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1131</b>	<b>Civic Orchestra</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>The Civic Orchestra is a community orchestra that performs one concert each semester. The group meets one evening per week on a regularly scheduled basis. May be repeated for credit.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
<b>MUSC 1135</b>	<b>Voice Ensemble</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. The voice ensemble is an auditioned choir (from the M State Concert Choir) meeting two hours per week on a regularly scheduled basis. This group will study and prepare music from various musical periods and geographic regions and performs a minimum of one concert each semester. This group also participates in campus life venues as they arise, MCC Fine Arts Festival and occasional area tours. May be repeated for credit.</p> <p><b>Prerequisite:</b> MUSC1141</p> <p><b>Corequisite:</b></p>			
<b>MUSC 1141</b>	<b>Concert Choir</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
<p>Meets MnTC Goal Area 6F. The M State choir is a non-auditioned group that meets four times per week on a regularly scheduled basis. The group will study and prepare music from various musical periods and geographic regions and performs a minimum of one concert each semester. The group will also participate in campus life venues as they arise, the MCC Fine Arts Festival and occasional area tours.</p> <p><b>Prerequisite:</b></p>			

Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Corequisite:</b>				<b>MUSC 2223</b>	<b>Sight Singing and Ear Training III</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. This course is designed to improve skills in two areas: 1) to recognize and notate tonal melodies and rhythmic patterns, and 2) to reproduce &quot;at sight&quot; what is notated. Must be taken concurrently with MUSC 2231.				<b>Prerequisite:</b> MUSC1124			
<b>Corequisite:</b>				<b>MUSC 2224</b>	<b>Sight Singing and Ear Training IV</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. This course is designed to improve skills in two areas: 1) to recognize and notate tonal melodies and rhythmic patterns, and 2) to reproduce &quot;at sight&quot; what is notated. It must be taken concurrently with MUSC 2232.				<b>Prerequisite:</b> MUSC2223			
<b>Corequisite:</b>				<b>MUSC 2231</b>	<b>Advanced Theory and Musicianship III</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 6. This course offers continued study and application of concepts from MUSC 1121 and 1122, including functional harmony, basic style and form analysis, chromatic harmony and an introduction to 20th century harmonic practices. Course includes comparisons of music from various stylistic periods and beginning studies in counterpoint.				<b>Prerequisite:</b> MUSC1122, MUSC1124			
<b>Corequisite:</b>				<b>MUSC 2232</b>	<b>Advanced Theory and Musicianship IV</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 6. This course provides continued study and application of concepts from MUSC 1121 and 1122, including functional harmony, basic style and form analysis, chromatic harmony and an introduction to 20th century harmonic practices. Course includes comparisons of music from various stylistic periods and beginning studies in counterpoint.				<b>Prerequisite:</b> MUSC2223			
<b>Corequisite:</b>				<b>MUSC 2231</b>	<b>Advanced Theory and Musicianship III</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 6. This course offers continued study and application of concepts from MUSC 1121 and 1122, including functional harmony, basic style and form analysis, chromatic harmony and an introduction to 20th century harmonic practices. Course includes comparisons of music from various stylistic periods and beginning studies in counterpoint.				<b>Prerequisite:</b> MUSC1122, MUSC1124			
<b>Corequisite:</b>				<b>MUSC 2232</b>	<b>Advanced Theory and Musicianship IV</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 6. This course provides continued study and application of concepts from MUSC 1121 and 1122, including functional harmony, basic style and form analysis, chromatic harmony and an introduction to 20th century harmonic practices. Course includes comparisons of music from various stylistic periods and beginning studies in counterpoint.				<b>Prerequisite:</b> MUSC2223			
<b>Corequisite:</b>				<b>MUSC 2251</b>	<b>Individual Voice Lessons</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. Individual voice lessons of one hour per week are open to advanced students with instructor&#039;s consent. The course is required of voice performance or voice pedagogy majors and includes required performances. Students interested in this course should contact the music department so that instruction may be arranged. There is an additional fee, and it may be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 2281</b>	<b>Private Instrumental Lessons</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 6. Individual woodwind, brass, percussion and guitar lessons of one hour per week are open to advanced students with instructor&#039;s consent. Course is required of instrumental performance or education majors and includes required performances. Students should contact the music department to arrange instruction. There is an additional fee. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 2285</b>	<b>Advanced Music Composition</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Meets MnTC Goal 6. Individual advanced music composition and advanced theory discussion and lessons. Subject to instructor availability. Students should contact the music department to arrange instruction. Additional fee. May be repeated for credit.				<b>Prerequisite:</b> MUSC1185			
<b>Corequisite:</b>				<b>MUSC 2291</b>	<b>Individual Piano Lessons</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. Individual piano lessons of one hour per week are open to advanced students with instructor&#039;s consent and required of piano performance or piano pedagogy majors. Course includes additional studio classes and required performances at the instructor&#039;s discretion. Interested students should contact the music department to arrange instruction. There is an additional fee. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>NURS 1400</b>	<b>Introduction to Professional Nursing</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces students to the concepts of professional nursing. It includes the evolution of nursing practice, the scope of practice for health care teams, creating plans of care that integrate quality and safety for diverse patient populations, professional behavior, therapeutic communication, documentation and medical terminology.				<b>Prerequisite:</b> Acceptance into the Associate Degree Nursing Program , Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet, Must be eligible to take English			
<b>Corequisite:</b>				<b>NURS 1406</b>	<b>Nursing Fundamentals I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course prepares students to provide safe, therapeutic nursing care to diverse patient populations across the age span. Content includes asepsis and infection control, holistic assessment, basic pharmacologic principles and concepts, safe medication administration, pain management, complementary/alternative therapies and perioperative nursing care. This course also integrates the content and skills necessary to promote and maintain health and wellness of the neurological, integumentary, sensory and musculoskeletal systems.				<b>Prerequisite:</b> Acceptance into the Associate Degree Nursing Program, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet, Must be eligible to take English 1			
<b>Corequisite:</b>				<b>MUSC 1145</b>	<b>Chamber Chorale</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. The M State Chamber Chorale is an auditioned community chorus that performs one concert of choral/orchestral music each semester. The group meets one evening per week on a regularly scheduled basis. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1150</b>	<b>History of Jazz</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 6. Through jazz music itself, students will learn about the styles within jazz and the prominent performers from the birth of the blues and ragtime through jazz-rock fusion to the new age, smooth, acid and hip-hop jazz styles of today. Jazz music is uniquely American in origin, and the effects that society and jazz music have had on each other will be explored.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1151</b>	<b>Individual Voice Lessons</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. Students interested in individual voice lessons should contact the music department so that instruction can be arranged. There is an additional fee. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1160</b>	<b>Music Business: Creating and Promoting Music</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 6. Students study and prepare music in various contemporary styles. The group(s) will perform each semester. There will be special emphasis on aspects of music business and performance, including audio demo production, promotion, management and recording contracts, in addition to songwriting, improvisation and performing.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1162</b>	<b>Jazz Ensemble</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. The Jazz Ensemble meets on a weekly basis, studies and prepares music in the various styles of jazz and performs one concert each semester. Special emphasis will be given to jazz improvisation as an integral part of this music. Enrollment is open to any instrumentalist at the discretion of the instructor. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1164</b>	<b>Concert Band</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. The M State Concert Band is an instrumental group that meets three times per week on a regularly scheduled basis. The group will study and prepare music from a wide range of composers and styles and performs a minimum of one concert each semester. This ensemble will participate in campus life venues, festivals and occasional area tours. Small ensemble performances will also be included in this experience. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1168</b>	<b>Pep Band</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. The M State Pep Band is an instrumental group that meets two times per week on a regularly scheduled basis. The group will study and prepare music from a wide range of composers and styles and performs a minimum of one concert each semester. This ensemble will participate in sporting events, campus life venues and other events. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1181</b>	<b>Private Instrumental Lessons</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. Individual woodwind, brass, percussion, string and guitar lessons are offered, subject to instructor availability. Students should contact the music department to arrange instruction. There is an additional fee. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1185</b>	<b>Private Music Composition Lessons</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal 6. Individual music composition and advanced theory discussion and lessons are offered, subject to instructor availability. Students should contact the music department to arrange instruction. There is an additional fee, and the course may be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 1191</b>	<b>Individual Piano Lessons</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. Students should contact the music department to arrange individual piano lessons. There is an additional fee. May be repeated for credit.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>MUSC 2214</b>	<b>Class Piano II</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
Meets MnTC Goal Area 6F. This course provides class instruction in piano, building on the skills learned in MUSC 1114 Beginning Class Piano. Skills covered include major and minor scales and arpeggios, solo repertoire, ensemble playing, harmonization, transposition, sight-reading, chord progressions and chord realization.				<b>Prerequisite:</b> MUSC1114			
<b>Corequisite:</b>							

Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Corequisite:</b>				<b>NURS 1415</b>	<b>Nursing Clinical I</b>	<b>2</b>	<b>0.00/2.00/0.00</b>
This course promotes the application of fundamental skills while providing holistic nursing care to a diverse group of patients. The course incorporates the concepts of quality and safe patient care, professional behavior, therapeutic communication and self-evaluation.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2267, BIOL2268, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as a nursing assistant as guided by the generic ADN application packet, NURS1400, NURS1406, PSYC2222, Up-to-da			
<b>Corequisite:</b>				<b>NURS 1416</b>	<b>Nursing Fundamentals II</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
This course prepares students to provide safe, therapeutic nursing care to diverse patient populations across the age span. The course also integrates the content and skills necessary to promote and maintain health and wellness of the gastrointestinal, metabolic, immune, hematologic, cardiovascular, respiratory and urinary systems as well as fluid and electrolyte balance.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2267, BIOL2268, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as a nursing assistant as guided by the generic ADN application packet, NURS1400, NURS1406, PSYC2222, Up-to-da			
<b>Corequisite:</b>				<b>NURS 1426</b>	<b>Reproductive Health</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces antepartal, intrapartal, postpartal and neonatal nursing care for the uncomplicated mother and infant. Holistic care and wellness promotion are emphasized, including needs of the family. Nursing care is examined for diverse patients of both genders across the lifespan to maintain and promote reproductive wellness; this includes normal sexuality, management of fertility and reproductive health promotion. Nursing care is examined to maintain and promote wellness for pediatric patients, considering variations based on normal growth and development.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2267, BIOL2268, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as a nursing assistant as guided by the generic ADN application packet, NURS1400, NURS1406, PSYC2222, Up-to-da			
<b>Corequisite:</b>				<b>NURS 2120</b>	<b>Professional Nursing Pharmacology</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course will provide the nursing student with specific considerations related to medication administration for drug classifications related to disease processes. Actions, therapeutic uses, adverse effects and interactions of drug categories will be discussed. Nursing considerations for categories of common drug classifications will be covered. Legal and ethical considerations for the professional nurse in regard to drug administration will be studied.				<b>Prerequisite:</b> BIOL2262, BIOL2263, LPN, NURS1406, NURS2410			
<b>Corequisite:</b>				<b>NURS 2410</b>	<b>Role Transition</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course prepares the practical nurse to transition into the professional nursing role. Concepts of legal and ethical considerations in practice, holistic assessment, the nursing process and development of individualized plans of care will be explored while integrating informatics, evidence-based practice, patient-centered care, safety and quality improvement.				<b>Prerequisite:</b> ENGL0096/97 or assess into ENGL1101, Graduate of an approved Practical Nursing program and admitted to the Associate Degree in Nursing-Advanced Standing Option program, MATH1020 or assess into a minimum of MATH1114			
<b>Corequisite:</b>				<b>NURS 2426</b>	<b>Reproductive Disorders</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course analyzes nursing care of antepartal, intrapartal, postpartal and neonatal conditions for the mother and infant with the focus on complications, illnesses or abnormalities. This course is designed to plan nursing care for patients as they adapt to abnormal reproductive conditions including infectious diseases, infertility, problems with sexual functioning and other dysfunctions of both the male and female reproductive tracts.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2262, BIOL2263, BIOL2267, BIOL2268, CHEM1100, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as nursing assistant as guided by the generic ADN application packet, LPN, NURS1			
<b>Corequisite:</b>				<b>NURS 2437</b>	<b>Nursing Clinical II</b>	<b>4</b>	<b>0.00/4.00/0.00</b>
This clinical course provides the professional nursing student with opportunities to utilize the nursing process in providing individualized patient-centered care to diverse patient populations. An emphasis on evidence-based nursing care and clinical judgment skills, personal identity and behavior, teamwork and collaboration, holism, patient-centered care, safety and quality improvement will be incorporated.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2262, BIOL2263, BIOL2267, BIOL2268, CHEM1100, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as a nursing assistant as guided by the generic ADN application packet, LPN, NUR			
<b>Corequisite:</b>				<b>NURS 2438</b>	<b>Restorative Nursing I</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
Restorative Nursing I is designed to prepare students to plan nursing care for diverse patients experiencing disorders of the neurological/sensory, musculoskeletal, endocrine, immunological, hematological and gastrointestinal systems. Emphasis is placed on patient-centered care, nursing judgment/evidence-based care, safety and pharmacology.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2262, BIOL2263, BIOL2267, BIOL2268, CHEM1100, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as nursing assistant as guided by the generic ADN application packet, LPN, NURS1			
<b>Corequisite:</b>				<b>NURS 2447</b>	<b>Nursing Clinical III</b>	<b>4</b>	<b>0.00/4.00/0.00</b>
This clinical course provides the professional nursing student with opportunities to manage care for diverse patient populations including care planning delegation, supervision, prioritization and continuity of care. Concepts of evidence-based nursing care and clinical judgment skills, personal identity and behavior, teamwork and collaboration, holism, patient-centered care, safety and quality improvement will be interwoven into patient care.				<b>Prerequisite:</b> BIOL2202, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet if generic student OR LPN if advanced standing student, NURS2426, NURS2437, NUR			
<b>Corequisite:</b>				<b>NURS 2448</b>	<b>Restorative Nursing II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course is designed to prepare students to plan nursing care for diverse patients experiencing disorders of the cardiovascular, respiratory, renal, fluids/electrolytes/acid/base and integumentary systems. Emphasis is placed on patient-centered care, nursing judgment/evidence-based care, safety and pharmacology.				<b>Prerequisite:</b> BIOL2202, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet if generic student OR LPN if advanced standing student, NURS2426, NURS2437, NUR			
<b>Corequisite:</b>				<b>NURS 2455</b>	<b>Advanced Intravenous Therapy</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This lab course focuses on the skills and management of intravenous therapy by the professional nurse. Emphasis is placed on safety, nursing judgment, evidence-based practice, quality improvement and patient-centered care.				<b>Prerequisite:</b> BIOL2260, BIOL2261, BIOL2262, BIOL2263, BIOL2267, BIOL2268, CHEM1100, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, Experience as nursing assistant as guided by the generic ADN application packet, LPN, NURS1			
<b>Corequisite:</b>				<b>NURS 2464</b>	<b>Nursing Leadership</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course is designed to prepare students for their role as nurse leaders. Areas of focus include knowledge and skills necessary to make decisions regarding setting priorities, delegation, management, supervision, teaching, continuity of care, legal parameters of nursing practice and ethical issues in nursing.				<b>Prerequisite:</b> Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet if generic student OR LPN if advanced standing student, NURS2437, Up-to-date immunization			
<b>Corequisite:</b>				<b>NURS 2466</b>	<b>Mental Health Nursing</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course focuses on the concepts and theories of mental health, mental illness and psycho-pharmacology. Emphasis is placed on relationship-centered care, teamwork, quality and safety for diverse patient populations with psychiatric disorders.				<b>Prerequisite:</b> Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet if generic student OR LPN if advanced standing student, NURS2437, Up-to-date immunization			
<b>Corequisite:</b>				<b>OPT 1100</b>	<b>Introduction to Fiber Optics</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course introduces the student to industry standards governing fiber to the desk (FTTD), fiber to the home (FTTH) and local/wide area network (LAN/WAN) fiber networks, and further introduces the student to basic fusion and mechanical splicing. Students will learn the basics of how to identify fiber types, recognize various connectors used in fiber installation and install, terminate, splice and properly test installed fiber cable to existing standards.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>PARA 1101</b>	<b>Introduction to Paralegal</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course will introduce the basic knowledge and skills required of paralegals. Students will learn the basics of the American legal system along with skills such as researching legal issues, interviewing clients and witnesses, and drafting motions and pleadings. By the end of this course, students will have a clear understanding of what a paralegal does, the skills needed to be a successful paralegal and what it will take to begin a career as a paralegal.				<b>Prerequisite:</b>			
<b>Corequisite:</b>				<b>PARA 1102</b>	<b>Legal Research and Writing I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>



Course #	CourseTitle	CR	Lec/Lab/OJT
<p>This course is a general introduction to recorded sources of law. It will examine where and how law can be found. The course will include discussion of the sources of law and practical writing exercises.</p> <p><b>Prerequisite:</b> Assess into college level English</p> <p><b>Corequisite:</b> ENGL1101, PARA1101</p>			
PARA 1104	Civil Law for Paralegals	3	3.00/0.00/0.00
<p>This course prepares the paralegal for working with civil litigation and its associated processes. Included in the study are rules for civil procedure, court and non-court processes, applicable appellate procedures, mediation, arbitration and the role of the paralegal as it relates to civil law.</p> <p><b>Prerequisite:</b> None</p> <p><b>Corequisite:</b></p>			
PARA 1105	Criminal Law for Paralegals	3	3.00/0.00/0.00
<p>This course prepares the paralegal for working with criminal defense or criminal prosecution. Included in the study is the organization of the criminal justice system, the nature of crimes, constitutional issues, applicable appellate procedures and the role of the paralegal as it relates to criminal law.</p> <p><b>Prerequisite:</b> None</p> <p><b>Corequisite:</b></p>			
PARA 1106	Wills, Trusts & Probate	3	3.00/0.00/0.00
<p>This course includes a study of the procedures, documents and other techniques used in the planning for transfer of property after death and the administration of estates.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PARA 1110	Torts for Paralegal	3	3.00/0.00/0.00
<p>This course includes the study of the procedures, documents and techniques used in the practice of civil litigation, personal injury and family law. Topics for civil litigation include case intake, discovery, trial preparation, trial practice and post-judgment relief. Topics for family law include marriage, separation, divorce, annulment, adoption and custody.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PARA 1112	Legal Ethics for the Paralegal	3	3.00/0.00/0.00
<p>This course covers the attorney-client privilege as it relates to paralegals, unauthorized practice of law, regulation of paralegals, ethical codes and rules.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PARA 2202	Legal Research and Writing II	3	3.00/0.00/0.00
<p>This course is a continuation of Research and Writing I. Students will develop skills in identifying, analyzing and researching legal issues. Writing exercises will be more complex, including preparation of legal memoranda.</p> <p><b>Prerequisite:</b> PARA1102</p> <p><b>Corequisite:</b></p>			
PARA 2204	Real Property	3	3.00/0.00/0.00
<p>This course includes the law dealing with interest in, ownership of and title to real estate. Emphasis will be placed on legal descriptions, recording systems, and procedures and documents for real property transfer.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PARA 2210	Advanced Paralegal Practices	3	3.00/0.00/0.00
<p>This course provides in-depth study of law using statute and case research. Students will examine legal issues in different areas of law and participate in discussion of these topics. Topics will range from law office structure and finances to procedural law and interviewing techniques. Instructor may include legal topics that are hot at the time of course offering.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PARA 2212	Family Law	3	3.00/0.00/0.00
<p>This course will explore and research family law concepts of marriage, divorce, annulment, child custody, property settlements and adoption.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PARA 2216	Paralegal Internship	3	0.00/0.00/3.00
<p>The paralegal internship provides students with the opportunity to apply the concepts and principles they have learned in a practical professional work environment under the supervision of a lawyer. Students complete an internship in which they perform the duties of a paralegal.</p> <p><b>Prerequisite:</b> ENGL1101, PARA1102</p> <p><b>Corequisite:</b> PARA2202</p>			
PDEV 1100	College Success Seminar	2	2.00/0.00/0.00
<p>This course is designed to help first-year M State students successfully transition into college life. Topics include, but are not limited to, accessing college resources, understanding college guidelines, expectations and demands of being a college student, and community awareness. The class also will cover money management, proper nutrition and stress management. Students will participate in on-campus activities and community tours, and be exposed to expert guest speakers from the college and community. Students will set goals, examine learning styles and put in place a strategy for collegiate success.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			

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PDEV 1101	Campus Life- Active Living	3	3.00/0.00/0.00
<p>This course is designed to help M State students strengthen and develop critical and creative thinking skills associated with a college academic experience, make social adaptations to a new environment and make connections with faculty, staff and resource offices. Topics include an understanding of individual risks and barriers, time management and personal responsibility. This class is also designed to develop student awareness of how to live a healthy holistic lifestyle. Students will be able to deepen their understanding with regards to social, emotional, intellectual, vocational and physical elements of self-development. Students will also participate in physical activities that promote a healthy, drug-free on-campus environment. Additional topics to be discussed may include but are not limited to goal setting, stress management, and drug and alcohol use.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PDEV 1102	Contemporary Career Search	1	0.00/1.00/0.00
<p>This course covers such contemporary career topics as employer expectations, job market trends and networking, and various aspects of the employment search process including legal and ethical issues. To apply their knowledge of the employment process, students develop resumes, letters and applications, as well as identify and use effective interviewing techniques. This course emphasizes a comprehensive knowledge of career processes that will serve students throughout their working lives.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PDEV 1112	Job Search Skills	1	1.00/0.00/0.00
<p>This course is designed to develop the application, resume writing, interviewing and job maintenance skills needed to conduct an effective job search.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PDEV 1113	Career Life Planning	2	2.00/0.00/0.00
<p>This course is designed to assist students in developing career exploration skills and strategies through self-exploration, cultural perceptions, and career and major identification. Students will identify major/career possibilities.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 1109	Wellness Skills	2	1.00/1.00/0.00
<p>This course is designed to introduce wellness concepts and provide the knowledge and skills necessary to develop a healthy physical, mental and social lifestyle. Students will actively seek to develop and maintain a balance of these elements through increased knowledge of appropriate activities including positive and responsible belief systems and choices. Topics may include anatomy, physiology, kinesiology, emotional/mental health, nutrition, fitness, weight management, drug use/abuse, planning and commitment to change. Course includes physical activity participation by students.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 1130	Beginning Golf	1	0.00/1.00/0.00
<p>The purpose of this course is to cover the fundamentals of golf necessary to play at the beginning recreational level. Topics of discussion include rules, etiquette, equipment and terminology. Students will be taught in the classroom and on the golf course. An additional fee will be assessed.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 1141	Introduction to Strength Training	1	0.00/1.00/0.00
<p>This course is an introduction to weight lifting, weight room safety, periodization, energy systems, nervous system, muscular system and how this information is used to formulate a weight training program as a means to achieve muscular strength, muscular endurance, tone or size. This class may be repeated once for credit.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 1190	Varsity Football	1	0.00/1.00/0.00
<p>The course presents students with the opportunity to participate in the sport of football at the college level. The student will have opportunities in a variety of situations to learn about and develop their self-image, characteristics of high achievement and physical skills in a competitive environment. May be repeated once for credit.</p> <p><b>Prerequisite:</b> The participants of this class must be approved by the head football coach.</p> <p><b>Corequisite:</b></p>			
PE 1192	Varsity Basketball	1	0.00/1.00/0.00
<p>The course presents students with numerous opportunities in a variety of situations to learn about and develop their self-image, characteristics of high achievement and physical skills in a competitive basketball environment. This class may be repeated once for credit.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 1193	Varsity Baseball	1	0.00/1.00/0.00
<p>This course presents students with numerous opportunities in a variety of situations to learn and develop the characteristics of high achievement and physical skills in a competitive intercollegiate baseball setting.</p> <p><b>Prerequisite:</b> The participants of this course must be approved by the head coach.</p> <p><b>Corequisite:</b></p>			
PE 1194	Varsity Golf	1	0.00/1.00/0.00
<p>This course presents students with numerous opportunities in a variety of situations to learn about and develop their self-image, characteristics of high achievement and physical</p>			

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<p>skills in a competitive golf environment. This class may be repeated once for credit.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 1197	Varsity Volleyball	1	0.00/1.00/0.00
<p>This course presents students with numerous opportunities in a variety of situations to learn and develop physical skills in a competitive intercollegiate volleyball setting.</p> <p><b>Prerequisite:</b> The participants in this course must be approved by the head coach.</p> <p><b>Corequisite:</b></p>			
PE 1199	Varsity Softball	1	0.00/1.00/0.00
<p>This course is for students who want to compete in varsity softball at the collegiate level. The course presents students with numerous opportunities in a variety of situations to learn and develop characteristics of high achievement and physical skills in a competitive environment.</p> <p><b>Prerequisite:</b> The participants of this course must be approved by the head coach.</p> <p><b>Corequisite:</b></p>			
PE 2100	Introduction to Sport Management	3	3.00/0.00/0.00
<p>This course is designed to introduce the student to the dynamic nature of sports management. Topics may cover sports within our culture, sports enterprise, communication, public relations and use of social media. Sport event themes will be covered and include topics such as amateur sports participation, for-profit sports participation, tournament operations and sporting goods.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2111	Sports Facilities Management	3	3.00/0.00/0.00
<p>This course will provide students with an introduction to the planning and management of sports facilities. Students will examine legal aspects of hosting sporting events. Topics will include security, liability, safety, maintenance, signage and operating facilities.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2112	Applied Coaching: Football	1	1.00/0.00/0.00
<p>This course provides the student with the knowledge to teach the fundamentals of football. Emphasis will be on rules, technique, strategy, game plan and practice planning. Other topics will include safety and proper equipment usage.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2114	Applied Coaching: Volleyball	1	1.00/0.00/0.00
<p>This course provides students with the knowledge to teach the fundamentals of volleyball. Emphasis will be on rules, technique, strategy, game plan and practice planning. Other topics will include safety and proper equipment usage.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2115	Applied Coaching: Basketball	1	1.00/0.00/0.00
<p>This course provides the students with the knowledge to teach the fundamentals of basketball. Emphasis will be on rules, technique, strategy, game plan and practice planning. Other topics will include safety and proper equipment usage.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2145	Advanced Strength Training	1	0.00/1.00/0.00
<p>This course is designed for students who have an advanced knowledge and skill of strength training. Students will be expected to employ safety in the weight room. Students will develop a needs analysis plan that includes best training practices and goals. Students also will construct a principles of progression outline and develop and implement an individual strength training program that can be documented for progression of training and measurement of goals.</p> <p><b>Prerequisite:</b> PE1141</p> <p><b>Corequisite:</b></p>			
PE 2190	Varsity Football II	1	0.00/1.00/0.00
<p>This course is for student athletes who are in their second year of football athletic eligibility. The student athletes will be provided with an enhanced experience that comes with being a second-season participant. The student athletes may have an expanded leadership role, mentoring opportunities for freshman students and an opportunity to promote themselves for athletic recruitment to a different institution.</p> <p><b>Prerequisite:</b> Approval by Instructor</p> <p><b>Corequisite:</b></p>			
PE 2192	Varsity Basketball II	1	0.00/1.00/0.00
<p>This course is for student athletes who are in their second year of varsity basketball eligibility. Student athletes will be provided with an enhanced experience that comes with being a second-season participant. The student athlete will have an expanded leadership and mentoring role.</p> <p><b>Prerequisite:</b> The participants of this class must be approved by the head basketball coach.</p> <p><b>Corequisite:</b></p>			
PE 2193	Varsity Baseball II	1	0.00/1.00/0.00
<p>This course is for student athletes who are in their second year of baseball athletic eligibility. This course will provide the student athletes with an enhanced experience that comes with being a second-year participant. The student athletes may have an expanded leadership role, mentoring opportunities for freshman students and an opportunity to promote themselves for recruitment to a different institution.</p>			

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<p><b>Prerequisite:</b> Approval by instructor is required.</p> <p><b>Corequisite:</b></p>			
PE 2194	Varsity Golf II	1	0.00/1.00/0.00
<p>This course is for student athletes who are in their second year of varsity golf eligibility. Student athletes will be provided with an enhanced experience that comes with being a second-season participant. The student athlete may have expanded leadership and mentoring roles.</p> <p><b>Prerequisite:</b> The participants of this class must be approved by the head golf coach.</p> <p><b>Corequisite:</b></p>			
PE 2197	Varsity Volleyball II	1	0.00/1.00/0.00
<p>This course is for student athletes who are in their second year of varsity volleyball eligibility. Student athletes will be provided with an enhanced experience that comes with being a second-season participant. The student athlete may have an expanded leadership and mentoring role.</p> <p><b>Prerequisite:</b> The participants of this class must be approved by the head volleyball coach.</p> <p><b>Corequisite:</b></p>			
PE 2199	Varsity Softball II	1	0.00/1.00/0.00
<p>This course is for student athletes who are in their second year of varsity softball eligibility. Student athletes will be provided with an enhanced experience that comes with being a second-season participant. The student athlete may have an expanded leadership and mentoring role.</p> <p><b>Prerequisite:</b> The participants of this class must be approved by the head softball coach.</p> <p><b>Corequisite:</b></p>			
PE 2201	Lifeguard Water Safety	2	1.00/1.00/0.00
<p>This course focuses on lifeguarding skills, first aid, cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) skills. This course has no prerequisites, but students will be required to demonstrate strong swimming skills within the first week of the course, based on Red Cross definitions. Students who complete this course will be eligible to take the Red Cross lifeguard exam.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2211	Water Safety Instructor	2	1.00/1.00/0.00
<p>This course prepares students to become water safety instructors and to teach Red Cross swimming lessons to all levels and ages. Students will be introduced to all swimming strokes. Physical conditioning is stressed. Students who complete this course will be eligible to take the Red Cross water safety Instructor exam.</p> <p><b>Prerequisite:</b> Students must be at least 16 years old by the last day of the course.</p> <p><b>Corequisite:</b></p>			
PE 2240	Athletic Injury, Care and Prevention	2	2.00/0.00/0.00
<p>This course is offered to coaches interested in sports medicine and students interested in coaching and/or athletic training. It is designed to enhance the student's knowledge and performance in sports medicine. The course will cover athletic injury prevention measures, injury care and management, basic injury assessment, nutrition and specific athletic injuries and related problems.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2241	Principles of Coaching	3	3.00/0.00/0.00
<p>This course is designed to introduce students to athletic coaching philosophies, basic coaching concepts in team and individual sports and theories involved in coaching. Emphasis will be on legal issues surrounding coaching, developing coaching philosophies, exploring diversity in coaching, and rules and regulations associated with coaching at different levels.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2254	Sports in Society	3	3.00/0.00/0.00
<p>This course involves a discussion of the impact of sports in society and the values we place on sports. The course will explore the values, virtues, consequences, rights and responsibilities of sports in our culture. The course is designed to improve the understanding of legal, racial, academic and moral issues of sports and athletics.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2255	Aquatic Outdoor Recreation	2	1.00/1.00/0.00
<p>During this course, four to six days are spent on a wilderness field trip. Major topics covered are camping and camping equipment, camp food and nutrition, canoeing, fishing, nature study and woodlore, safety, map and compass, and outdoor philosophy.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
PE 2999	Athletic Leadership	1	0.00/1.00/0.00
<p>This course is designed primarily for second-year student athletes to enhance leadership and mentoring skills and to promote community relations while participating in athletics. Students will have expanded leadership roles within their respective sports by mentoring first-year student athletes in academics and life skills, key components to college success, community adaptation and leadership, time management skills and the importance of seeking help at an early stage of personal or academic struggle. Students also will be required to participate in a community-based service learning activity designed by the instructor to positively enhance and market the Spartan Athletics image and brand.</p> <p><b>Prerequisite:</b> This course requires the approval of the instructor prior to enrollment.</p> <p><b>Corequisite:</b></p>			

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PHIL 1130	Critical Thinking	3	3.00/0.00/0.00
Meets MnTC Goal Area 2. This course focuses on studying the structure of argument, the detection of common argument fallacies, the creation of cogent arguments and the acquisition of skills needed to translate clearly constructed arguments into argumentative essays on contemporary topics. Students will study inductive and deductive styles of thinking, valid and invalid argument forms, the differences between facts and values, judgment and belief, and the importance linguistic definition plays in constructing strong arguments. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 1200	Applied and Professional Ethics	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2 and 9. In this course students will explore ethical issues that arise in professional settings including business, medical and technical settings. The course will also look at the philosophical underpinnings of current professional policies and how philosophy can offer insights that can enhance and deepen such policies. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 1201	Ethics	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2, 6 and 9. This course is an introduction to the topic of ethics. In this course, the following questions are examined: What is ethics? How do we make ethical decisions? Are things that are legally right necessarily right? Should we consider our own interests when making ethical decisions? Are things ethically right simply because God says they are right? If our culture says something is ethically right, does that mean it is ethically right? The course also examines numerous topical ethical issues such as racism, terrorism and censorship. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 1211	Introduction to Philosophy	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2 and 6. This course is an introduction to the basic branches of philosophy including metaphysics (the study of existence and what existence means), epistemology (the study of knowledge and how we come to understand), ethics (the study of what we should do), politics (the study of how societies should exercise force) and aesthetics (the study of beauty and art). Students can expect to explore their own understanding of the world and test it against the classical works of Western philosophy. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 2220	Environmental Ethics	3	3.00/0.00/0.00
Meets MnTC Goal Areas 9 and 10. This course examines the basic positions and concepts within the field of environmental philosophy. A primary emphasis will be placed upon understanding our moral obligations toward the natural environment. Representative course topics may include the following: What is nature? Do humans have direct duties toward the natural world? What is deep ecology? Should we conserve or preserve our natural environment? Do intrinsic values exist in nature? Is a land ethic possible? What is ecofeminism? <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 2224	Philosophy of Religion	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2, 6 and 8. This course explores proposed answers to the question, What role can religion play when considering questions about the meaning of life? The course will consider the traditional arguments for the existence of God as expressed by Western thinkers as well as non-Western efforts to reconcile order and disorder in the universe. The course will focus on the relationship between faith and reason and will reflect on the nature of religious experience and how diverse cultures express various ways of knowing about the divine. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 2225	Bioethics	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2 and 9. This course explores ethical issues that arise from advancements in science and technology (e.g. genetic engineering, cloning, patent rights) as well as look at the philosophical underpinnings of current scientific research and how philosophy is different from science and the law. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 2230	Existentialism	3	3.00/0.00/0.00
Meets MnTC Goal Areas 2 and 6. This course provides an introduction to existential philosophy, explorations of key existentialist ideas and discussions of how existential thought might be applied to such themes as freedom, existence, despair, authenticity, alienation and death. Existentialism, as the name implies, emphasizes existence (that one is) over essence (what one is). The most famous definition of existentialism was articulated by Jean-Paul Sartre, who called it the theory that existence precedes essence. In other words, you are what you make yourself to be - you create your essence as you go along. The course will look at influential existentialists from Kierkegaard to Sartre and Camus. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 2235	Symbolic Logic	3	3.00/0.00/0.00
Meets MnTC Goal Area 4. This course is designed as an introduction to symbolic logic, as well as the nature of language and multiple methodologies for proving arguments. This course will focus on formal systems of logic and deductive validity and will include proofs, methods and translation in sentential and predicate logic. The course will also have an introduction to meta-theory and the extensions of logic and will explore inductive logic. <b>Prerequisite:</b> <b>Corequisite:</b>			

Course #	CourseTitle	CR	Lec/Lab/OJT
PHIL 2240	Non-Western Philosophical Perspectives	3	3.00/0.00/0.00
Meets MnTC Goal Areas 6 and 8. This course explores the standard introduction to philosophy-type questions (e.g. does God exist; are humans completely physical beings; can we have knowledge; how can we differentiate between right and wrong; do we have free will; etc.) mainly from the standpoint of non-Western thinkers. We will consider how such questions have been pursued and answered in historically non-dominant cultures (i.e. Asian, Africana, Latin American and indigenous) and compare and contrast our findings with the dominant Western philosophies. After taking this course, students should be better able to place contemporary philosophical issues in a global context and be better able to interact with and understand members of a diverse society. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHIL 2300	Political and Social Philosophy	3	3.00/0.00/0.00
Meets MnTC Goal Areas 5 and 7. This course addresses issues with regards to a critical examination of some philosophical problems concerning the nature and evaluation of social and political organizations over the course of human history. The course will explore a detailed philosophical analysis of the writings (both classical and contemporary) about social and political concepts such as freedom, democracy, socialism, communism, fascism and anarchy with a particular interest in the evolution of these concepts. Questions concerning the nature, justification and limits of political power will be explored. In addition to this, theories of distributive justice, culpability, causality and responsibility will be examined in connection with the study of important political and social positions. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHRM 1001	Fundamental Concepts of Pharmacy	3	3.00/0.00/0.00
This course introduces the student to the organization and function of the institutional, ambulatory and industrial pharmacy. Emphasis is on the duties and responsibilities of the pharmacy technician and the calculations required to accurately prepare patient medications for distribution. <b>Prerequisite:</b> Assessment into ENGL 1101 or college writing equivalent, MATH0055 <b>Corequisite:</b>			
PHRM 1100	Personal and Professional Responsibilities of the Pharmacy Technician	4	4.00/0.00/0.00
The student will identify personal and professional responsibilities of the pharmacy technician, including ethical behavior and professional attire. Verbal and non-verbal communication skills are emphasized, as the technician student learns about interacting with a diverse patient population. Additionally, students will explore time and stress management, as well as interpersonal skills necessary for negotiation, conflict resolution and teamwork. Critical thinking will be encouraged as the student creatively solves problems within the pharmacy work environment. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program <b>Corequisite:</b>			
PHRM 1101	Personal and Professional Responsibility Applications	1	0.00/1.00/0.00
The pharmacy technician student will act both ethically and legally within the scope of practice, including appropriate record keeping for controlled substances. Simulated interactions with patients will enable the student to competently communicate both verbally and in writing. Additionally, the student will practice using drug references and processing patient payments. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program. <b>Corequisite:</b>			
PHRM 1110	Medication Processing, Handling, and Safety I	2	2.00/0.00/0.00
The student will identify the various routes of medication administration and dosage forms and their corresponding abbreviations. Pharmacokinetic and pharmacodynamic concepts will be explored, including absorption, distribution, metabolism, elimination and bioavailability. Students will demonstrate how to use drug information references, developing an understanding of the type of information found in each resource. Medication processes within the community pharmacy setting will be reviewed. Community pharmacy topics will include the role of the technician, filling and dispensing prescriptions, billing, payment, insurance, inventory management and storage. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program. <b>Corequisite:</b>			
PHRM 1111	Medication Processing, Handling and Safety Lab I	2	0.00/2.00/0.00
The pharmacy technician student will participate in simulations of community pharmacy workflow. Activities will include prescription processing, third-party claim adjudication and inventory management. Processes for long-term care prescription processing and packaging also will be simulated. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program. <b>Corequisite:</b>			
PHRM 1120	Pharmaceutical Calculations	3	3.00/0.00/0.00
The pharmacy technician student will learn to interpret medication labels, prescriptions and orders. Conversions between various systems of measurement as well as both basic math and more advanced pharmaceutical calculations will be used to calculate doses. Both retail and institutional pharmacy calculations will be covered, including those necessary for extemporaneous (non-sterile) and sterile compounding. The technician student will also learn basic business math calculations to enhance retail practice knowledge. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program <b>Corequisite:</b>			
PHRM 2001	Pharmacy Principles and Practices I	4	2.00/2.00/0.00
This course covers drug names, classifications and mechanisms of action, the use of computers in pharmacy and their practical applications. The student will be introduced to hospital and retail dispensing techniques as well as basic customer service.			

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Prerequisite:	PHRM1001		
Corequisite:	PHRM1001		
PHRM 2002	Pharmacy Principles and Practices II	5	2.00/3.00/0.00
This course covers intravenous drug admixture, TPN compounding, critical care intravenous admixture and unit dose medication dispensing to nursing units. Emphasis is placed upon medication storage and stability, diabetic supplies, and chemotherapy storage and admixture. <b>Prerequisite:</b> PHRM1001, PHRM2001 <b>Corequisite:</b>			
PHRM 2004	Drug Properties/Distribution	3	2.00/1.00/0.00
This course provides the student with basic physical and chemical drug properties and the functions related to purchasing and inventory control in the pharmacy. Emphasis is placed upon the theory, stability and safety of drug products, and the procedures required to develop and maintain inventory control. <b>Prerequisite:</b> PHRM1001, PHRM2001 <b>Corequisite:</b>			
PHRM 2010	Experiential / Hospital	3	0.00/0.00/3.00
This supervised instructional experience in the clinical setting introduces the student to tasks performed by the pharmacy technologist. <b>Prerequisite:</b> PHRM2002, PHRM2004 <b>Corequisite:</b>			
PHRM 2012	Experiential / Retail	3	0.00/0.00/3.00
This supervised instructional experience in the clinical setting introduces the student to tasks performed by the pharmacy technologist. <b>Prerequisite:</b> PHRM2002, PHRM2004 <b>Corequisite:</b>			
PHRM 2100	Pharmacotherapy	4	4.00/0.00/0.00
This course provides a systematic review of pharmacotherapy. The student will describe the major components, locations and functions of each body system: nervous; endocrine; musculoskeletal; cardiovascular; respiratory; gastrointestinal; renal and urological; reproductive; immune; eyes, ears, nose and throat; dermatological; and hematological. The student will recognize medications used to treat the conditions associated with each body system and be able to identify each drug by both trade and generic names. Immunizations, over-the-counter (OTC) medications, and complementary and alternative (CAM) medicine will also be addressed. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program., Completion of ENGL 1101 with a grade of C or better., Completion of PHRM 1100 Personal and Professional Responsibilities of the Pharmacy Technician with a grade of C or better., Completion of PHRM 1101 Personal and Professional Applications with a grade of C or better., Completion of PHRM 11 <b>Corequisite:</b>			
PHRM 2110	Medication Processing, Handling and Safety II	3	3.00/0.00/0.00
In this course, the student will learn the responsibilities of a hospital (or institutional) pharmacy technician. The student is provided information on hospital pharmacy standards and procedures, including certified physician order entry (CPOE) systems, medication formularies, automated dispensing systems and floor stock. Other topics will include controlled substance tracking, unit dose systems, beyond-use dating, non-sterile (extemporaneous) and sterile compounding, and the need for compounded medications. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program., Completion of ENGL 1101 with a grade of C or better., Completion of PHRM 1100 Personal and Professional Responsibilities of the Pharmacy Technician with a grade of C or better., Completion of PHRM 1101 Personal and Professional Responsibility Applications with a grade of C or better., Comple <b>Corequisite:</b>			
PHRM 2111	Medication Processing, Handling and Safety Lab II	3	0.00/3.00/0.00
Institutional (hospital) pharmacy practice procedures will be simulated, including medication reconciliation, crash cart charging and refilling, floor checks, unit dosing and filling automated drug storage systems, and preparing oral syringes. Both non-sterile (extemporaneous) and sterile compounding procedures will be completed. <b>Prerequisite:</b> Admission to the Pharmacy Technology Program., Completion of ENGL 1101 with a grade of C or better., Completion of PHRM 1100 Personal and Professional Responsibilities of the Pharmacy Technician with a grade of C or better., Completion of PHRM 1101 Personal and Professional Responsibility Applications with a grade of C or better., Completi <b>Corequisite:</b>			
PHRM 2120	Professional Preparation	2	1.00/1.00/0.00
This course will prepare the pharmacy technician student for the Pharmacy Technician Certification Exam. Additionally, the student will practice searching for job opportunities, as well as preparing a resume with appropriate references. Interview techniques will be learned and then practiced in a mock interview. <b>Prerequisite:</b> Admission into the Pharmacy Technology Program., Completion of ENGL 1101 with a grade of C or better., Completion of PHRM 1100 Personal and Professional Responsibilities of the Pharmacy Technician with a grade of C or better., Completion of PHRM 1101 Personal and Professional Responsibility Applications with a grade of C or better., Compl <b>Corequisite:</b>			
PHYS 1105	Fundamental Concepts in Physics	3	3.00/0.00/0.00
Meets MnTC Goal Area 3. This is a demonstration-based course that provides an introduction to selected topics in classical and modern physics. Topics will include measurement and significant digits, graphing, dimensional analysis, mechanics of motion, vibrations, waves,			

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sound, electricity and magnetism, light and optics, atomic physics and atomic spectra, lasers and optical fibers, nuclear physics and radiation. The course uses active learning techniques with lab-like experiences. It uses many demonstrations and instructor-guided small group problem-solving activities. Simple algebra is used to ensure that students grasp the course concepts. This course is intended for all students but is especially designed for non-science majors who want an appreciation of and a limited working knowledge in some major areas of physics. <b>Prerequisite:</b> MATH0095 <b>Corequisite:</b>			
PHYS 1106	Fund of Physics - Mechanics	3	2.00/1.00/0.00
Meets MnTC Goal Area 3. This course is an introduction to selected topics in classical physics. The topics covered include measurement and significant digits, dimensional analysis, vectors, motion, force, work and energy, momentum and rotational dynamics. An introductory-level college algebra is used frequently to ensure that students grasp the principles and retain a working knowledge of them. This course may be taken separately from PHYS 1105 and is intended for all students but especially designed for non-science majors or those who need an introductory-level working knowledge of physics. <b>Prerequisite:</b> MATH1020 <b>Corequisite:</b>			
PHYS 1107	Physics of Music	3	3.00/0.00/0.00
Meets MnTC Goal Areas 3 and 6. This course is an introduction to physics as it applies to the art and science of music. The course will be a mixture of lecture and lab-like experiences with both elements meeting concurrently. Experiments will be designed with musicians and non-scientists in mind and special care will be taken in the writing of lab reports. Topics include analysis of frequency, overtones, intensity, resonance and beats. Students will design and perform on musical instruments based on these principles. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHYS 1108	Physics of Flight	3	3.00/0.00/0.00
Meets MnTC Goal Area 3. This course is an introduction to physics as it applies to various forms of flight. The course will be a mixture of lecture, discussion and hands-on experiences. Lab-like experiences will be designed for all students regardless of background. Topics will include a history of human flight, Newton's laws and kinematics, resistive forces, introductory fluid dynamics, electronic systems, basic flight systems, rocketry and projectile motion. Students will create and present a model aircraft based on these principles. <b>Prerequisite:</b> <b>Corequisite:</b>			
PHYS 1120	Introduction to Astronomy	3	3.00/0.00/0.00
Meets MnTC Goal Area 3. This course includes a description of the universe covering our current understanding of the solar system, lunar and stellar study, interstellar gases and galaxies. It focuses on the development of modern astronomy and its techniques, astronomical coordinates, the use of astronomical instruments and recent discoveries in astronomy and cosmology. This non-lab course with lab-like experiences is designed for science and non-science majors. <b>Prerequisite:</b> MATH0095 <b>Corequisite:</b>			
PHYS 1401	College Physics I	4	3.00/1.00/0.00
Meets MnTC Goal Area 3. This course gives a theoretical and practical introduction to physics, including kinetics in one and two dimensions, force and dynamics, bodies in equilibrium, work and energy, linear momentum, rotational motion, fluids, waves and sound. Lab equipment is used to illustrate these concepts. A mastery of college algebra and some trigonometry is essential for success in this course. The ability to use computers for creating reports and spreadsheets is needed for lab work. Physics 1401 is intended for all students but is especially designed for students majoring in forestry, biological sciences, dentistry, pharmacy, veterinary medicine, physical therapy and other fields related to medicine. Lab is required. <b>Prerequisite:</b> MATH1115, MATH1116, MATH1118 <b>Corequisite:</b>			
PHYS 1402	College Physics II	4	3.00/1.00/0.00
Meets MnTC Goal Area 3. This course is open to all students and gives a theoretical and practical introduction to physics. It is a continuation of Physics 1401, College Physics I. However, it may be taken without having taken Physics 1401. Topics include thermodynamics, selected topics in electricity and magnetism, DC and AC circuit theory, light and electromagnetic radiation, atomic physics, spectroscopy, lasers and photonics, and nuclear physics. Lab equipment is used to illustrate these concepts. A mastery of college algebra and some trigonometry is essential for success in this course. Lab is required. Physics 1402 is intended for all students but especially designed for students majoring in forestry, biological sciences, dentistry, pharmacy, veterinary medicine, physical therapy and other fields related to medicine. <b>Prerequisite:</b> MATH1115, MATH1116, MATH1118 <b>Corequisite:</b>			
PHYS 1411	University Physics I	5	3.00/2.00/0.00
Meets MnTC Goal Area 3. This course, which is open to all students but especially suited for engineering students, gives a theoretical and practical introduction to physics for math, science and engineering majors. It is a calculus-based course. Topics include kinetics of one and two dimensions, force and dynamics, bodies in equilibrium, work and energy, linear momentum, rotational motion, fluids, waves and sound. Lab equipment is used to illustrate these concepts. A mastery of college algebra as well as knowledge of calculus and trigonometry is essential for success in this course. The ability to use computers for creating reports and spreadsheets is needed for lab work. Lab is required. <b>Prerequisite:</b> MATH1134 <b>Corequisite:</b>			



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<b>PHYS 1412</b>	<b>University Physics II</b>	<b>5</b>	<b>3.00/2.00/0.00</b>
Meets MnTC Goal Area 3. This course is open to all students but is especially suited for engineering students. The course is a continuation of Physics 1411, University Physics I. However, it may be taken without having taken Physics 1411. Topics include thermodynamics, selected topics in electricity and magnetism, DC and AC circuit theory, optics, light and electromagnetic radiation, atomic physics, spectroscopy, lasers, photonics and nuclear physics. Lab equipment is used to illustrate these concepts. A mastery of college algebra as well as knowledge of calculus and trigonometry is essential for success in this course. Lab is required. <b>Prerequisite:</b> MATH1134 <b>Corequisite:</b>			
<b>PHYS 2970</b>	<b>Internship Experience</b>	<b>1.00 - 3.00</b>	
This course is designed to provide students with a monitored meaningful work experience related to their field of interest. This experience will increase their employability and enhance their life skills. Completion of this course requires a written report and an evaluation from the student's supervisor. Each internship is an individualized experience, therefore this course is offered with variable credits and may be repeated up to two times. The student may choose from one, two or three credits as prearranged with the internship site supervisor and corresponding faculty. Each credit will require a minimum of 45 hours of on-the-job learning. This course will be graded pass/fail only. <b>Prerequisite:</b> Instructor approval <b>Corequisite:</b>			
<b>PLBG 1101</b>	<b>Piping and Job Safety</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces the student to the plumbing profession. Topics include history, safety, basic applied math, fundamentals of rigging and hand signals to equipment operators. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PLBG 1103</b>	<b>Plumbing Trade Tools</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces common hand and power tools and product-specific tools used in the plumbing trade. Emphasis will be on the safe and proper use and maintenance of these tools. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PLBG 1115</b>	<b>Faucets and Fixtures</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course covers various faucets and fixtures used in plumbing, including residential and commercial fixtures, their installation and application. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PLBG 1119</b>	<b>Materials and Fittings</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course introduces the materials and fittings used in the plumbing trade, including copper, plastics, brass, polymers, cast iron, black iron and glass. The application of these material types will be covered, as well as fitting names and their uses. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PLBG 1123</b>	<b>Plumbing Code I</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course introduces and familiarizes students with the Minnesota Plumbing Code and the North Dakota Plumbing Code. Definitions and miscellaneous statutes related to the plumbing codes will be covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PLBG 1125</b>	<b>Plumbing Lab I</b>	<b>2</b>	<b>0.00/2.00/0.00</b>
In this course students will meet with the instructor for the purpose of applying, demonstrating and reinforcing content covered in lecture courses. <b>Prerequisite:</b> <b>Corequisite:</b> PLBG1101, PLBG1103, PLBG1115, PLBG1119, PLBG1123			
<b>PLBG 1131</b>	<b>Grade and Elevation</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course covers grade and elevation as it pertains to pipe installation. Emphasis will be on identification and proper use of needed tools and the methods and calculations used in determining grade and elevation. <b>Prerequisite:</b> PLBG1123 <b>Corequisite:</b>			
<b>PLBG 1133</b>	<b>Blueprint Reading</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course covers different types and sections of blueprints, including the different views and key points a plumber will need to understand. Interpreting isometrics also will be covered. Specification sheets will be introduced and their importance explained. <b>Prerequisite:</b> PLBG1123 <b>Corequisite:</b>			
<b>PLBG 1135</b>	<b>Drainage, Waste and Venting</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course covers drainage, waste and venting (DWV) as required in the Minnesota Plumbing Code and the North Dakota Plumbing Code. Emphasis is on differences between types of drainage, waste and venting systems and applying the code regulations in sizing the systems. Drawing isometrics for a DWV system will be covered. <b>Prerequisite:</b> PLBG1123 <b>Corequisite:</b>			
<b>PLBG 1137</b>	<b>Water Distribution</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course will familiarize the learner with water supply and distribution and the rules for sizing a water supply system as applicable to the Minnesota Plumbing Code and the North			

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Dakota Plumbing Code. Drawing isometrics will be introduced. <b>Prerequisite:</b> PLBG1123 <b>Corequisite:</b>			
<b>PLBG 1139</b>	<b>Backflow Basics</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course introduces backflow basics by covering types of backflow devices, their construction, the areas of application for the devices and the scope of their use. The requirements for licensure will be covered. <b>Prerequisite:</b> PLBG1123 <b>Corequisite:</b>			
<b>PLBG 1141</b>	<b>Plumbing Code II</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course covers application of the plumbing code regulations of Minnesota and North Dakota for the installation of residential and commercial fixtures, material and fittings. <b>Prerequisite:</b> PLBG1123 <b>Corequisite:</b>			
<b>PLBG 1145</b>	<b>Plumbing Lab II</b>	<b>2</b>	<b>0.00/2.00/0.00</b>
In this course students will meet with the instructor for the purpose of applying, demonstrating and reinforcing content in the concurrent courses being taken online. <b>Prerequisite:</b> PLBG1125 <b>Corequisite:</b>			
<b>PNSG 1207</b>	<b>Health Promotion I</b>	<b>5</b>	<b>3.00/2.00/0.00</b>
This course will introduce the foundations of nursing care for diverse populations. Curriculum threads including nursing principles and application of safety, asepsis and infection control, data collection, medication administration, perioperative care, patient comfort, fluids and electrolytes, nutrition, laboratory values and diagnostics, and the integumentary system are integrated throughout the course. <b>Prerequisite:</b> <b>Corequisite:</b> BIOL2260, BIOL2261, PNSG1200			
<b>PNSG 1207</b>	<b>Health Promotion I</b>	<b>5</b>	<b>3.00/2.00/0.00</b>
This course introduces the foundations of nursing care across the lifespan. It develops the student's awareness of the clients as individuals and their basic needs as well as technical skills necessary for client care. Topics included are safety, data collection/diagnostics, fluid and electrolytes, nutrition, pre- and post-operative care, medication administration, comfort, integumentary and cancer. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PNSG 1209</b>	<b>Maternal Child Health</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on the nursing care of the maternal-child patient within the scope of the practical nurse. Curriculum threads including the female reproductive system and sexual health, peripartum nursing care, nursing care related to the newborn, infant, child and adolescent, and nursing care of the gynecological patient are integrated throughout the course. <b>Prerequisite:</b> PNSG1200, PSYC2222 <b>Corequisite:</b> BIOL2262, BIOL2263			
<b>PNSG 1209</b>	<b>Maternal Child Health</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on the nursing care of the maternal-child patient within the scope of the practical nurse. Curriculum threads including the female reproductive system and sexual health, peripartum nursing care, nursing care related to the newborn, infant, child and adolescent, and nursing care of the gynecological patient are integrated throughout the course. <b>Prerequisite:</b> PNSG1200, PSYC2222 <b>Corequisite:</b> BIOL2262, BIOL2263			
<b>PNSG 1209</b>	<b>Maternal Child Health</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course focuses on the nursing care of the maternal-child patient within the scope of the practical nurse. Curriculum threads including the female reproductive system and sexual health, peripartum nursing care, nursing care related to the newborn, infant, child and adolescent, and nursing care of the gynecological patient are integrated throughout the course. <b>Prerequisite:</b> BIOL2262, BIOL2263, PNSG1200, PSYC2222 <b>Corequisite:</b>			
<b>PNSG 1209</b>	<b>Family Wellness</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course develops the student's awareness of individual health needs within the family relating to maternal-child health. This course incorporates the role of the practical nurse in community settings. Topics include wellness throughout the lifespan, maternal child health and female reproduction. <b>Prerequisite:</b> BIOL2230, PSYC2222 <b>Corequisite:</b>			
<b>PNSG 1217</b>	<b>Health Promotion II</b>	<b>4</b>	<b>2.00/2.00/0.00</b>
The course will expand on the foundations of health promotion, maintenance and restoration to a diverse population. Curriculum threads include pathophysiology, data collection, pharmacology and nursing care related to the musculoskeletal, respiratory, urinary, male reproductive and gastrointestinal systems. <b>Prerequisite:</b> PNSG1207 <b>Corequisite:</b> BIOL2262, BIOL2263			
<b>PNSG 1223</b>	<b>Health Promotion III</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course expands on the foundations of health promotion, maintenance and restoration of diverse populations. The curriculum threads include pathophysiology, data collection, pharmacology and nursing care related to the cardiovascular, immune, hematological, neurological, sensory and endocrine systems.			

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<b>Prerequisite:</b>	PNSG1207, PNSG1216		
<b>Corequisite:</b>			
<b>PNSG 1232</b>	<b>Principles of Intravenous Therapy</b>	<b>1</b>	<b>0.00/1.00/0.00</b>
This course builds on basic intravenous theory and skills. Curriculum threads include fluid and electrolytes, acid/base balance, intravenous fluids and equipment, venous access, maintenance and management of complications. The student will demonstrate initiating and maintaining primary and secondary fluids, intravenous push medications, central line dressing changes, central line cap changes, dosage calculations and successful venipuncture. The role of the practical nurse in intravenous therapy is integrated throughout the course. <b>Prerequisite:</b> PNSG1216 <b>Corequisite:</b> Current Practical Nursing Licensure			
<b>PNSG 1500</b>	<b>Nursing Care of Adults I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course introduces students to the care of the adult patient with a focus on health promotion and safety. Emphasis is on common health problems of the adult as well as chronic illness and end-of-life care. Application of pathophysiology, nutrition and pharmacology are applied to common diseases within each topic area. Additional emphasis includes basic alterations in fluid and electrolytes, oxygenation, cardiac output and tissue perfusion, regulation and metabolism, cognition and sensation, immunity, integument, mobility, reproduction, ingestion/digestion/absorption/elimination, excretion, physical and psychosocial variations, chronic illness, end-of-life care, environmental safety and emergency preparedness. <b>Prerequisite:</b> Acceptance into the Practical Nursing Program <b>Corequisite:</b>			
<b>PNSG 1508</b>	<b>Foundations of Adult Nursing Care I</b>	<b>8</b>	<b>5.00/3.00/0.00</b>
This course introduces concepts of teamwork and collaboration, safety, quality improvement, professional identity and behavior, patient-centered and relationship-centered care, nursing judgment, evidence-based practice, managing care of the individual patient, informatics and technology. An introduction to the nursing process provides a beginning framework for decision-making related to common health problems of adults and older adults. Principles of pathophysiology, nutrition and pharmacology are applied to basic health care concepts. A lab component includes focused assessments and basic nursing skills that support course concepts. <b>Prerequisite:</b> Acceptance into the Practical Nursing Program, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1509</b>	<b>Foundations of Adult Nursing Care I</b>	<b>6</b>	<b>4.00/2.00/0.00</b>
This course introduces concepts of teamwork and collaboration, safety, quality improvement, professional identity and behavior, patient-centered and relationship-centered care, nursing judgment, evidence-based practice, managing care of the individual patient, informatics and technology. An introduction to the nursing process provides a beginning framework for decision making related to common health problems of adults and older adults. Principles of pathophysiology, nutrition and pharmacology are applied to basic health care concepts. A lab component includes focused assessments and basic nursing skills that support course concepts. <b>Prerequisite:</b> Acceptance into the Practical Nursing Program AND experience as a nursing assistant as guided by the PN application packet AND current American Heart Association Basic Life Support AND current, clear Minnesota Department of Health criminal background chec <b>Corequisite:</b>			
<b>PNSG 1510</b>	<b>Practical Nursing Foundations</b>	<b>5</b>	<b>3.00/2.00/0.00</b>
This course introduces key concepts of teamwork and collaboration, safety, quality improvement, professional identity and behavior, patient-centered and relationship-centered care, nursing judgment, evidence-based practice, managing care of the individual patient, informatics and technology. This course includes an introduction to the theoretical foundation for basic nursing skills and focused assessments. Skills and assessments are demonstrated in the laboratory setting. An introduction to the nursing process provides the student with a beginning framework for decision making. <b>Prerequisite:</b> Acceptance into the Practical Nursing Program <b>Corequisite:</b>			
<b>PNSG 1512</b>	<b>Practical Nursing Pharmacology</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course incorporates the concepts of pharmacokinetics, pharmacodynamics, common adverse/side effects and contraindications to medication administration. Emphasis is placed on drug classifications and the role of the practical nurse in providing nursing care related to the safe administration of medications to individual patients across the age span. <b>Prerequisite:</b> Acceptance into the Practical Nursing Program AND experience as a nursing assistant as guided by the PN application packet AND current American Heart Association Basic Life Support AND current clear Minnesota Department of Health criminal background check <b>Corequisite:</b>			
<b>PNSG 1514</b>	<b>Clinical I Practical Nurse Foundations</b>	<b>4</b>	<b>0.00/4.00/0.00</b>
This clinical course provides the student an opportunity to apply nursing judgment using the nursing process to implement safe, patient-centered and relationship-centered care in selected settings. The student demonstrates focused assessments, data collection and implementation of skills learned in lab settings. The student documents findings and reinforces teaching plans for individual patients with common problems. The student develops communication and customer service skills while working with individual patients and team members. <b>Prerequisite:</b> Acceptance into the Practical Nursing Program, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal			

Course #	CourseTitle	CR	Lec/Lab/OJT
background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1518</b>	<b>Foundations of Adult Nursing Care II</b>	<b>5</b>	<b>3.00/2.00/0.00</b>
This course incorporates the nursing process, teamwork and collaboration, safety, quality improvement, professional identity and behavior, patient-centered and relationship-centered care, nursing judgment, evidence-based practice, managing care of the individual patient, informatics and technology into the care of adults and older adults with complex and comorbid health disorders. Principles of pathophysiology, nutrition and pharmacology are applied. A lab component includes focused assessments and advanced nursing skills that support course concepts. <b>Prerequisite:</b> BIOL2260, BIOL2261, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet , PNSG1508, PNSG1514, PSYC2222, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1520</b>	<b>Nursing Care of Women, Newborns, and Children</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course provides an integrative approach to the care of childbearing women, newborns and children. Emphasis is placed on normal pregnancies, normal growth and development, and common pediatric disorders. Principles of pathophysiology, nutrition and pharmacology are applied. <b>Prerequisite:</b> BIOL2260, BIOL2261, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, PNSG1508, PNSG1514, PSYC2222, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1522</b>	<b>Transition to Practical Nursing Practice</b>	<b>1</b>	<b>1.00/0.00/0.00</b>
This course prepares the student for transition into practical nursing practice. Concepts related to career development options that enhance career mobility are explored. Standards of practice and the importance of practicing according to state regulations and statutes that are within the scope of practice for the practical nurse are reviewed. The role of the practical nurse in emergency preparedness is examined. <b>Prerequisite:</b> BIOL2260, BIOL2261, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, PNSG1508, PNSG1514, PSYC2222, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1524</b>	<b>Practical Nursing Mental Health</b>	<b>2</b>	<b>2.00/0.00/0.00</b>
This course focuses on the care of individual patients with psychiatric and behavioral disorders. Emphasis is placed on common psychiatric and behavioral disorders as well as promoting and maintaining the mental health of individual patients. Principles of pathophysiology, nutrition and pharmacology are applied. <b>Prerequisite:</b> BIOL2260, BIOL2261, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, PNSG1508, PNSG1514, PSYC2222, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1526</b>	<b>Clinical II Practical Nursing</b>	<b>5</b>	<b>1.00/4.00/0.00</b>
This course provides the student an opportunity to apply nursing judgment using evidence-based care, critical thinking and clinical judgment to implement safe, patient-centered and relationship-centered care to individual patients across the lifespan. The clinical student reflects on the value of patient-centered care, teamwork and collaboration, informatics, quality improvement, safety, managing care of the individual patient, nursing judgment and evidence-based care. Concepts related to career development options that enhance career mobility are reviewed. Standards of practical nursing and the importance of practicing according to state-regulated scope of practice are reviewed. <b>Prerequisite:</b> BIOL2260, PNSG1500, PNSG1510, PNSG1512, PNSG1514, PSYC2222 <b>Corequisite:</b>			
<b>PNSG 1528</b>	<b>Clinical II Practical Nursing</b>	<b>4</b>	<b>0.00/4.00/0.00</b>
This course provides the student an opportunity to apply nursing judgment using evidence-based care, critical thinking and clinical judgment to implement safe, patient-centered and relationship-centered care to individual patients across the lifespan. The clinical student reflects on the value of patient-centered care, teamwork and collaboration, informatics, quality improvement, safety, managing care of the individual patient, nursing judgment and evidence-based care. <b>Prerequisite:</b> BIOL2260, BIOL2261, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, PNSG1508, PNSG1514, PSYC2222, Up-to-date immunizations and health form <b>Corequisite:</b>			
<b>PNSG 1530</b>	<b>Nursing Care of Adults II</b>	<b>5</b>	<b>2.00/3.00/0.00</b>
This course focuses on the care of adults with common medical and surgical health problems. Emphasis is on physiological disorders that require management in an acute care facility. Application of pathophysiology, nutrition and pharmacology is applied to co-morbid diseases within each topic area. Additional emphasis includes advanced alterations in fluid and electrolytes, oxygenation, cardiac output and tissue perfusion, regulation and metabolism, cognition and sensation, immunity, integument, mobility, reproduction, ingestion,			

Course #	CourseTitle	CR	Lec/Lab/OJT
digestion, absorption, elimination, excretion, pre and post-operative care and oncology. <b>Prerequisite:</b> BIOL2260, PNSG1500, PNSG1510, PNSG1512, PNSG1514, PSYC2222 <b>Corequisite:</b>			
<b>POLS 1120</b>	<b>American National Government</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 9. This course provides an analysis of the organization, institutions and functions of the United States government. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>POLS 1130</b>	<b>State and Local Government</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 9. This course provides an analysis of the organization, procedure and functions of state and local governments and their relationship with the national government. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>POLS 2204</b>	<b>Comparative Government</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 8. This course provides an introduction to the various systems of government used around the world. Students will compare the processes and institutions of both industrialized and underdeveloped nations and explore how cultures and histories have affected the development of those political systems. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>POLS 2206</b>	<b>Global Politics</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 8. This course is an introduction to the field of global and international politics, with an emphasis on the history, structure and processes of global relations. Students will study the role of state and non-state actors such as nations, international conflict, war, global economic relations and international organizations. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>POLS 2220</b>	<b>Introduction to Constitutional Theory</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2, 5 and 9. This course focuses on some of the significant constitutional issues that confront policy makers and citizens of the United States. The framework for study is the United States Constitution. Topics covered include governmental powers, separation of powers, civil liberties, civil rights and federalism. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>POLS 2310</b>	<b>Ideas and Ideologies</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 7 and 9. This course provides a survey of the most significant ideological systems in Western politics, with an emphasis on the most influential ideas of the 20th and 21st centuries. Modern political movements such as communism, fascism, liberalism, conservatism, feminism, environmentalism and others will be explored and evaluated, with emphasis on the philosophical roots of these systems. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>POLS 2950</b>	<b>Introduction to Social Research</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goals 2 and 5. This course introduces methods and concepts used in the research process in the social sciences and related fields. Topics covered include the application of the scientific method to social and behavioral research, definitions and measurements of variables, research design, experiential methods and survey techniques. The use of literature reviews and the importance of critically evaluating research will be emphasized. Common descriptive and inferential statistics used in social science disciplines also will be introduced. This course is identical to SOC 2950 and PSYC 2950 and is cross-listed with both of those courses. Students may choose to enroll in the course with the prefix most appropriate to their transfer and career goals. <b>Prerequisite:</b> Completion of six (6) credits in SOC, PSYC, or POLS, ENGL1101, MATH1020 <b>Corequisite:</b>			
<b>PSYC 1101</b>	<b>Human Interaction</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2 and 5. This is an introductory course emphasizing practical applications of psycho-social concepts, with specific emphasis on personality development, human relations and motivation. This course is applicable for students in occupational and health-related fields or general education. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 1200</b>	<b>General Psychology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 9. This is a comprehensive introductory overview of psychology that studies human behavior and mental processes. Topics include (but are not limited to) research methods, the history of psychology, neuroscience and behavior, developmental psychology, sensation and perception, motivation and emotion, health psychology, learning and memory, personality, social psychology, psychopathology and treatments, and states of consciousness such as sleep and dreams. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 1201</b>	<b>Introduction to Mental Health Behavioral Aide</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course will provide students with the knowledge and resources to enter practice as a Mental Health Behavioral Aide II. Students will achieve entry-level competencies in providing therapeutic and rehabilitative care for children and adolescents with emotional disturbances. This course is not an MnTC Goal Area 5 course and may not be used as a replacement for a Goal Area 5 course. This course is designed for students enrolled in the Mental Health Behavioral Aide II certificate program. <b>Prerequisite:</b>			

Corequisite:

<b>PSYC 1202</b>	<b>Introduction to Autism Spectrum Disorders</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 5. This is a comprehensive introductory course to autism spectrum disorders (ASD). Students will gain a general understanding of the history, etiology, characteristics and assessment of ASD. This course will highlight current research regarding neurodevelopmental issues in autism, the diagnostic criteria used to identify children with ASD, and collaborative and interdisciplinary models of service delivery that ensure family-centered and culturally-competent approaches to assessment and intervention. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 1500</b>	<b>Positive Psychology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 9. This course includes different aspects of health psychology, humanistic psychology and positive psychology with emphasis on the integration of psychological, biological and physical factors and the consequences for health and well-being. The course starts with the body&#039;s systems, psychological theories behind well-being, and positive emotions which are followed up by work methods and interventions to improve public health, well-being and a healthy work life. Gender and cultural perspectives will be considered throughout the course. Scientific methodology and the design for the study of positive psychology are also included in the course. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2220</b>	<b>Abnormal Psychology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 5. This course is an introduction to the diagnosis, etiology and treatment of maladaptive behavior. The course will include historical and theoretical approaches, prevention and community resources. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2222</b>	<b>Lifespan Development</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 9. This course is a study of human development from the lifespan perspective, including theories, stages and influences of development. The course views the individual from conception to death through physical, cognitive, social and emotional development. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2224</b>	<b>Social Psychology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 7. This course is designed to cover the issues and themes current in the field of social psychology. Examples of such issues include relational and physical aggression; the role of technology in group relations; stereotypes, prejudice and discrimination; and how group identification influences thinking and behavior. A range of psychological theories and concepts will be examined and compared historically, as well as across multiple social contexts. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2226</b>	<b>Behavior and Environmental Management</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 2, 5 and 10. This course is an exploration of the scientific study of human behavior and its interrelatedness with the environment. This course describes and explains the acquisition, maintenance and change of behavior with an emphasis on human application within a variety of environmental contexts. This course uses critical thinking on the principles and procedures used to understand and change the environment and human behavior. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2230</b>	<b>Personality Psychology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Area 5. This course examines historical and current theoretical perspectives of personality including psychoanalytic, humanistic, behavioral/social-learning, cognitive, biological and trait theories. This course is designed to examine the methods involved in personality psychology research, the ways in which humans differ with regard to personality, the variables that influence personality and how personality might influence behavior, as well as the development and assessment of personality. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2232</b>	<b>Strategies for Working With Individuals With Autism Spectrum Disorders</b>	<b>4</b>	<b>4.00/0.00/0.00</b>
This course will introduce students to evidence-based and research-focused intervention strategies commonly implemented when serving individuals with autism spectrum disorders. Team-based collaborative consultation for individuals diagnosed with ASD is also addressed. Topics include (but are not limited to) direct instruction, communication skills training, social and emotional skills training and general supportive strategies. This course is cross-listed with ED 2232. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2235</b>	<b>Special Topics for Autism Spectrum Disorders</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
This course provides an in-depth study into current issues surrounding autism spectrum disorders. For example, this course may focus on the impact of mental health and medical issues on an individual's experience living with an autism spectrum disorder. Content will vary depending upon current research-driven topics in the field at the time of course delivery. <b>Prerequisite:</b> <b>Corequisite:</b>			

Course #	CourseTitle	CR	Lec/Lab/OJT
<b>PSYC 2300</b>	<b>Internship Experience</b>	<b>1.00 - 3.00</b>	
This course is designed to provide students with a monitored meaningful work experience in an area of interest within the field of psychology. Students will work in a professional environment while applying a variety of psychological theories, concepts and/or skills. Completion of this course requires a written report and an evaluation from the student's supervisor. Each internship is an individualized experience, therefore this course is offered with variable credits and may be repeated up to two times. The student may choose from one, two or three credits as prearranged with the internship site supervisor and corresponding faculty. Each credit will require a minimum of 45 hours of on-the-job learning. This course will be graded pass/fail only. <b>Prerequisite:</b> Instructor approval <b>Corequisite:</b>			
<b>PSYC 2302</b>	<b>Cross-Cultural Psychology</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goal Areas 5 and 7. This course is designed to cover the issues and themes current in the field of cross-cultural psychology. Examples of such issues include cultural variation along the lines of collectivism and individualism; psychological principles that might be universal compared to those that are culturally specific; and how content and context affect psychological functioning within as well as between cultures. A range of substantive areas within psychology will be examined and compared across multiple cultures, including cognitive, social, health and developmental psychology. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PSYC 2900</b>	<b>Statistics for Behavioral and Social Sciences</b>	<b>4</b>	<b>3.00/1.00/0.00</b>
Meets MnTC Goal Area 5. Students use will basic mathematical and computerized procedures to analyze data in the behavioral sciences. The course will cover the use of statistical software to conduct descriptive and inferential data analyses. Students will choose and apply statistical procedures to help answer psychological and behavioral scientific research questions. Students also will learn to read, interpret and write reports based on American Psychological Association style guidelines. <b>Prerequisite:</b> MATH 1114 or higher, PSYC 1200 with a grade of C or higher <b>Corequisite:</b>			
<b>PSYC 2950</b>	<b>Introduction to Social Research</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
Meets MnTC Goals 2 and 5. This course introduces methods and concepts used in the research process in the social sciences and related fields. Topics covered include the application of the scientific method to social and behavioral research, definitions and measurements of variables, research design, experiential methods and survey techniques. The use of literature reviews and the importance of critically evaluating research will be emphasized. Common descriptive and inferential statistics used in social science disciplines will also be introduced. This course is identical to POLS 2950 and SOC 2950 and is cross-listed with both of those courses. Students may choose to enroll in the course with the prefix most appropriate to their transfer and career goals. <b>Prerequisite:</b> Completion of six (6) credits in SOC, PSYC, or POLS, ENGL1101, MATH1020 <b>Corequisite:</b>			
<b>PWST 1000</b>	<b>Introduction to PowerSports</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course is the study of powersports occupational safety, shop orientation procedures, and power and hand tool usage. The use of shop equipment applications, fasteners, measuring instruments and service literature will be addressed, along with appropriate service department etiquette. Two- and four-stroke engine theory along with their proper lubricants will be covered. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1002</b>	<b>Snowmobile, Off Road Vehicle and Motorcycle Maintenance</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course is designed to train the student in proper maintenance techniques for on- and off-road land-based recreational vehicles. Students are encouraged to bring their personal recreational vehicle(s) or use the up-to-date industry products that the college offers or both. Trailer maintenance also will be covered. This is an excellent course for getting equipment ready for an upcoming winter or summer season. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1010</b>	<b>Introduction to PowerSports I</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course focuses on the study of two-cycle engine technology. The importance of occupational safety, the use of shop equipment, measuring instruments and service literature, along with appropriate service department etiquette will be addressed. Two-cycle engine theory along with proper lubricants will be covered. All these will be taught and expressed with the PowerSports and Marine industry shop experience as a basis for study. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1012</b>	<b>Introduction to PowerSports II</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course focuses on the study of four-cycle engine technology. The importance of occupational safety, the use of shop equipment, measuring instruments and service literature will be addressed. Four-cycle engine theory along with proper lubricants will be covered. Students will compare the advantages and disadvantages of two-cycle and four-cycle engines. All these will be taught and expressed with the PowerSports and Marine industry shop experience as a basis for study. <b>Prerequisite:</b> PWST1010 <b>Corequisite:</b>			
<b>PWST 1014</b>	<b>Personal Watercraft and Marine Engine Maintenance</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course is designed to train the student on proper maintenance techniques for water-based recreational vehicles. Students are encouraged to bring their personal boats, outboards or personal watercraft or use the up-to-date industry products that the college			

offers, or both. This is an excellent course for getting personal watercraft and boats ready for an coming spring. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1015</b>	<b>Marine Engine Installation and Set Up</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
This course will cover marine engine and drive systems: fundamentals, engine removal, engine installation and basic system testing. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1017</b>	<b>Fuel Systems I</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
The Fuel Systems I course covers the theory and operation of basic fuel systems and the fuels that they deliver. This is the first of two fuel systems courses and will give students the solid foundation they will need to understand the more advanced systems in their future course work. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1021</b>	<b>Ignition, Charging and Starter Systems</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course is a continuation of the Electrical Foundation course and will cover the study of electrical systems used on power sports equipment. It will focus primarily on ignition and starting systems. Students will learn and apply the theories of ignition, induction, charging and starting systems. Emphasis will be on proper use of test equipment along with the generation and flow of electricity. Students will apply the theories of ignition, induction, charging and starting systems. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1025</b>	<b>Fuel Systems II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
Fuel Systems II is the second in a two-part course series covering two- and four-cycle off-road and marine products. Students will apply the theories of fuel system operation to both two- and four-stroke engines. Included in this course will be inspection and troubleshooting, along with seasonal service requirements and fuel quality testing. <b>Prerequisite:</b> PWST1017 <b>Corequisite:</b>			
<b>PWST 1080</b>	<b>Snowmobile Engines</b>	<b>3</b>	<b>1.00/2.00/0.00</b>
This course covers snowmobile engine designs, component identification and engine service procedures, as well as snowmobile fuel systems and service. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1115</b>	<b>Electrical Foundations</b>	<b>3</b>	<b>2.00/1.00/0.00</b>
The Electrical Foundation course will cover the theory and practical operation of electricity. Multi-meters and test instruments will be used, giving students the solid foundation they will need to understand the more advanced electrical systems in their future course work. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1302</b>	<b>Snowmobile I</b>	<b>5</b>	<b>2.00/3.00/0.00</b>
This course covers snowmobile engine designs, component identification and engine service procedures. This course also covers snowmobile fuel systems and service. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1304</b>	<b>Snowmobile Clutching</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course identifies major components of constant variable transmission systems and discusses maintenance, routine adjustment and tuning of variable transmission clutch systems. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1310</b>	<b>Personal Watercraft and Jet Pumps</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course offers a comprehensive view of maintenance, overhaul techniques, diagnostics and post-repair inspections for jet pump drive systems used in the watercraft industry. . <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1402</b>	<b>Chainsaws</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
Students will learn various manufacturers' repair and testing techniques. Students will learn saw repair, chain sharpening and maintenance of chainsaws. Students will be evaluated according to industry standards. Stihl bronze certification is available upon successful completion of the Stihl training portion of the class. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1404</b>	<b>Generators</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course covers generator components and test procedures. Students will test generator voltages and learn how to diagnose and repair generators. Students should have a basic understanding of electricity and electrical meter usage. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 1406</b>	<b>Chainsaws and Generators</b>	<b>2</b>	<b>1.00/1.00/0.00</b>
This course offers a comprehensive view of overhaul techniques, diagnostics and post-repair inspections of modern chainsaws. This course also covers generator components and testing procedures. Students will test generator voltages and learn how to diagnose and repair generators. Students must have an understanding of electricity and electrical meter usage prior to taking this class. <b>Prerequisite:</b>			



Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Corequisite:</b>				<b>Prerequisite:</b>			
<b>PWST 2013 Power Hydraulics 3 1.00/2.00/0.00</b> This course covers the theory and service of hydraulic systems used on a wide range of off-road applications. Hydro-static transmissions, power steering and power trim system service will be performed. System troubleshooting as well as component service also will be included in this course. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>PWST 2312 Advanced Motorcycle Systems 3 1.00/2.00/0.00</b> This course is designed to test troubleshooting skills and knowledge. Students will be presented with motorcycle problems and, using a systematic approach, students will identify and repair the unit. This course is designed to simulate the role of a technician in a dealership. Students will be expected to write a work order, estimate repairs, make the repair and finalize the work order. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 2016 Outboard Engine Systems 3 1.00/2.00/0.00</b> Outboard Engine Systems introduces the fuel and electrical systems used on outboard motors. Primary focus will be on fuel and oil injection systems along with ignition, starting and charging systems. Students will learn the theories of operation and proper use of test equipment and repair. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1102 Fundamental Concepts of Radiologic Technology 2 2.00/0.00/0.00</b> This course will introduce the student to foundations of the radiologic technology profession. The content will include: an examination of the organization of health care facilities and radiology departments, the radiologic technologist's role in the health care setting, professional obligations and behaviors, employment opportunities, historical significance of the profession, accreditation of educational programs, educational requirements, certification, registration, and licensure processes, and human diversity in the health care setting. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>PWST 2017 Marine Drive Systems 3 1.00/2.00/0.00</b> This course covers the operational theory and service of the outboard and sterndrive drive units. Gear ratios, drive shaft housing and gear cases will be investigated. Complete drive system disassembly, measurement, analysis, shimming and rebuilding will be performed. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1112 Introduction to Radiologic Technology and Patient Care4 3.00/1.00/0.00</b> This course is designed to provide concepts of radiologic sciences and patient care. Included in the course are discussions of professionalism, effective communication, patient physical needs assessment, patient consent procedures, x-ray production characteristics, basic radiation protection procedures, health information confidentiality, medical terminology, principles of pharmacology and contrast media, quality management, ethical behaviors and legal issues in health care. The student will also demonstrate competence in routine and emergency patient care, patient transfer and safety procedures, infection control, aseptic and sterile environment procedures, and radiographic equipment manipulation. <b>Prerequisite:</b> <b>Corequisite:</b> RADT1114, RADT1124			
<b>PWST 2115 All-Terrain Vehicles Systems 3 1.00/2.00/0.00</b> All-Terrain Vehicles Systems focuses on various types of four-cycle ATV engine fuel and electrical systems. Students will also examine chassis and drive train components. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1116 Radiographic Procedures I 5 3.00/2.00/0.00</b> This course will provide the student with the knowledge necessary to perform routine and mobile radiographic procedures relative to the thoracic and abdominal organs (including gastrointestinal studies), bony thorax, upper extremity and shoulder girdle. Emphasis will be on radiographic terms, anatomy, pathology, positioning, manipulation of radiographic equipment and accessories, and related patient care considerations. <b>Prerequisite:</b> RADT1102 <b>Corequisite:</b> RADT1112, RADT1124			
<b>PWST 2206 Chainsaws and Generators 3 1.00/2.00/0.00</b> This course offers a comprehensive view of maintenance, diagnostics and post-repair inspections of chainsaws. This course also covers generator components and testing procedures. Students will test generator voltages and learn how to diagnose and repair generators. Students must have an understanding of electricity and electrical meter usage prior to taking this class. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1124 Radiographic Procedures II 4 2.00/2.00/0.00</b> This course will provide the student with the knowledge necessary to perform routine and mobile radiographic procedures relative to the urinary system, lower extremity, pelvis, vertebral column and arthology. Emphasis will be on radiographic terms, anatomy, pathology, positioning, manipulation of radiographic equipment and accessories, and patient care considerations. Basic techniques in venipuncture, contrast media types, intravenous medication and emergency response will also be included. <b>Prerequisite:</b> RADT1102 <b>Corequisite:</b> RADT1112, RADT1116			
<b>PWST 2210 Snowmobile Clutch and Drive Systems 3 1.00/2.00/0.00</b> Snowmobile Clutch and Drive Systems identifies major components of the complete drive system and discusses maintenance, routine adjustment and tuning of the continuous variable transmission (CVT). <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1132 Principles of Radiobiology 4 3.00/1.00/0.00</b> This course is designed to establish a basic knowledge of atomic structure and terminology and provide an overview of the principles of radiation protection and interaction with living systems. Also presented are the nature and characteristics of radiation (i.e., its effects on molecules, cells, tissues and the body as a whole, x-ray production and the fundamentals of photon interactions with matter). Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies, health care organizations and the responsibilities of the radiographer for patients, personnel and the public are also incorporated. Factors affecting biological response are presented, including acute and chronic effects of radiation. <b>Prerequisite:</b> RADT1112, RADT1116, RADT1124 <b>Corequisite:</b> RADT1140, RADT1146			
<b>PWST 2302 Advanced Power Equipment 4 2.00/2.00/0.00</b> This course covers overhaul procedures on outdoor power equipment. Students will make adjustments for optimum performance, learn multi-angle valve grinding procedures and the effects of modifications on a four-cycle engine. The course will also cover electrical and engine troubleshooting. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1140 Radiographic Imaging 4 2.00/2.00/0.00</b> This course is designed to establish a knowledge base of factors that govern and influence the production and recording of radiographic images as well as provide a basis for analyzing those images. Film and electronic imaging with related accessories will be emphasized. Included is the importance of minimum imaging standards, discussion of problem-solving techniques for image evaluation and the factors that can affect image quality. Class demonstrations/labs are used to demonstrate application. Actual images will be included for analysis. <b>Prerequisite:</b> RADT1112, RADT1116, RADT1124 <b>Corequisite:</b> RADT1132, RADT1146			
<b>PWST 2304 Motorcycles I 3 1.00/2.00/0.00</b> This course focuses on various types of four-cycle motorcycle and ATV engines. Students will learn engine service and maintenance procedures. Students will also learn about motorcycle fuel systems and related components. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>RADT 1146 Radiographic Procedures III 4 2.00/2.00/0.00</b> This course will provide the student with the knowledge necessary to perform routine and mobile radiographic procedures relative to skull (including sensory organs), traumatic injury, and surgical radiography. Pathological conditions of these anatomical structures will be discussed as well. In addition the student will be introduced to highly specialized studies of the central nervous system, cardiovascular, lymphatic system and cross-sectional imaging. Special imaging equipment, physical settings and techniques used in these highly specialized studies will also be included. <b>Prerequisite:</b> RADT1112, RADT1116, RADT1124 <b>Corequisite:</b> RADT1132, RADT1140			
<b>PWST 2306 Snowmobile Drives and Suspensions 3 1.00/2.00/0.00</b> This course covers suspension operation and components. Student will learn suspension set-up and adjustment techniques and various suspension designs used by manufacturers. Students will perform suspension service on various manufacturers' snowmobiles. <b>Prerequisite:</b> <b>Corequisite:</b>							
<b>PWST 2308 Advanced Snowmobiles 3 1.00/2.00/0.00</b> Students will demonstrate troubleshooting skills. Students will perform electrical tests used in diagnosing electrical failures on snowmobiles. Students will learn and demonstrate a systematic approach to troubleshooting snowmobiles. <b>Prerequisite:</b> <b>Corequisite:</b>							
<b>PWST 2310 Motorcycles II 3 2.00/1.00/0.00</b> This course covers electrical and suspension systems. Students will learn where motorcycle electrical components are located and their specific testing procedures. Students also learn the different types of suspension systems and repair procedures. Students will learn how to set up a motorcycle suspension for optimum performance. <b>Prerequisite:</b> <b>Corequisite:</b>							
<b>PWST 2311 Motorcycles II 3 1.00/2.00/0.00</b> This course covers electrical and suspension systems. Students will learn where motorcycle electrical components are located and their specific testing procedures. Students also learn the different types of suspension systems and repair procedures. Students will learn how to set up a motorcycle suspension for optimum performance.							

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<b>RADT 1180 Radiographic Clinical I 5 0.00/0.00/5.00</b> The emphasis of this clinical rotation will be on radiographic positioning and manipulation of radiographic equipment and accessories related to radiography of the thoracic and abdominal viscera, upper and lower extremity, shoulder girdle and pelvis. <b>Prerequisite:</b> RADT1132, RADT1140, RADT1146 <b>Corequisite:</b> RADT1190				<b>REFR 2202 Commercial Refrigeration and Air Conditioning Principles 4 4.00/0.00/0.00</b> This course covers the principles of basic heat theory and gas laws as they apply to refrigeration systems. The operation of commercial walk-in coolers and freezers, commercial ice machines, air conditioners and heat pumps will be discussed, along with accessory components and piping methods used to install and maintain these systems. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 1190 Radiographic Clinical II 5 0.00/0.00/5.00</b> This clinical course emphasizes the basic radiographic procedures and positioning related to the upper and lower gastrointestinal tract and the biliary system. The student also will continue to acquire and build skills in performing radiographic procedures and positioning related to the thoracic and abdominal cavities and the upper and lower extremities including the shoulder girdle and the pelvis. <b>Prerequisite:</b> RADT1132, RADT1140, RADT1146 <b>Corequisite:</b> RADT1180				<b>REFR 2204 Commercial Refrigeration and Air Conditioning Lab 3 0.00/3.00/0.00</b> This course covers practical applications related to commercial refrigeration and air conditioning equipment. The commercial refrigeration and air conditioning lab learning experience includes sequence of operation, troubleshooting, repair, maintenance and installation. Safety is emphasized throughout the course. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2100 Radiographic Clinical III 5 0.00/0.00/5.00</b> This clinical course emphasizes the basic radiographic procedures and positioning related to the urinary system, the bony thorax and the vertebral column. The student is also introduced to radiographic exposure factors and off-peak (e.g. evening and weekend) clinical hours. <b>Prerequisite:</b> RADT1180, RADT1190 <b>Corequisite:</b> RADT2110, RADT2222				<b>REFR 2206 Commercial Electrical Principles 3 3.00/0.00/0.00</b> This course covers the fundamentals of electrical components used in commercial refrigeration and air conditioning equipment. Reading and understanding electrical schematics will be employed to comprehend the sequence of operation and aid in troubleshooting. Students also will develop their own wiring diagrams by applying Ohm's law and how it relates to series and parallel circuits. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2110 Radiographic Clinical IV 5 0.00/0.00/5.00</b> This clinical course emphasizes the basic radiographic procedures and positioning related to the skull, facial bones, paranasal sinuses and detailed areas of the skull. This clinical experience provides an opportunity to work with increased independence. <b>Prerequisite:</b> RADT1180, RADT1190 <b>Corequisite:</b> RADT2100, RADT2222				<b>REFR 2208 Commercial Electrical Lab 3 0.00/3.00/0.00</b> This course covers the practical applications of electrical components used to operate commercial refrigeration and air conditioning equipment. Included are troubleshooting, repairing and installing electrical devices common in larger systems. Students will use schematics they have developed to build control systems to operate refrigeration and air conditioning systems. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2120 Radiographic Clinical V 5 0.00/0.00/5.00</b> This clinical course provides the student with the opportunity to function more independently in all areas of basic radiography and to develop clinical skills in regular radiographic areas and procedures, with continuing experience in trauma and surgical procedures. The student will be exposed to special procedures and will begin rotations through the specialized areas of nuclear medicine, radiation therapy, computerized tomography, ultrasound and magnetic resonance imaging. <b>Prerequisite:</b> RADT2100, RADT2110, RADT2224 <b>Corequisite:</b> RADT2130, RADT2280				<b>REFR 2211 Advanced Refrigeration Principles 4 4.00/0.00/0.00</b> This course prepares students for more advanced lab sessions on commercial refrigeration systems. Students need to have a very good understanding of commercial refrigeration and electrical systems. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2130 Radiographic Clinical VI 5 0.00/0.00/5.00</b> This clinical course emphasizes the development of independence, discretion and judgment while performing basic radiographic procedures. It provides the student with the opportunity to function as a nearly registry-eligible radiographer. The student is expected to correlate all clinical and didactic experiences while demonstrating a high degree of proficiency and efficiency. <b>Prerequisite:</b> RADT2100, RADT2110, RADT2224 <b>Corequisite:</b> RADT2120, RADT2280				<b>REFR 2212 Advanced Refrigeration Lab 3 0.00/3.00/0.00</b> This course gives students the opportunity to work on more complicated refrigeration systems through individual or paired groups on field trips, off-site meetings and hands-on projects. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2224 Imaging Equipment 4 2.00/2.00/0.00</b> This course is designed to establish a knowledge base in radiographic, fluoroscopic, mobile and tomographic equipment (including computed tomography) requirements and design including circuitry of the x-ray machine. The content will also provide a basic knowledge of quality control. Computer applications in the radiologic sciences related to image capture, display, storage and distribution are presented as well. <b>Prerequisite:</b> RADT1180, RADT1190 <b>Corequisite:</b> RADT2100, RADT2110				<b>REFR 2213 Advanced Electrical Theory 3 3.00/0.00/0.00</b> This course covers the electrical principles and schematics used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2268 Mammography Clinical 4 0.00/0.00/4.00</b> The emphasis of this clinical rotation will be on positioning and manipulation of mammographic equipment and accessories during imaging procedures of the breasts. This course will also address quality improvement procedures specific to mammography equipment and procedures. <b>Prerequisite:</b> ARRT Certification in Radiography, RADT2258 <b>Corequisite:</b>				<b>REFR 2213 Advanced Electrical Theory 3 3.00/0.00/0.00</b> This course covers the electrical principles and schematics used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>RADT 2280 Radiologic Technology Registry Review 2 2.00/0.00/0.00</b> This course is designed to prepare the student to write the national board exam administered by the American Registry of Radiologic Technologists (ARRT). A review of all course work presented in the program with an emphasis on the ARRT exam specifications will be presented. <b>Prerequisite:</b> RADT2100, RADT2110, RADT2224 <b>Corequisite:</b> RADT2120, RADT2130				<b>REFR 2215 Advanced Electrical Applications 3 0.00/3.00/0.00</b> This course covers the application of electrical principles used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>REFR 1110 Refrigeration, Air Conditioning and Heating Principles 3 3.00/0.00/0.00</b> This course covers refrigeration theory of domestic refrigeration and introduction theory to commercial refrigeration and residential heating and air conditioning equipment including controls and accessories. <b>Prerequisite:</b> HVAC1128 <b>Corequisite:</b>				<b>REFR 2216 Refrigeration Internship 3 0.00/0.00/3.00</b> In this course, projects, reports and discussions are coordinated to relate to the student's employment situation, which must be in an approved refrigeration or air conditioning occupation. A training agreement and an evaluation are required of each student. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>REFR 1112 Refrigeration, Air Conditioning and Heating Lab 3 0.00/3.00/0.00</b> This course covers the operation and service procedures of domestic refrigeration and an introduction to residential heating and air conditioning and commercial refrigeration equipment. <b>Prerequisite:</b> <b>Corequisite:</b>				<b>REFR 2217 Commercial Grocery Store Refrigeration 3 3.00/0.00/0.00</b> This course is designed to cover the refrigeration piping and oil return in a grocery store setting. Students will learn about case controllers and temperature controls. <b>Prerequisite:</b> Completion of HVAC/R diploma. <b>Corequisite:</b>			
<b>SOC 1111 Introduction to Sociology 3 3.00/0.00/0.00</b> Meets MnTC Goal Areas 2, 5 and 7. This course is an introduction to the study of societies and the social factors that influence individual and group behavior. The course incorporates sociological and other critical thinking models for the investigation of various components of social life: culture, socialization, social organization, social stratification, social institutions, populations dynamics and social change. <b>Prerequisite:</b>							

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<b>Corequisite:</b>							
<b>SOC 1113 Social Problems</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Areas 5 and 9. This course stresses acquiring an enriched understanding of social issues and prospects for improving them. Students will investigate social trends and factors affecting social problems, contrast sociological perspectives of social problems, deal constructively with information and ideas associated with social issues, examine the ethical dimensions inherent in problem definition and intervention design, and define personal and public responsibilities in relation to select social issues. Social issues covered may include parenting and family issues; crime, delinquency and violence; aging, health and health care issues; poverty and inequality; cultural pluralism; urban growth and population; environmental issues; sexual issues; and global issues. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 1114 Sociology Service Learning</b>	<b>1 0.00/1.00/0.00</b>	Meets MnTC goal Area 5. This course emphasizes an enriched understanding of social issues and prospects for improving them through direct work/research in a sociological setting. In an actual community setting, students will participate in and make observations of social intervention. These observations will be critically processed in relation to key sociological concepts. The nature of service learning usually necessitates that students be prepared to be off-campus and to participate outside of regular class hours (20-25 hours). Students may need transportation to field sites. Additional expenses may be incurred. Course may be repeated for credit up to three times. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2210 Social Deviance</b>	<b>3 3.00/0.00/0.00</b>	This course is a sociological examination of significant rule-making and rule-breaking that surveys explorations/explanations of non-conformity relevant to juvenile delinquency, crime, health and environmental welfare, mental illness, sexual violence, substance abuse and certain other non-normative lifestyles <b>Prerequisite:</b> SOC1111 <b>Corequisite:</b>					
<b>SOC 2213 Sociology of the Family</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Areas 5 and 7. Families will be examined from the sociological perspective and will be compared across time and cultures. Family relationships, family structure and the effects of race, class, gender, age, social institutions and social policy will be explored in this course. Integral to this course are comprehensive discussions on topics such as dating, cohabitation, marriage/partnering, employment, domestic violence, parenting, divorce, remarriage/re-partnering and elder care. This course provides understanding of the family, family roles and the impact on the individual. Understanding public and private, platonic and intimate relationships can assist in the development of tolerance toward others. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2215 Criminology</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Areas 2 and 5. This course will provide a thorough overview of the field of criminology: the study of the theories which attempt to define and explain crime, criminal behavior and society's reactions to crime, including a focus on juvenile delinquency, the judiciary process and penology. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2216 Minority Group Relations</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Areas 5 and 7. This course stresses acquiring an enriched understanding of social issues and prospects for improving them. Students will investigate social trends and factors affecting social problems, contrast sociological perspectives of social problems, deal constructively with information and ideas associated with social issues, examine the ethical dimensions inherent in problem definition and intervention design, and define personal and public responsibilities in relation to select social issues. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2217 Rural Sociology</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Areas 5 and 7. This course is a sociological study of the forces which have transformed the rural setting and impacted future trends in rural America. The course will also focus on the diverse cultural heritage contributing to the rich cultural mosaic found in rural scenarios. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2220 Food, Culture and Society</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Areas 5 and 7. This course examines the social and cultural dimensions of the production, preparation and consumption of food. The course will include discussion of a wide variety of topics including food citizenry, sustainable food production, agroecology, hunger, food sovereignty, food choice and options, policy and legislation, social justice, and the interplay between food and gender, social class, race and ethnicity. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2222 Sociology of Agriculture</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goal Area 5. The central theme of this course is to understand the institutions and processes critical to farm success. Students will utilize sociological perspectives to study the many aspects of a local food system. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SOC 2950 Introduction to Social Research</b>	<b>3 3.00/0.00/0.00</b>	Meets MnTC Goals 2 and 5. This course introduces methods and concepts used in the research process in the social sciences and related fields. Topics covered include the application of the scientific method to social and behavioral research, definitions and measurements of variables, research design, experiential methods and survey techniques. The use of literature reviews and the importance of critically evaluating research will be emphasized. Common descriptive and inferential statistics used in social science disciplines will also be introduced. This course is identical to POLS 2950 and PSYC 2950 and is cross-listed with both of those courses. Students may choose to enroll in the course with the prefix most appropriate to their transfer and career goals. <b>Prerequisite:</b> Completion of six (6) credits in SOC, PSYC, or POLS, ENGL1101, MATH1020 <b>Corequisite:</b>					
<b>SOMM 1400 Social Media Visual Methods</b>	<b>3 2.00/1.00/0.00</b>	In this course, students will learn introductory-level skills that will prepare them to create visual content relevant for today's most widespread social media platforms. Various visual methods and media will be taught, such as static graphic design layout, still photography and videography. Throughout this course, students will be instructed to create visual content that will focus on technical proficiency, core design principles, brand consistency, user experience and user engagement strategies. <b>Prerequisite:</b> MKTG1116, MKTG1200 <b>Corequisite:</b>					
<b>SOMM 2200 Social Media Management</b>	<b>3 2.00/1.00/0.00</b>	This course will instruct students on the basics of social media management, primarily from a business and marketing perspective. An emphasis will be placed on industry-established planning, management and measurement processes. Students will learn the tools necessary to manage a company's social program at any point, from setting up a program from scratch to performing ongoing maintenance and assessment that will ensure continued success. <b>Prerequisite:</b> MKTG1200 <b>Corequisite:</b>					
<b>SOMM 2300 Social Media Campaigns</b>	<b>3 2.00/1.00/0.00</b>	In this course, students will apply their accumulated knowledge and skills to produce integrated social media campaigns. Campaign projects will involve activities that are designed to imitate industry practices and processes, allowing students to experiment with the tools they'll use on the job. Students will independently complete research and planning, produce original content and analyze the results of their campaign following its completion. <b>Prerequisite:</b> MKTG1116, MKTG1200 <b>Corequisite:</b>					
<b>SPAN 1111 Beginning Spanish I</b>	<b>4 4.00/0.00/0.00</b>	This course provides basic instruction in the correct form and use of the Spanish language. Study concentrates on oral and written comprehension of simple Spanish, verbal expression of personal themes, pronunciation and grammar. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SPAN 1112 Beginning Spanish II</b>	<b>4 4.00/0.00/0.00</b>	This course provides continued basic instruction in the correct form and use of the Spanish language. Study concentrates on oral and written comprehension of simple Spanish, verbal expression of personal and extended themes, pronunciation and grammar. <b>Prerequisite:</b> SPAN1111 <b>Corequisite:</b>					
<b>SPAN 2211 Intermediate Spanish I</b>	<b>4 4.00/0.00/0.00</b>	Meets MnTC Goal Area 8. This course is the first semester of Intermediate Spanish. Students will develop reading, writing, listening and speaking through a focus on historical, political, cultural and artistic expressions of the Spanish-speaking world. Grammar from beginning Spanish courses is lightly reviewed. Students will learn new grammatical skills including the perfect tense of the indicative mood and simple tenses of the subjunctive mood. <b>Prerequisite:</b> Instructor approval, SPAN1112 <b>Corequisite:</b>					
<b>SPAN 2212 Intermediate Spanish II</b>	<b>4 4.00/0.00/0.00</b>	Meets MnTC Goal Area 8. This course is the second semester of Intermediate Spanish. Students continue to hone their reading, writing, listening and speaking through a focus on historical, political, cultural and artistic expressions of the Spanish-speaking world. Grammar from Intermediate Spanish is further developed to include the simple and perfect tenses of the indicative and subjunctive moods. Students investigate the development of science and technology on various aspects of the Spanish-speaking world. <b>Prerequisite:</b> Instructor approval <b>Corequisite:</b>					
<b>SPED 2250 Individuals with Exceptionalities</b>	<b>3 3.00/0.00/0.00</b>	This course traces the path of disability laws and provides an introduction to the recognition, incidence, educational and lifelong needs of individuals with exceptionalities. Personal and societal views regarding cultural and linguistic diversity will be explored. A wide range of educational services are studied with emphasis on the shared responsibility of professionals in education, community and professional settings, and students are introduced to the wide-range of professionals involved with exceptional individuals. <b>Prerequisite:</b> <b>Corequisite:</b>					
<b>SUPL 1110 Budget and Financial Management</b>	<b>3 3.00/0.00/0.00</b>						

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<p>This course is designed for non-financial personnel who need to understand the basic theories of finance and apply them to practical business decisions. Key topics include learning the generally accepted accounting and budgeting principles, financial statement analysis, analysis of return on investment and cost/benefit ratios analysis of annual reports.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>				<p>Students will identify bones and boney landmarks. They will learn muscle origin and insertion using specific boney landmarks as points of anatomical reference. They will learn directional terms and terms of movement. Students will learn to identify and describe the movement of each muscle.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
SUPL 1118	Lead and Facilitate Teams	3	3.00/0.00/0.00	THPY 1123	Integrative Massage	2	1.00/1.00/0.00
<p>This course will address the role of supervisor, manager and leader as a leader and facilitator of work teams. Topics will include planning work teams, creating effective team interaction, identifying characteristics of successful teams and demonstrating skills and behaviors of both team leader and team member.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>				<p>This course introduces students to a variety of specialized modalities of massage. Specialization in the massage industry increases the marketability of therapists and is strongly recommended. Students will be familiar with the basic principles of each modality presented. In addition to lectures presented by the instructor, students will be responsible for researching modalities of particular interest to them.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
SURT 1200	Introduction to Surgical Technology	3	3.00/0.00/0.00	THPY 1130	Advanced Massage	2	1.00/1.00/0.00
<p>This course explores the role of surgical technologists. Fundamental principles of asepsis, professionalism, communication, universal precautions, the surgical team, operating room environment and patient care concepts are introduced.</p> <p><b>Prerequisite:</b> none.</p> <p><b>Corequisite:</b></p>				<p>This course prepares massage students to execute advance massage techniques. Students will learn optional techniques available to clients including abdominal massage, facial massage and massage of the gluteals. Massage for special populations will be discussed, including massage for the elderly and chair massage.</p> <p><b>Prerequisite:</b> THPY1110</p> <p><b>Corequisite:</b></p>			
SURT 1210	Surgical Technology I	6	3.00/3.00/0.00	THPY 1135	Deep Tissue Massage	2	1.00/1.00/0.00
<p>This course introduces the student to the role of the surgical technologist in the operating room and introduces the foundation for patient care in the operating room.</p> <p><b>Prerequisite:</b> Acceptance into Surgical Technology program</p> <p><b>Corequisite:</b> SURT1200</p>				<p>This course prepares the massage student to apply deep muscular therapy techniques. Emphasis will be placed on the use of proper body mechanics and the use of proper techniques to deliver deep tissue massage safely. Trigger point therapy will be used extensively in this course. Students will learn the use of massage tools. Individual muscles will be isolated and massaged with parallel and cross fiber techniques.</p> <p><b>Prerequisite:</b> THPY1110</p> <p><b>Corequisite:</b></p>			
SURT 1215	Surgical Pharmacology	3	2.00/1.00/0.00	THPY 1142	Practical Skills Clinic	3	0.00/3.00/0.00
<p>This course introduces basic surgical pharmacology. Topics include drug classification, therapeutic effects, side effects, interactions and dosage calculations.</p> <p><b>Prerequisite:</b> SURT1200, SURT1210</p> <p><b>Corequisite:</b> SURT1220</p>				<p>This course provides students with an opportunity to develop the practical skills necessary to administer professional massage therapy treatments. In addition to performing massage treatments on the general public, students will also perform seated chair massage at scheduled on-site events as arranged by the instructor. This course provides students with an opportunity to develop the practical learned skills needed to work as a professional massage therapist.</p> <p><b>Prerequisite:</b> Current cerified CPR/First Aid card holder, THPY1110</p> <p><b>Corequisite:</b></p>			
SURT 1220	Surgical Technology II	5	2.00/3.00/0.00	THPY 1146	Certification Preparation	2	2.00/0.00/0.00
<p>This course expands the student's knowledge of the role of the surgical technologist in the operating room. The course considers procedures of the musculoskeletal, digestive, respiratory, reproductive, otic and ophthalmic systems, building on the foundation of patient care relating to these body systems in the different perioperative phases.</p> <p><b>Prerequisite:</b> SURT1210</p> <p><b>Corequisite:</b> SURT1215</p>				<p>This course is designated to prepare the students to take the National Certification Examination (NEC) issued by the National Certification Board of Therapeutic Massage &amp; Bodywork (NCBTMB). Students will review anatomy, physiology, kinesiology, clinical pathology, massage theory, massage assessment and practice, adjunct techniques and business practices. Students will be taught to identify the areas where they need the most review and use outside texts to help them maximize their learning potential. A study guide and sample test questions will be used to exemplify the National Certification Examination. Students will be encouraged to apply to take the National Certification Examination after they receive their diploma.</p> <p><b>Prerequisite:</b> THPY1110</p> <p><b>Corequisite:</b></p>			
SURT 1230	Surgical Technology III	4	4.00/0.00/0.00	THPY 1148	Sports Massage and Hydrotherapy	2	1.00/1.00/0.00
<p>This course continues to expand the student's knowledge of the role of the surgical technologist in the operating room. The course considers procedures of the lymphatic, circulatory, vascular and nervous systems, building on the foundation of patient care relating to these body systems in the different perioperative phases.</p> <p><b>Prerequisite:</b> SURT1215, SURT1220</p> <p><b>Corequisite:</b> SURT1240</p>				<p>This course covers the fundamentals of hydrotherapy and sports massage. Students will be taught to perform massage treatments specific to individual sports. The course addresses pre-, post- and event-sports massage techniques, as well as rehabilitative massage for injuries and maintenance massage. Students will also be instructed on the use of hydrotherapy techniques. Hydrotherapy will address the application of water as treatment in each of its three forms, hot and cold treatments, hydrocollators, body wraps and salt glows. These green techniques can be implemented into Swedish massage treatments and sports massage.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
SURT 1250	Surgical Clinical I	6	0.00/0.00/6.00	THPY 1151	Business Development	3	2.00/1.00/0.00
<p>This course allows the student to practice the role of the surgical technologist under supervision in an active surgical setting.</p> <p><b>Prerequisite:</b> SURT1200, SURT1210, SURT1215, SURT1220</p> <p><b>Corequisite:</b> SURT1230</p>				<p>This course will introduce the massage therapist to the business aspects of operating a massage practice. Topics include client scheduling, budgeting, bookkeeping, marketing and massage-related business issues. The course will detail client/therapist business concerns and help prepare students to identify and solve these concerns in a professional manner. Students will learn to write and execute a detailed workable massage business plan.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
SURT 1255	Surgical Clinical II	6	0.00/0.00/6.00	THPY 1156	Massage Pathophysiology	3	3.00/0.00/0.00
<p>This course introduces the student to patient care in an operating room in the role of surgical technologist.</p> <p><b>Prerequisite:</b> Successful completion of all SURT courses with a C or better.</p> <p><b>Corequisite:</b> SURT1240</p>				<p>This course discusses common pathologies that massage therapists are likely to encounter in their professional practices. It also discusses whether these conditions are indicated or contraindicated for massage and describes how they may be treated.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>			
SW 2250	Introduction to Social Work/Social Welfare	3	3.00/0.00/0.00	THPY 2102	Lymphatic and Hospice Massage	1	0.00/1.00/0.00
<p>This course introduces students to social welfare and social work, including fields of practice, institutions, populations served, special issues and an introduction to some social work methods and theories. A general historical and contemporary overview of the profession is provided, including its values, ethics, methods, multiple settings and a beginning use of system theory.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>				<p>This course covers the protocol and techniques for a full-body one-hour lymphatic drainage massage. Students will learn massage techniques for anatomy and physiology of the lymph system. Students also will gain hands-on exposure to massage on medically frail clients of all ages.</p>			
THPY 1101	Nutrition and Wellness	2	2.00/0.00/0.00				
<p>This course is designed to introduce the student to the science of nutrition and the study of food nutrients and other substances, their action, interaction and balance. Special emphasis is placed on the interrelationship between diet, nutrition, health and disease.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>							
THPY 1110	Massage Techniques and Ethics	3	2.00/1.00/0.00				
<p>This course provides students with an in-depth knowledge of massage techniques. Emphasis will be on the application of the basic massage stokes and their variations. Students will learn proper draping and positioning techniques and recommended client protocol. In regards to ethics, a variety of topics will be discussed and explored in order to help the students form their own written code of ethics.</p> <p><b>Prerequisite:</b></p> <p><b>Corequisite:</b></p>							
THPY 1118	Kinesiology	3	2.00/1.00/0.00				
<p>This course teaches students to identify the location and movements of skeletal muscles.</p>							



Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Prerequisite:</b> Diploma or Certificate in Massage Therapy, THPY1118 <b>Corequisite:</b>			
THPY 2106	Neuromuscular Therapy	2	0.00/2.00/0.00
Students will reinforce previously learned techniques. Students will consider various treatment protocols utilizing scientifically proven, outcome-based techniques including neuromuscular therapy, myofascial release, travel trigger point therapy, muscle energy technique, proprioceptive neuromuscular facilitated stretching, active isolative stretching and positional release technique. Students will perform thorough patient assessments utilizing medical histories and objective findings through palpation, functional muscle testing, range of motion testing, postural examination and gait examination. Based on the assessment results, students will write a supplementary care-plan using carefully selected techniques and recommended exercises appropriate for the given condition. The supplementary care plan will be written as prescribed by a licensed physician, chiropractor or physical therapist, focusing on conditions such as thoracic outlet syndrome, lateral epicondylitis, low back pain, piriformis syndrome and plantar fasciitis. <b>Prerequisite:</b> Diploma or Certificate in Massage Therapy, THPY1118 <b>Corequisite:</b>			
THTR 1100	Introduction to Theatre	3	3.00/0.00/0.00
Meets MnTC Goal Area 6. Coursework in this content area will develop a student's knowledge of the social and historic context of the theatre, including exploration of the history and evolution of theatre ritual performance and other cultural expression. Students will explore the elements of performance and of different theatre spaces and the roles and duties of different theatre artists involved in a production. Students will engage in theatrical criticism and analyze dramatic text and literature. Students also will develop knowledge of live theatre by experiencing the theatre arts in practice and engaging with theatre artists. <b>Prerequisite:</b> <b>Corequisite:</b>			
THTR 1105	Acting I	3	3.00/0.00/0.00
Meets MnTC Goal Area 6. Coursework will develop a student's knowledge of the skills needed to work in the elements of performance such as cooperation, respect, responsibility and collaboration. Students will use voice and body in performance, imagination and application of a specific approach to the art of acting, and apply performance skills and techniques. <b>Prerequisite:</b> <b>Corequisite:</b>			
THTR 1120	Theatre Performance Practicum	2	0.00/2.00/0.00
Meets MnTC Goal Area 6F. This course is intended for students who participate as performers in a main stage or approved theatrical production. May be repeated twice. <b>Prerequisite:</b> <b>Corequisite:</b>			
THTR 1125	Theatre Technical Practicum	2	0.00/2.00/0.00
Meets MnTC Goal Area 6F. Practical work in this content area will develop a student's knowledge of the roles and duties of different theatre artists and collaborators involved in a production, the elements of performance and of different theatre spaces and theatrical styles. Students will apply the communication skills needed to work in the elements of performance such as cooperation, collaboration, respect and responsibility. Students will implement theory and apply physical practice through performance, design or management of theatrical work. Students will also apply various production techniques. This course is intended for students who participate as a construction or run crew member on a main stage or approved theatrical production. May be repeated twice. <b>Prerequisite:</b> <b>Corequisite:</b>			
THTR 1130	Stage Make-up	3	2.00/1.00/0.00
Meets MnTC Goal Area 6. In this course, students will explore the fundamental design principles, materials and application techniques of stage make-up. Starting with the basic fundamentals and continuing through special effects, the student will use skills acquired to enhance character development. Students will apply theory through practical laboratory work in stage make-up applications. <b>Prerequisite:</b> <b>Corequisite:</b>			
THTR 1140	Stagecraft	3	2.00/1.00/0.00
Meets MnTC Goal Area 6. Coursework in this content area will develop a student's knowledge of the safe use of common materials, fabrication tools and theatrical equipment. Students will explore common theatrical production techniques and the elements of theatrical design as they apply to the concepts and meanings of a script. Students will assume various roles in a collaborative theatrical production and practice communicating effectively within these roles. Each student will be required to learn and observe safety rules in the scene shop and surrounding areas. Production hours are required. <b>Prerequisite:</b> <b>Corequisite:</b>			
THTR 2120	Script Analysis	3	3.00/0.00/0.00
Meets MnTC Goal Area 6. Coursework in this content area will develop a student's knowledge of dramatic literature from varying eras and cultures and literary elements as they are used in drama, such as plot structure, genre, subtext, conflict, etc. Students will use analytical approaches to drama as text and performance. Students will explore the cultural and historical context of selected dramatic literature and the role of drama as a cultural, historical, political or personal artifact. Students will engage in critical writing in response to drama and explore the elements of production for selected plays. <b>Prerequisite:</b> <b>Corequisite:</b>			

THTR 2130	Design for the Stage	3	3.00/0.00/0.00
Meets MnTC Goal 6. This course introduces students to the concepts, processes and practices common to the design of stage scenery, lighting, sound, props and costumes, and it emphasizes design skills as a communication tool in the collaborative process of theatrical production. Students will study and apply aesthetic principles and graphic skills involved in theatrical design and will develop research and rendering methods. Production hours may be used to enhance students' understanding of theatrical construction. Each student will be required to learn and observe safety rules in the scene shop, lighting and sound booth, and in other relevant technical areas. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRDR 1101	Commercial Driver's License I	1	1.00/0.00/0.00
Students will obtain the information necessary to complete MnDOT CDL written exam. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRDR 1103	Commercial Driver's License II	1	0.00/1.00/0.00
The students will obtain the knowledge and skills necessary to complete a pre-trip inspection, vehicle handling and on-road driving test needed to obtain the basic Commercial Drivers License. Students must possess a CDL learner permit and have taken a MnDOT physical before registering for this course. <b>Prerequisite:</b> Successful completion of MnDOT CDL learner permit. <b>Corequisite:</b>			
TRNS 1003	Off-Road Literature and Computer Systems	2	1.00/1.00/0.00
This course is designed for proper identification of the equipment that students will be working on. Students will act upon service procedures and specifications in online manuals, proper operation of equipment through the use of electronic owners manuals and accurate parts identification through online sources of service literature. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1005	Off-Road Electrical Systems	2	1.00/1.00/0.00
This course introduces electrical systems used on powersports/marine equipment, focusing primarily on ignition and electrical components. Students will learn the theories of ignition, induction, AC and DC circuits, and electronic and computer controls. Emphasis will be on proper use of test equipment and system operation. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1006	Off-Road Vehicle Maintenance	4	2.00/2.00/0.00
This off-road maintenance course is designed to train the student on techniques of proper maintenance of the off-road vehicle or boat. Students are encouraged to bring their personal recreational vehicle(s), use the up-to-date industry products that we offer or both. Trailer maintenance also will be covered. This is an excellent course for getting off-road equipment and boats ready for the coming winter or spring. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1015	Ignition, Charging and Starter Systems Lab	2	0.00/2.00/0.00
This course is a continuation of electrical systems used on powersports/marine equipment, focusing primarily on ignition and starting components. Students will apply the theories of ignition, induction, charging and starting systems. Emphasis will be on proper use of test equipment and the flow of electricity. <b>Prerequisite:</b> TRNS1005 <b>Corequisite:</b>			
TRNS 1016	Ignition, Charging and Starter Systems Theory	1	1.00/0.00/0.00
This course is a continuation of the study of electrical and ignition systems used on both marine and powersports equipment, focusing primarily on ignition and starting systems. Students will learn the theories of ignition, induction, charging and starting systems. Emphasis will be on proper use of test equipment along with the generation and flow of electricity. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1100	Introduction to Shop Technology	4	3.00/1.00/0.00
This course is the study of occupational safety, shop orientation procedures and power and hand tool usage. The use of shop equipment applications, fasteners, measuring instruments and service literature, along with appropriate service department etiquette, will be addressed. Four- and two-stroke engine theory along with their proper lubricants will be covered. All these will be taught and expressed with the PowerSports and Marine industry shop experience as a basis for study. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1104	Transportation Electronics	3	2.00/1.00/0.00
This course prepares the student for the electronics-related courses that follow. The theory and operation of electricity and test instruments will be studied. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1112	Heating Ventilation A/C	3	1.00/2.00/0.00
This course teaches the principles of air conditioning and its relationship to the heating system. The various types and the diagnosis of malfunctions, testing and repair are studied in the classroom. Practical experience is performed on live systems: recovering, evacuating, component replacement, charging and performance testing of the systems. <b>Prerequisite:</b> DSET1100, TRNS1102			

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<b>Corequisite:</b>			
TRNS 1118	Welding I	2	0.00/2.00/0.00
This class introduces students to welding safety, welding and cutting fundamentals. The course provides the theory of welding and the training to develop the necessary skills to cut and weld metal. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1120	Welding II	1	0.00/1.00/0.00
This course teaches skills needed to weld metals in a variety of positions using various methods of welding. The class will also introduce aluminum welding. <b>Prerequisite:</b> TRNS1118 <b>Corequisite:</b>			
TRNS 1125	Starting and Charging Theory	2	2.00/0.00/0.00
This course covers the service and repair of starting and charging systems for off-road products, both two- and four-stroke. <b>Prerequisite:</b> <b>Corequisite:</b> TRNS1126			
TRNS 1126	Starting and Charging Lab	1	0.00/1.00/0.00
This course covers the hands-on testing of starting and charging systems and their components. <b>Prerequisite:</b> <b>Corequisite:</b> TRNS1125			
TRNS 1193	Fuel Systems II Lab	1	0.00/1.00/0.00
This course covers the application of information learned in the Fuel Systems II Theory course. Students will apply the theories of testing the operability of fuel systems of both two- and four-stroke engines. Included in this course will be practices of predelivery, inspection and troubleshooting, along with seasonal service requirements. <b>Prerequisite:</b> <b>Corequisite:</b> TRNS1194			
TRNS 1194	Fuel Systems II Theory	2	2.00/0.00/0.00
This course covers the basics in many types of fuel systems used on current two- and four-cycle off-road/marine products. Training will be on most realms of models from high-performance to standard output recreational equipment. The incorporation of fuel distribution systems is studied, along with fuel make-up and its properties. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1195	Fuel Systems I Marine Service	1	0.00/1.00/0.00
This course covers the application of information learned in the Fuel Systems I Theory course. Students will apply the theories of testing the operability of the fuel systems of both two- and four-stroke engines. Included in this course will be practices of pre-delivery, inspection and troubleshooting, along with seasonal service requirements. This course is intended for the Marine student and will be focusing on marine equipment. <b>Prerequisite:</b> <b>Corequisite:</b> TRNS1194			
TRNS 1197	Electrical Systems I Lab	2	0.00/2.00/0.00
This course applies the information learned in the Electrical Systems I Theory course. Students will test charging systems, ignition systems and starting systems for their proper functionality. Students will also be exposed to proper troubleshooting techniques for these systems. <b>Prerequisite:</b> <b>Corequisite:</b> TRNS1198			
TRNS 1198	Electrical Systems I Theory	2	2.00/0.00/0.00
This course introduces electrical systems used on powersports/marine equipment, focusing primarily on ignition and electrical components. Students will learn the theories of ignition, induction, AC and DC circuit, and electronic and computer controls. Emphasis will be on proper use of test equipment and system operation. <b>Prerequisite:</b> <b>Corequisite:</b>			
TRNS 1199	Electrical Systems I Marine Service	2	0.00/2.00/0.00
This course applies the information learned in the Electrical Systems I Theory course. Students will test charging systems, ignition systems and starting systems for their proper operation. Students will also be exposed to proper troubleshooting techniques of these systems. This course is intended for the Marine program student and applies specifically to marine products. <b>Prerequisite:</b> <b>Corequisite:</b> TRNS1198			
TRNS 2108	Power Hydraulics	2	1.00/1.00/0.00
This course covers the theory and service of hydraulic systems used on a wide range of off-road applications. Power steering and power trim and tilt systems service will be performed. System troubleshooting as well as component service will also be included in this course. <b>Prerequisite:</b> <b>Corequisite:</b>			
WEBD 1000	Foundations of Web Design	3	1.00/2.00/0.00
In this course, students will be introduced to the foundational concepts necessary for a career in Web design. Students will explore the Web Design & Development program, research career paths and review technical skills needed to succeed in the field. Students			

Course #	CourseTitle	CR	Lec/Lab/OJT
will explore the foundational components of design as they apply to the Web design field. <b>Prerequisite:</b> <b>Corequisite:</b>			
WEBD 1010	HTML	3	1.00/2.00/0.00
In this hands-on course, students will learn the basics of creating Web pages using up-to-date techniques with hypertext markup language (HTML) and cascading stylesheets (CSS). Students will learn to create standards-based Web pages that are cross-browser compliant and make their websites available on the Web by uploading pages to a Web server. <b>Prerequisite:</b> <b>Corequisite:</b>			
WEBD 1020	Photoshop	3	1.00/2.00/0.00
This project-based course provides the fundamentals of Web graphics using Adobe Photoshop. Students will learn how to create and enhance digital images with composites, layers, masks and filters by working with vector and raster images. Emphasis will be placed on optimizing images for Web and mobile delivery, as well as using Photoshop as a tool in the Web design process. <b>Prerequisite:</b> <b>Corequisite:</b>			
WEBD 1030	Multimedia	3	1.00/2.00/0.00
This course will examine a variety of multimedia tools used to create and deliver multimedia content for Web and mobile applications. Students will learn how to incorporate text, graphics, animation, sound and video into Web applications while adhering to Web standards. Timeline-based creation of animation, video and sound will be emphasized. Several platforms, software packages, hardware devices, browsers and Web services will be discussed. <b>Prerequisite:</b> <b>Corequisite:</b> WEBD1010			
WEBD 1040	Foundations of Web Development	3	1.00/2.00/0.00
In this course, students will be introduced to the foundational concepts necessary for a career in Web development. Students will review technical skills needed to succeed in the field. Students will explore the foundational components of development and programming as they apply to the Web development field. <b>Prerequisite:</b> <b>Corequisite:</b>			
WEBD 1110	Cascading Style Sheets	3	1.00/2.00/0.00
This course focuses on the use of cascading style sheets (CSS) in the creation of Web pages. Students will create and utilize CSS to provide sophisticated page layout and design for Web pages and websites. The course emphasizes standards-based design with CSS and testing sites for maximum browser compatibility. <b>Prerequisite:</b> WEBD1010 <b>Corequisite:</b>			
WEBD 1120	User Experience Design	3	1.00/2.00/0.00
In this course, students will gain a hands-on understanding of user experience (UX) design practices. Students will develop an overview of the facets of user experience thinking and how they can be utilized to improve project design. Students also will acquire a practical strategy for incorporating user experience techniques into the implementation of projects. <b>Prerequisite:</b> WEBD1000 <b>Corequisite:</b>			
WEBD 1130	Electronic Commerce	3	1.00/2.00/0.00
This course introduces emerging online technologies and trends and their influence on the electronic commerce marketplace. Students will learn various revenue models and how to market on the Web. The course introduces online auctions and various legal and ethical issues. Students will learn about important security issues such as spam and phishing. Students will learn how to plan for electronic commerce and develop an online marketing plan. <b>Prerequisite:</b> <b>Corequisite:</b>			
WEBD 1140	JavaScript	3	1.00/2.00/0.00
This course introduces client-side development with JavaScript and jQuery. Students will learn how to create dynamic Web pages using JavaScript to add functionality and interactivity. Basic JavaScript syntax and usage, jQuery and other JavaScript libraries, and client-side security issues will be examined. <b>Prerequisite:</b> WEBD1010 <b>Corequisite:</b>			
WEBD 1150	PHP and MySQL	3	1.00/2.00/0.00
This course introduces server-side development with PHP and relational database concepts with MySQL. Students will learn how these technologies work together to develop dynamic, database-driven websites. Basic PHP syntax and usage, SQL queries, database connections and server-side security issues will be examined. <b>Prerequisite:</b> WEBD1040 <b>Corequisite:</b>			
WEBD 2000	Web Projects I	3	1.00/2.00/0.00
In this class, students will utilize the knowledge learned in previous classes to create websites and applications with emphasis on client-side technologies. The focus of this course is a top-down approach whereby students are assigned a project, assess the needs of the project and develop a project plan. Students will then identify what it will take to complete that Web project. Students will participate in group-based development activities, learn traditional project management techniques and implement technologies as needed to create a working system. <b>Prerequisite:</b> WEBD1110, WEBD1120			

Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT
<b>Corequisite:</b>				enhance the student's understanding of women's cultural, social, historical, political and economic contributions and humanitarian achievements based on historical and diverse societal settings. <b>Prerequisite:</b> <b>Corequisite:</b>			
<b>WEBD 2000</b>	<b>Web Projects I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>	<b>WMST 1136</b>	<b>Global Perspectives of Women</b>	<b>3</b>	<b>3.00/0.00/0.00</b>
In this class, students will utilize the knowledge learned in previous classes to create web-sites and applications with emphasis on client-side technologies. The focus of this course is a top-down approach whereby students are assigned a project, assess the needs of the project and develop a project plan. Students will then identify what it will take to complete that Web project. Students will participate in group-based development activities, learn traditional project management techniques and implement technologies as needed to create a working system. <b>Prerequisite:</b> WEBD1110, WEBD1120 <b>Corequisite:</b>				Meets MNTC Goal Areas 6 and 8. This course examines the present-day realities of women's lives around the world. <b>Prerequisite:</b> <b>Corequisite:</b> ENGL1101			
<b>WEBD 2010</b>	<b>Content Management Systems</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
This course will introduce students to powerful Web-based content management systems (CMS) used to simplify the editing of content on websites through a wide variety of plugins and themes. Students will explore how to build dynamic websites using CMS, starting with installing the CMS and working all the way through customizing the CMS with themes, plugins and application programming interfaces (APIs). <b>Prerequisite:</b> WEBD1110, WEBD1140 <b>Corequisite:</b>							
<b>WEBD 2020</b>	<b>User Interface Design</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
Students will learn the concepts and skills necessary for designing the user interface (UI) of websites and applications for the targeted user. This course is focused on the UI design process, with emphasis on the important topics of visual design, writing for the Web and accessibility. <b>Prerequisite:</b> WEBD1000, WEBD1110 <b>Corequisite:</b>							
<b>WEBD 2030</b>	<b>Search Engine Optimization</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
In this course, students will learn the components needed to effectively create and employ search engine optimization (SEO). The importance of file and site structure, proper meta tagging, hyperlinking and correctly composed content will be addressed. Students also will understand how to properly use analytics engines, targeted advertisements and various SEO tools to maximize their search engine results, as well as monitor and improve them over time. <b>Prerequisite:</b> WEBD1010, WEBD1130 <b>Corequisite:</b>							
<b>WEBD 2040</b>	<b>Web Applications I</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
Web applications are comprehensive websites that utilize multiple client and server-side tools and technologies. Students will use the knowledge learned in previous classes to develop client-side code used to create and manipulate Web applications. Students will utilize project-planning skills and problem-solving techniques to design and develop effective applications. The use of new technologies used to create rich Internet applications and frameworks will also be discussed. <b>Prerequisite:</b> WEBD1140 <b>Corequisite:</b>							
<b>WEBD 2100</b>	<b>Web Projects II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
Students will utilize the knowledge gained in previous classes to create Web applications with client-side and server-side technologies. The focus of this course is a top-down approach whereby students are assigned a project, assess the needs of the project and develop a project plan. Students then identify what it will take to complete that Web project. Students will participate in group-based development activities, learn rapid application development project management techniques and implement technologies as needed to create a working system. <b>Prerequisite:</b> WEBD2000 <b>Corequisite:</b>							
<b>WEBD 2110</b>	<b>Web Portfolio</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
In this course, students will plan, design and create a professional portfolio using Web technologies. The purpose of the portfolio is to showcase the student's accomplishments in the student's major field and provide the student with a concrete representation of his or her skills and abilities. Other topics include resume creation, job interview preparation, job search strategies and the ability to explain and articulate portfolio samples. <b>Prerequisite:</b> WEBD2000, WEBD2020 <b>Corequisite:</b>							
<b>WEBD 2120</b>	<b>Mobile Applications</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
This course teaches application development for mobile operating systems and the Web. Focus will be on the creation of Web and platform-specific mobile applications. User experience design, user interface design, data access and Internet connectivity will be employed to create effective mobile applications. <b>Prerequisite:</b> WEBD2020 <b>Corequisite:</b>							
<b>WEBD 2140</b>	<b>Web Applications II</b>	<b>3</b>	<b>1.00/2.00/0.00</b>				
Web applications are comprehensive websites that utilize multiple client and server-side tools and technologies. Students will use the knowledge learned in previous classes to develop server-side programs used to create and manipulate Web applications, files, email, and databases. Students will utilize project-planning skills and problem-solving techniques to design and develop effective applications. <b>Prerequisite:</b> WEBD1150 <b>Corequisite:</b>							
<b>WMST 1130</b>	<b>Introduction to Women's Studies</b>	<b>3</b>	<b>3.00/0.00/0.00</b>				
Meets MnTC Goal Areas 5 and 7. This course is an interdisciplinary study designed to							

Course #	CourseTitle	CR	Lec/Lab/OJT	Course #	CourseTitle	CR	Lec/Lab/OJT





# Minnesota State

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