COLLEGE CATALOG

2022-2023

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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

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

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

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 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.

MINNESOTA STATE

A member of Minnesota State. An Equal Opportunity/Affirmative Action/Veterans/Disability employer/educator committed to the principles of diversity.

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.

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
1997 M State Graduate

@PrezBrimhall

DIRECTORY OF COLLEGE SERVICES

ACADEMIC AND STUDENT SERVICES

Interim Vice President of Academic and Student Affairs
Dr. Matthew Borcherding..... 218.736.1506

Dean of School of Applied Technology
Dr. Mark Bannatyne 218.299.6817

Dean of the School of Business
and Information Technology
Dr. Marsha Weber 218.299.6631

Dean of the School of Health Sciences,
Human Services and Nursing
Dr. Ken Kompelien..... 218.736.1522

Interim Dean of the School of Liberal Arts and Humanities
Alicia Carley..... 218.299.6505

Dean of the School of Science and mathematics
Dr. Matthew Borcherding..... 218.736.1506

Associate Vice President of Student Success
Elise Sturdvant..... 218.299.6853

Dean of Students
Shawn Anderson 218.299.6535

Dean of Enrollment, Marketing and Outreach
Karen Reilly..... 218.736.1508

DETROIT LAKES

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

Support Center..... 877.450.3322

Veterans Services 218.299.6881

FERGUS FALLS

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

DIRECTORY OF COLLEGE SERVICES

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

Support Center 877.450.3322

Veterans Services 218.299.6881

MOORHEAD

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

Support Center 877.450.3322

Veterans Services 218.299.6925

WADENA

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

Support Center 877.450.3322

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

VISION, MISSION AND VALUES

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

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.

FERGUS FALLS

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

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.

MOORHEAD

1900 28th Avenue South
Moorhead, MN 56560-4899
218.299.6500 • 877.450.3322
Fax: 218.299.6810

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.

WADENA

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

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!

2022-2023 M STATE ACADEMIC CALENDAR

AUGUST 2022

17 | Spartan Welcome Days begin
22 | Fall semester begins
24 | Last day to add full-term fall semester courses
26 | Last day to drop full-term fall semester courses

SEPTEMBER 2022

5 | Labor Day **COLLEGE CLOSED**
16 | Application deadline for fall commencement ceremony
17 | Constitution Day

OCTOBER 2022

20-21 | Fall break No Classes/College Open
24 | Spring 2023 registration begins

NOVEMBER 2022

10 | No Classes/College Open
11 | Veterans Day **COLLEGE CLOSED**
23 | Last day to withdraw from full-term fall semester courses
24-25 | Thanksgiving break **COLLEGE CLOSED**

DECEMBER 2022

12-16 | Final exams
16 | Fall semester ends
16 | Fall commencement for all campuses; ceremony in Moorhead
19-J6 | Semester break No Classes/College Open
26 | **COLLEGE CLOSED**

JANUARY 2023

2 | **COLLEGE CLOSED**
9 | Spring semester begins
11 | Last day to add full-term spring semester courses
13 | Last day to drop full-term spring semester courses
16 | Martin Luther King Jr. Day **COLLEGE CLOSED**

FEBRUARY 2023

3 | Application deadline for spring graduates/spring commencement ceremony
20 | Presidents Day **COLLEGE CLOSED**

MARCH 2023

6 | Summer/fall 2023 registration begins
10 | Application deadline for summer graduates/spring commencement ceremony
13-17 | Spring break No Classes/College Open

APRIL 2023

12 | Last day to withdraw from full-term spring semester courses
14 | No Classes/College Open

MAY 2023

1-5 | Final exam and commencement week
5 | Spring semester ends
9 | Summer term begins
29 | Memorial Day **COLLEGE CLOSED**

JUNE 2023

5 | Summer term general education/ online courses begin
19 | Juneteenth **COLLEGE CLOSED**

JULY 2023

4 | Independence Day **COLLEGE CLOSED**
28 | Summer term ends

AUGUST 2023

21 | Fall semester begins

No classes · Final exams · Registration · **BOLD** Important Dates

D F M W O

minnesota.edu | 877.450.3322

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
Email: info@hlccommission.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
Website: 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
Website: www.caahep.org
Upon the recommendation of the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT)
1449 Hill St., Whitensville, MA 01588
Phone: 978.456.5594 | Email: office@jrccvt.org
Website: www.jrccvt.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 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
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

Diesel Equipment Technology
Associated Equipment Distributors
650 E Algonquin Rd., Ste. 305
Schaumburg, Il 60173
Telephone: (630) 574-0650

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

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

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
Website: 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 | Website: 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

Nursing (AS)
Minnesota Board of Nursing
1210 Northland Drive, Suite 120, Mendota Heights, MN 55120
Phone: 612.317.3000 | Email: nursing.board@state.mn.us

National League for Nursing Commission for Nursing Education Accreditation (NLN CNEA)
2600 Virginia Avenue, Washington, DC 20037
Phone: 202.909.2526 or 800.669.1656 | Email: nln.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 | www.dli.mn.gov/ccld.asp

Practical Nursing (Diploma)
Minnesota Board of Nursing
1210 Northland Drive, Suite 120, Mendota Heights, MN 55120
Phone: 612.317.3000 | Email: nursing.board@state.mn.us

National League for Nursing Commission for Nursing Education Accreditation (NLN CNEA)
2600 Virginia Avenue, Washington, DC 20037
Phone: 202.909.2526 or 800.669.1656 | Email: nln.org

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
Website: 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
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@arcstsa.org

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
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ART	2261	Art, Portfolio Design and Professional Development Internship	6
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ASL	1101	American Sign Language and Deaf Culture I	8
ASL	1102	American Sign Language and Deaf Culture II	8
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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

AA TRANSFER WORKSHEET

Liberal Arts and 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 and at least 20 additional electives. 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. Additional electives are not required. While a degree is not awarded at the completion of the 40 credits, a student's transcript may indicate completion of the MnTC.

Area 1: Communication (9 credits)
Prep courses may be needed; see your advisor.

ENGL 1101 _____ _____

ENGL 1205, 1210 or 1215 _____ _____

COMM 1120, 1130 or 1140 _____ _____

Area 2: Critical Thinking (select 2 courses from 2 disciplines)

_____ _____

_____ _____

_____ _____

Area 3: Natural Sciences (6 credits, at least one course must include a lab)

_____ _____

_____ _____

_____ _____

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)

_____ _____

_____ _____

_____ _____

_____ _____

Area 6: The Humanities and Fine Arts
(9 credits from 3 different disciplines)

_____ _____

_____ _____

_____ _____

_____ _____

Subtotal _____

Area 7: Human Diversity (1 course)

_____ _____

Area 8: Global Perspective (1 course)

_____ _____

Area 9: Ethical and Civic Responsibility (1 course)

_____ _____

Area 10: People and the Environment (1 course)

_____ _____

Elective credits (20 credits)

_____ _____

_____ _____

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_____ _____

Elective Credits _____

General Education Credits _____

Total Credits (60 required*) _____

*subject numbers of courses must be 1000 or higher (developmental education credits are not counted as part of the 60 credits required for earning a degree)

Notes

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PROGRAMS AND MAJORS
2022-2023

Accounting
Associate of Applied Science (AAS) - 60 credits
Moorhead, Online

This program 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.

Requirement	Title	Credits
ACCT1101	Payroll	3
ACCT1124	Spreadsheet Applications	3
ACCT2210	Managerial Accounting	4
ACCT2211	Financial Accounting I	3
ACCT2212	Financial Accounting II	3
ACCT2218	QuickBooks	2
ACCT2255	Income Tax-Individual	3
ACCT2616	Intermediate Accounting I	3
ACCT2618	Intermediate Accounting II	3
BUS1100	Business Computers	3
BUS1141	Introduction to Business	3
BUS2150	Legal Environment of Business	3
ENGL1101	College Writing	3

3 credits from the following..... 3
- ACCT2256 Income Tax-Business
- ACCT2630 Fund/Nonprofit Accounting
- ACCT2640 Accounting Internship

3 credits from the following..... 3
- ACCT 2256 Income Tax-Business
- ACCT 2630 FUND/Non-Profit Accounting
- ACCT 2640 Accounting Internship
- BUS 2204 Principles of Management
- BUS 2206 Principles of Marketing
- DKMG 2200 Digital Marketing
- HRES1122 Human Resource Management
- HRES 1130 Benefits Administration

3 credits from the following..... 3
- BUS2204 Principles of Management
- BUS2206 Principles of Marketing
- DMKT2200 Introduction to Digital Marketing
- HRES1122 Human Resource Management

3 credits from the following..... 3
- COMM1120 Introduction to Public Speaking
- COMM1140 Interpersonal Communication

(Continued on next page)

Accounting AAS, continued

3 credits from the following..... 3
ECON2210 Macroeconomics
ECON2222 Microeconomics

6 credits MnTC Electives* 6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Accounting Clerk
Diploma - 32 credits
Detroit Lakes, Fergus Falls, Moorhead, Online

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.

Requirement	Title	Credits
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
BUS1100	Business Computers	3

9 credits from the following 9

- ACCT2210 Managerial Accounting
- ACCT2256 Income Tax-Business
- ACCT2616 Intermediate Accounting I
- ACCT2630 Fund/Nonprofit Accounting
- ACCT2640 Accounting Internship
- BUS1141 Introduction to Business
- BUS2150 Legal Environment of Business
- BUS2204 Principles of Management
- BUS2206 Principles of Marketing
- HRES1122 Human Resource Management
- HRES1130 Benefits Administration

3 credits MnTC Goal Area 1 Electives 3

Accounting Transfer Pathway
Associate of Science (AS) - 60 credits
Fergus Falls, Moorhead, Online

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.

Requirement	Title	Credits
ACCT1120	Business Law	3
ACCT2210	Managerial Accounting	4
ACCT2211	Financial Accounting I	3
ACCT2212	Financial Accounting II	3
BUS1100	Business Computers	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
8 credits ACCT Electives		8
3 credits MnTC Goal Area 1 Electives		3
4 credits MnTC Goal Area 3 Electives		4
3 credits MnTC Goal Area 6 Electives		3

To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Administrative Office Assistant-Legal
Certificate - 18 credits
Online

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.

Requirement	Title	Credits
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
3 credits from the following		3
ADMS1120 Administrative Office Procedures		
ADMS1130 Office Software Applications		

Administrative Support
Diploma - 32 credits
Online

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 individuals 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.

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT2218	QuickBooks	2
ADMS1110	Word Processing	3
ADMS1116	Business Communications I	3
ADMS1240	Presentations and Desktop Publishing	3
ADMS1400	Office Administration	4
ADMS2200	Office Administration Capstone	2
ACCT2211	Financial Accounting I	3
BUS1100	Business Computers	3
3 credits from the following		3
BUS1141 Introduction to Business		
BUS1300 Financial Statement Analysis		
BUS2150 Legal Environment of Business		
BUS2204 Principles of Management		
BUS2206 Principles of Marketing		
HRES1122 Human Resource Management		
3 credits from the following		3
COMM1120 Introduction to Public Speaking		
COMM1130 Small Group Communication		
COMM1140 Interpersonal Communication		
COMM2200 Intercultural Communication		
ENGL1101 College Writing		

Advanced HVAC/R - Heating, Ventilation, Air Conditioning and Refrigeration
Diploma - 35 credits
Moorhead

Students in this program will gain the skills and knowledge 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.

Requirement	Title	Credits
REFR2202	Commercial Refrigeration and Air Conditioning Principles	4
REFR2204	Commercial Refrigeration and Air Conditioning 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
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1130	Small Group Communication	

American Sign Language Studies
Certificate - 18 credits
Moorhead

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.

Requirement	Title	Credits
ASL1103	American Sign Language and Deaf Culture III	3
ASL1104	American Sign Language and Deaf Culture IV	3
ASL1105	Advanced Fingerspelling and Numbers	3
ASL1101	American Sign Language and Deaf Culture I	3
ASL1102	American Sign Language and Deaf Culture II	3
COMM2200	Intercultural Communication	3

Architectural Drafting
Diploma - 35 credits
Detroit Lakes

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.

Requirement	Title	Credits
ARCH1122	Computer Aided Drafting for Architecture	4
ARCH1126	Residential Project I	3
ARCH2248	CADD Alternatives	3
CONM1101	Construction Documents and Codes	3
CONM1108	Principles of Estimating	4
CONM1124	Building Systems	3
CADD1000	AutoCAD Basics	3
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
Detroit Lakes

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.

Requirement	Title	Credits
ARCH1122	Computer Aided Drafting for Architecture	4
ARCH1126	Residential Project I	3
ARCH2218	Architectural Internship	3
ARCH2222	Architectural Drafting Service Learning	4
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
CONM1101	Construction Documents and Codes	3
CADD1000	AutoCAD Basics	3
CONM1108	Principles of Estimating	4
COMM1120	Introduction to Public Speaking	3
CONM1124	Building Systems	3
ENGL1101	College Writing	3
ENGT1118	Construction and Manufacturing Math	3
ENGT1126	Engineering Graphics	3
ENGT1134	Office Systems and Equipment	3
9 credits MnTC Electives*		9

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Art Transfer Pathway
Associate of Fine Arts (AFA) - 60 credits
Fergus Falls

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.

Requirement	Title	Credits
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	Art History: Prehistory to the Middle Ages	3
ART1128	Art History: Renaissance to Contemporary	3
ART1142	Introduction to Ceramics	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

6 credits from the following 6
- ART1110 Introduction to Art
- ART1124 American Art
- ART1129 Art History: African, Asian, Islamic and Mesoamerican
- ART1140 Handbuilt Ceramics
- ART2000 Intermediate Art Studio
- ART2114 Photographic Art I
- ART2116 Mixed Media I
- ART2241 Advanced Ceramics

3 credits from the following 3
- ART2001 Art and the Environment
- ENGL2324 Travel Literature
- ENGL2239 Nature Writers
- HIST1700 The History of America National Parks

3 credits from the following 3
- COMM1120 Introduction to Public Speaking
- COMM1140 Interpersonal Communication

(Continued on next page)

Art Transfer Pathway AFA, continued

3 credits from the following.....3
PSYC1200 General Psychology
PSYC2220 Abnormal Psychology
PSYC2224 Social Psychology
SOC1111 Introduction to Sociology

To earn this AFA degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Associate Degree Nursing
Associate of Science (AS) - 64 credits
Detroit Lakes, Fergus Falls, Moorhead, Wadena

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, Moorhead and Wadena campuses offer the two-year Associate Degree Nursing program. The Associate Degree Nursing program is designed to prepare students to deliver nursing care in a variety of settings as registered nurses. The graduating nurse will be able to provide nursing care in hospitals, long-term care centers, clinics, and 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 entering 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 Nursing has officially approved the Associate Degree Nursing program at M State.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
3 credits MnTC Electives*		3

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Autism Spectrum Disorder
Certificate - 16 credits
Online

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
4 credits from the following		4
	ED2233 Strategies for Working with Individuals with Autism Spectrum Disorders	
	PSYC2233 Strategies for Working With Individuals With Autism Spectrum Disorders	

Automotive Service Technology
Associate of Applied Science (AAS) - 72 credits
Moorhead

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.

Requirement	Title	Credits
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
AMST2206	Body Electrical and Mechanical I	3
AMST2201	Alignment and Suspension II	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
3 credits COMM Electives		3
3 credits ECON Electives		3
3 credits HUM Electives		3
6 credits MnTC Electives*		6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Automotive Service Technology
Diploma - 66 credits
Moorhead

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.

Requirement	Title	Credits
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
AMST2220	Ignition Systems	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
AMST2225	Brakes II	3
AMST2233	Automatic Transmissions I	3
AMST2237	Automatic Transmissions II	3
AMST2240	Heating, Ventilation and Air Conditioning	3
9 credits MnTC Electives		9

Biology Transfer Pathway
Associate of Science (AS) - 60 credits
Fergus Falls, Moorhead

An Associate of Science degree 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.

Requirement	Title	Credits
BIOL1122	General Biology I	4
BIOL1123	General Biology II	4
BIOL2240	Genetics	4
CHEM1111	General Chemistry I	5
CHEM1112	General Inorganic Chemistry II	5
COMM1120	Introduction to Public Speaking	3
ENGL1101	College Writing	3
MATH1114	College Algebra	4

4 credits from the following 4
- BIOL2010 General Ecology
- BIOL2220 General Microbiology

3 credits from the following 3
- ENGL1205 Writing About Literature
- ENGL1210 Writing About Current Issues
- ENGL1215 Professional and Technical Writing

3 credits from the following 3
- MATH1115 Functions/Trigonometry
- MATH1116 College Trigonometry
- MATH1122 Applied Calculus
- MATH1134 Calculus I
- MATH1135 Calculus II
- MATH1213 Introduction to Statistics

3 credits MnTC Goal Area 5 Electives 3

3 credits MnTC Goal Area 6 Electives 3

12 credits MnTC Electives* 12

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Bioscience
Diploma - 35 credits
Fergus Falls, Moorhead

The Bioscience curriculum includes the foundations of the sciences - biology, chemistry, microbiology, and genetics. It is intended to meet the increasing demand for laboratory technicians skilled in techniques commonly used in biotechnology and bio-manufacturing.

Requirement	Title	Credits
BIOL1115	Introduction to Biotechnology	3
BIOL1122	General Biology I	4
BIOL2220	General Microbiology	4
BIOL2240	Genetics	4
BIOL2970	Internship Experience	3
CHEM1111	General Chemistry I	5
CHEM1112	General Inorganic Chemistry II	5
ENGL1101	College Writing	3
MATH1114	College Algebra	4

Business
Associate of Applied Science (AAS) - 60 credits
Detroit Lakes, Fergus Falls, Online

Success in a business career in the 21st century requires preparation in core business subjects. In this program, students learn management skills, accounting procedures and skills to sell and market products and services. They also gain general knowledge of business law, economics and computer skills, along with crucial interpersonal skills through various liberal arts courses. This degree also offers some flexible restricted electives to allow students to concentrate in one of several business emphasis areas. Business students are prepared for industries such as retail, hospitality, insurance, business-to-business, non-profit and government. Upon graduation, students will be qualified for positions in entry-level management, administration, marketing and human resources such as sales, office management, customer service and project management. Students may also consider transfer to a Business Pathway AS degree which aligns with business bachelor's degree options throughout Minnesota State.

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT2211	Financial Accounting I	3
BUS1100	Business Computers	3
BUS1141	Introduction to Business	3
BUS2150	Legal Environment of Business	3
BUS2204	Principles of Management	3
BUS2206	Principles of Marketing	3
BUS2700	Technology Research and Presentation	3
ENGL1101	College Writing	3
MGMT2225	Project Management	3
MKTG1106	Professional Selling	3

3 credits from the following 3
- ACCT2212 Financial Accounting II
- BUS1300 Financial Statement Analysis

3 credits from the following 3
- BUS2500 Business Internship
- MKTG2236 Small Business Management

3 credits from the following 3
- COMM1120 Introduction to Public Speaking
- COMM1140 Interpersonal Communication

3 credits from the following 3
- ECON2210 Macroeconomics
- ECON2222 Microeconomics

9 credits from the following disciplines 9
- ACCT, ADMS, BUS, DMKT, ENTR, HRES, MKTG

6 credits MnTC Electives* 6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Business Transfer Pathway
Associate of Science (AS) - 60 credits
Fergus Falls, Moorhead, Online

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 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 degree programs in a related field.

Requirement	Title	Credits
ACCT2210	Managerial Accounting	4
ACCT2211	Financial Accounting I	3
ACCT2212	Financial Accounting II	3
BUS1100	Business Computers	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
3 credits from the following		3
	PHIL1200 Applied and Professional Ethics	
	PHIL1201 Ethics	
3 credits from the following		3
	PSYC1200 General Psychology	
	SOC1111 Introduction to Sociology	
3 credits MnTC goal Area 1 Electives		3
9 credits MnTC Electives*		9

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Cardiovascular Technology - Invasive
Associate of Applied Science (AAS) - 60 credits
Moorhead

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
CVRI2146	Cardiovascular Electrocardiography	1
CVRI2263	Cardiovascular Technology Practicum II	5
CVRI2250	Radiation Safety	2
CVRI2262	Cardiovascular Technology Practicum I	5
CVRI2264	Cardiovascular Technology Practicum III	5
MATH1114	College Algebra	4

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Child and Adolescent Therapeutic Behavioral Health
Certificate - 17 credits
Online

This certificate prepares learners to enter the mental health workplace as a Mental Health Behavioral Aide II (MHBAII). 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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
MCS2230	Multicultural America	3
PSYC1203	Introduction to Child and Adolescent Therapeutic Behavioral Health	4
PSYC2220	Abnormal Psychology	3
PSYC2222	Lifespan Development	3
PSYC2226	Behavior and Environmental Management	3
PSYC2300	Internship Experience	1

Cisco Networking
Certificate - 12 credits
Online

This 12-credit certificate will prepare students to take the Cisco Certified Network Associate (CCNA) certification and the CompTIA Network+ certification. Skill development covers LAN/WAN networking technology and concepts, networking math, networking media, router configuration, switching, VLANS, routing protocols and WAN links and services. 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. Upon completion of this certificate, the student will be ready to prepare to take the Cisco CCNA and CompTIA Network+ certification exams offered though a Pearson VUE Testing Center.

Requirement	Title	Credits
CPTR1108	CISCO 1	3
CPTR1118	CISCO 2	3
CPTR1135	Beginning Networking	3
CPTR2200	CISCO 3	3

Civil Engineering Technology
Associate of Applied Science (AAS) - 60 credits
Detroit Lakes

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 wastewater 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.

Requirement	Title	Credits
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
9 credits MnTC Electives*		9

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Computer Programming
Associate of Applied Science (AAS) - 60 credits
Moorhead, Online

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 processing and retrieving information.

Requirement	Title	Credits
CPTR1001	Introduction To Programming and Scripting	3
CPTR1106	Microcomputer Databases	3
CSCI1110	Informatics	3
CPTR1115	COBOL Programming	4
CPTR1129	RPG Programming	4
CPTR2001	Scripting for Automation	3
CPTR2224	Linux I	3
CPTR2230	Structured Query Language	3
CPTR2238	Database Integration	3
CPTR2242	Java Programming	3
CPTR2255	Software Security and Testing	3
CSCI1121	Computer Science I	4
ENGL1101	College Writing	3
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1130 Small Group Communication	
	COMM1140 Interpersonal Communication	
6 credits from the following disciplines		6
	CPTR*	
	CSCI	
	CSEC	
3 credits MnTC Goal Area 4 Electives		3
6 credits MnTC Electives**		6

*CPTR1100 and CPTR1104 will NOT be counted as electives in the Computer Programming AAS Program.

**To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Construction Management
Associate of Applied Science (AAS) - 66 credits
Moorhead

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.

Requirement	Title	Credits
BUS2204	Principles of Management	3
CADD1000	AutoCAD Basics	3
CONM1102	Site/Building Layout	2
CONM1104	Construction Management Principles	2
CONM1101	Construction Documents and Codes	3
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

3 credits from the following..... 3
ACCT1120 Business Law
ENGT1100 Introduction to Building Information Modeling

3 credits from the following..... 3
COMM1120 Introduction to Public Speaking
COMM1130 Small Group Communication

3 credits from the following..... 3
CPTR1104 Introduction to Computer Technology
CSCI1110 Informatics

3 credits from the following..... 3
ECON2210 Macroeconomics
ECON2222 Microeconomics

3 credits MnTC Electives* 3

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Correctional Officer
Certificate - 24 credits
Moorhead

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.

Requirement	Title	Credits
COMM1140	Interpersonal Communication	3
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
SOC2215	Criminology	3

Cosmetology
Diploma - 58 credits
Wadena

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 receive 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.)

Requirement	Title	Credits
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 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
30 credits from the following		30
COSM1200	Salon Practicum	
COSM2800	Alexandria Body Sugaring	

Cosmetology (North Dakota)
Certificate - 9 credits
Wadena

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.

Requirement	Title	Credits
COSM1153	North Dakota Laws and Rules	1
COSM1200	Salon Practicum	8

Criminal Justice
Associate of Science (AS) - 60 credits
Moorhead

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.

Students must earn a grade of C or better in all CRJU courses and achieve an overall GPA of 2.5 or higher to graduate from this program.

Requirement	Title	Credits
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
6 credits CRJU Electives		6
21 credits MnTC Electives*		21

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Cybersecurity
Associate of Applied Science (AAS) - 60 credits
Moorhead

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 Certified Entry Network Technician (CCENT) certifications.

Requirement	Title	Credits
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	System 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

3 credits from the following 3
- CPTR1170 Web Engineering I
- CPTR1178 Robotics
- CPTR2230 Structured Query Language
- CSCI1121 Computer Science I
- CSEC2212 Web Security

3 credits from the following 3
- CPTR2200 CISCO 3
- CPTR2208 CISCO 4
- CPTR2234 Linux II
- CPTR2250 IT Supervised Occupational Experience
- CPTR2260 Advanced Structured Query Language
- CPTR2294 Internship
- CPTR2296 Topics in Computers
- CSCI1122 Computer Science II

6 credits MnTC Electives* 6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Cybersecurity
Certificate - 30 credits
Moorhead, Online

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.

Requirement	Title	Credits
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
Moorhead

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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 Affiliation	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

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Dental Assisting
Diploma - 48 credits
Moorhead

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
DNAS1105	Clinical Assisting II	5
DNAS1215	Dental Specialties	1
DNAS1119	Advanced Functions	5
ENGL1101	College Writing	3
DNAS1103	Clinical Assisting I	6
DNAS1106	Biodental Science	3
DNAS1114	Dental Practice Management	2
DNAS1144	Dental Assisting Clinical Affiliations	6
DNAS1210	Dental Assisting Radiology Lab I	1
DNAS1212	Dental Assisting Radiology Lab II	1

Dental Hygiene
Associate of Applied Science (AAS) - 88 credits
Moorhead

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
DNHY1110	Principles I	2
DNHY1112	Dental Hygiene Practice I	3
DNHY1113	Radiology Lab I	1
DNHY1114	Radiology Lab II	1
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	Dental Hygiene Practice 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

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Diesel Equipment Technology
Associate of Applied Science (AAS) - 79 credits
Moorhead

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.

Diesel Equipment Technology AAS - Case New Holland Sponsored Track

Requirement	Title	Credits
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
DSET1110	Power Train I	3
DSET1106	Fuel Systems	2
DSET1112	Hydraulics I	4
DSET1124	Diesel Shop Management	1
DSET1130	Trans Elec/Start/Charge	4
DSET1132	Introduction to Engine Theory	2
DSET1136	Introduction to Diesel Engines	2
DSET1144	Electrical Troubleshooting	3
DSET2200	Introduction to Electronic Controls	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

3 credits from the following 3

- COMM1120 Introduction to Public Speaking
- COMM1130 Small Group Communication
- COMM1140 Interpersonal Communication

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Diesel Equipment Technology AAS - General Option Track

Requirement	Title	Credits
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
DSET1136	Introduction to Diesel Engines	2
DSET1140	Supervised Occupational Experience I	7
DSET1144	Electrical Troubleshooting	3
DSET2200	Introduction to Electronic Controls	3
DSET2204	Advanced Electrical and Emission Systems	3
DSET2206	Electronic Controls	3
DSET2210	Mobile Hydraulics	4
DSET2238	Transmissions & 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

3 credits from the following 3

- COMM1120 Introduction to Public Speaking
- COMM1130 Small Group Communication
- COMM1140 Interpersonal Communication

3 credits from the following 3

- DSET1114 Vehicle Brakes
- DSET1116 Fall Supervised Occupational Experience

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Diesel Equipment Technology AAS - Truck Option Track

Requirement	Title	Credits
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
DSET1136	Introduction to Diesel Engines	2
DSET1144	Electrical Troubleshooting	3
DSET2200	Introduction to Electronic Controls	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
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1130	Small Group Communication	
COMM1140	Interpersonal Communication	

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Diesel Equipment Technology
Diploma - 65 credits
Moorhead

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.

Requirement	Title	Credits
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
DSET1130	Trans Elec/Start/Charge	4
DSET1132	Introduction to Engine Theory	2
DSET1136	Introduction to Diesel Engines	2
DSET1144	Electrical Troubleshooting	3
DSET2200	Introduction to Electronic Controls	3
DSET2204	Advanced Electrical and Emission Systems	3
DSET2206	Electronic Controls	3
DSET2210	Mobile Hydraulics	4
DSET2238	Transmissions & Drive Systems	4
DSET2240	Supervised Occupational Experience II	3
DSET2242	Advanced Engines and Fuel Systems	6
ENGL1101	College Writing	3
ENGL1215	Professional and Technical Writing	3
TRNS1112	Heating Ventilation A/C	3
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1130	Small Group Communication	
COMM1140	Interpersonal Communication	

Digital Marketing
Associate of Applied Science (AAS) - 60 credits
Online

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.

Requirement	Title	Credits
ACCT2211	Financial Accounting I	3
BUS1100	Business Computers	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
MKTG2000	Integrated Marketing Communications	3
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1130 Small Group Communication	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	ECON2210 Macroeconomics	
	ECON2222 Microeconomics	

(Continued on next page)

Digital Marketing AAS, continued

3 credits from the following disciplines 3
BUS, GDTC, MGMT, MKTG, SOMM

6 credits MnTC Electives* 6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Drafting and 3D Technologies
Associate of Applied Science (AAS) - 66 credits
Moorhead

The Drafting and 3D Technologies program prepares students for employment in a wide variety of engineering-related disciplines. Students are trained across multiple two- 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.

Requirement	Title	Credits
CADD1000	AutoCAD Basics	3
CADD1400	Introduction to SolidWorks	3
CADD1410	Introduction to Autodesk Inventor	3
COMM1120	Introduction to Public Speaking	3
ENGL1101	College Writing	3
ENGL1215	Professional and Technical Writing	3
MCDD1106	Mechanical Engineering Drawing II	4
ENGT1118	Construction and Manufacturing Math	3
MCDD1104	Mechanical Engineering Drawing I	4
MCDD1114	Manufacturing Processes	2
MCDD1124	Mechanical Drafting Applications I	3
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
MCDD2112	Geometric Dimensioning and Tolerancing	2
MCDD2252	Mechanical Drafting Applications II	4
MCDD2254	Computer Numerical Control	2
SOC1111	Introduction to Sociology	3
3 credits from the following		3
ECON2210 Macroeconomics		
ECON2222 Microeconomics		

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Drafting and 3D Technologies
Diploma - 60 credits
Moorhead

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.

Requirement	Title	Credits
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
MCDD2200	Advanced Modeling with SolidWorks	3
MCDD2210	Advanced Modeling with Inventor	3
MCDD2112	Geometric Dimensioning and Tolerancing	2
MCDD2204	Mechanical Engineering Drawing III	4
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
9 credits MnTC Electives		9

Early Childhood
Certificate - 18 credits
Detroit Lakes, Moorhead

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.

Requirement	Title	Credits
ECE1105	Introduction to Early Childhood Education	3
ECE1107	Child Growth and Development	3
ECE1109	Health, Wellness and Nutrition	3
ECE1111	Diverse Children and Family Relations	3
ECE1113	Behavior Guidance	3
ECE1115	Creative Activities and Environment	3

Early Childhood and Education Transfer Pathway
Associate of Science (AS) - 60 credits
Detroit Lakes

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, 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.

Requirement	Title	Credits
BIOL1104	Biology of Human Concerns	3
COMM1120	Introduction to Public Speaking	3
ECE1105	Introduction to Early Childhood Education	3
ECE1107	Child Growth and Development	3
ECE1109	Health, Wellness and Nutrition	3
ECE1111	Diverse Children and Family Relations	3
ECE1113	Behavior Guidance	3
ECE1115	Creative Activities and Environment	3
ECE2101	Observation and Assessment	3
ECE2103	Introduction to Special Education	3
ECE2105	Internship	3
ECE2107	Introduction to Language and Literacy	3
ENGL1101	College Writing	3
ENGL2239	Nature Writers	3
ENGL2372	Children's Literature	3
MATH1100	World of Math	3
PSYC1101	Human Interaction	3
PSYC1202	Introduction to Autism Spectrum Disorders	3
PSYC2222	Lifespan Development	3
SOC2213	Sociology of the Family3	3

To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Electrical Line Worker Technology
Associate of Applied Science (AAS) - 68 credits
Wadena

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.

Requirement	Title	Credits
BIOL1107	Environmental Science Issues	3
ELWT1100	Introduction to Line Worker Theory	4
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
ELWT1134	Hydraulics for Line orkers	2
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
3 credits from the following		3
ELWT1122 Field Construction III		
ELWT1132 Electrical Line Worker Internship		
3 credits MnTC Electives*		3

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Electrical Line Worker Technology
Diploma - 36 credits
Wadena, Satellite Site

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.

Requirement	Title	Credits
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
2 credits from the following		2
ELWT1122 Field Construction III		
ELWT1130 Electrical Line Worker Internship		
3 credits MnTC Electives		3

Electrical Technology - Electrician
Diploma - 74 credits
Moorhead, Wadena

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.

Requirement	Title	Credits
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
ELEC1118	Electrical Services	3
ELEC1116	Conduit/Tool Applications	2
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
ELEC2230	Electrical Building Information Modeling	2
ELEC2238	Low Voltage Wiring	2
ELEC2248	Code Applications	2
HLTH1122	CPR-First Aid	1
MATH1000	Technical Mathematics	3
PDEV1102	Contemporary Career Search	1
5 credits ELEC Electives		5

Engineering
Associate of Science (AS) - 60 credits
Moorhead

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.

Requirement	Title	Credits
CHEM1111	General Chemistry I	5
CHEM1112	General Inorganic Chemistry II	5
COMM1120	Introduction to Public Speaking	3
ENGR2210	Engineering Mechanics I	3
ENGR2230	Mechanics of Materials	3
ENGR2220	Engineering Mechanics II	3
ENGL1101	College Writing	3
MATH1134	Calculus I	5
MATH1135	Calculus II	5
MATH2231	Calculus III	4
MATH2259	Differential Equations	4
PHYS1412	University Physics II	5
3 credits from the following		3
	ENGL1205 Writing About Literature	
	ENGL1210 Writing About Current Issues	
	ENGL1215 Professional and Technical Writing	
6 credits from the following		6
	CADD1000 AutoCAD Basics	
	CADD2120 Visual Communication or Engineers	
	ENGR2970 Internship Experience	
	MnTC Electives	
3 credits MnTC Electives*		3

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Environmental Science
Associate of Science (AS) - 60 credits
Fergus Falls, Moorhead

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, ensuring students are properly prepared for further study at an advanced level.

Requirement	Title	Credits
BIOL1107	Environmental Science Issues	3
BIOL1108	Environmental Science Issues Lab	1
BIOL1122	General Biology I	4
BIOL1123	General Biology II	4
BIOL2010	General Ecology	4
CHEM1111	General Chemistry I	5
CHEM1112	General Inorganic Chemistry II	5
COMM1120	Introduction to Public Speaking	3
ECON2210	Macroeconomics	3
ENGL1101	College Writing	3
GEOG1110	World Regional Geography	3
MATH1114	College Algebra	4
MATH1207	Elementary Statistics	3
PHIL1201	Ethics	3
3 credits from the following		3
	ENGL1205 Writing About Literature	
	ENGL1210 Writing About Current Issues	
	ENGL1215 Professional and Technical Writing	
3 credits from the following		3
	POLS2204 Comparative Government	
	POLS2206 Global Politics	
3 credits MnTC Goal Area 6 Electives		3
3 credits MnTC Electives*		3

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Esthetician
Certificate - 24 credits
Wadena

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.

Requirement	Title	Credits
COSM1000	Principles and Practices	3
COSM1002	Client Consultations	1
COSM1003	License Preparation	1
COSM1006	Spa Therapies	1
COSM1100	Salon Safety	1
COSM1004	Cosmetic Chemistry and Makeup Applications	1
COSM1109	Skin Analysis	1
COSM1010	Eyelash Extensions	1
COSM1157	Histology of the Skin	1
COSM1159	Facials and Hair Removal	1
COSM1179	Minnesota Cosmetology Laws and Rules	1
11 credits from the following		11
COSM1200 Salon Practicum		
COSM2800 Alexandria Body Sugaring		

Gas Utility Construction and Service
Certificate - 19 credits
Satellite Site

The Gas Utility Construction and Service program prepares students to install, maintain and operate both high- and low-pressure natural gas distribution systems used to supply residential, commercial and industrial companies. Program graduates will be qualified to enter one of the most technologically intensive industries in today's economy with potential careers in gas construction mechanics, gas meter mechanics, gas service mechanics, gas clerk estimation, gas regulator maintenance mechanics, gas appliance repair and underground facilities location.

*This program is part of the MN Energy Academy and is located in the Minneapolis-St. Paul metro area.

Requirement	Title	Credits
GAS1000	Gas Utility Field Training I	4
GAS1001	Underground Utility Locating	2
GAS1003	Gas Utility Equipment Training	5
GAS1004	Gas Utility Field Training II	4
GAS2600	Electric and Gas Appliances	4

Gas Utility Construction and Service
Diploma - 36 credits
Satellite Site

The Gas Utility Construction and Service program prepares students to install, maintain and operate both high- and low-pressure natural gas distribution systems used to supply residential, commercial and industrial companies. Program graduates will be qualified to enter one of the most technologically intensive industries in today's economy with potential careers in gas construction mechanics, gas meter mechanics, gas service mechanics, gas clerk estimation, gas regulator maintenance mechanics, gas appliance repair and underground facilities location.

*This program is part of the MN Energy Academy and is located in the Minneapolis-St. Paul metro area.

Requirement	Title	Credits
CONM2213	Safety Management	2
GAS1000	Gas Utility Field Training I	4
GAS1001	Underground Utility Locating	2
GAS1002	Gas Service Welding I	3
GAS1003	Gas Utility Equipment Training	5
GAS1004	Gas Utility Field Training II	4
GAS2001	Forklift Certification	1
GAS2002	Gas Utility Field Training III	5
GAS2003	Gasless Leak Detection	3
GAS2600	Electric and Gas Appliances	4
MATH1000	Technical Mathematics	3

Global and Intercultural Studies
Certificate - 12 credits
Fergus Falls, Moorhead, Online

In a world of instant communication and the relationships that implies, an understanding of how that world works becomes useful when one is called on to managing those relationships. Much of that understanding is technical in that the natural features and characteristics of the world and its regions are defined and generally accepted. The institutions that govern the relationships among these regions, while always in flux, can still be understood in broad terms such as trade, shared resources and other formal interactions such as aid, international accords and security. But much of a good understanding of the world hinges on matters that are more equivocal. Works of the humanities, religion, culture and long-standing traditions shape the ways people engage in the relationships that formally define global interaction. For this reason, this program collects courses from multiple disciplines into three groupings from which one can build a sequence of courses that both covers the essential skills necessary to advance a more global outlook as well as allows for a more targeted exploration of global influences. This makes it possible for participants to explore their personal interests on a global scale and in more depth.

Requirement	Title	Credits
3 credits from the following		3
	ANTH1100 Introduction to Anthropology	
	ART1129 Art History: African, Asian, Islamic and Mesoamerican	
	HUM1110 Native American Culture	
	WMST1136 Global Perspectives of Women	
6 credits from the following		6
	COMM2200 Intercultural Communication	
	GEOG1110 World Regional Geography	
	GLST1100 Introduction to Global Studies	
3 credits from the following		3
	HUM1105 Religion in the Humanities	
	POLS2204 Comparative Government	
	POLS2206 Global Politics	

Graphic Design
Certificate - 30 credits
Moorhead

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.

Requirement	Title	Credits
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
GDTC2205	Adobe Photoshop II	3
GDTC2120	Adobe InDesign II	3
GDTC2245	Adobe Illustrator II	3

Graphic Design
Diploma - 60 credits
Moorhead

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.

Requirement	Title	Credits
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 Photo / Video	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
GDTC2248	Dimensional Design	3
GDTC2250	Design Campaigns	3
GDTC2258	Graphic Design Professional Practices	3
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1140	Interpersonal Communication	

Health Information Technology/Coding
Associate of Applied Science (AAS) - 64 credits
Online

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 revenue cycle and data management 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-related systems, and an on-site internship is required.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
BIOL1170	Essentials of Human Anatomy and Physiology	4
BUS1100	Business Computers	3
CPTR1106	Microcomputer Databases	3
ENGL1101	College Writing	3
HITM1151	Introduction to Health Information Management	3
HITM1155	Medicolegal Aspects	3
HITM1165	Information Systems in Health	3
HITM1220	Foundations of Medical Coding	3
HITM2218	Intermediate Procedure Coding	3
HITM2230	Medical Science for Health Information Professionals	3
HITM2253	Quality Management Studies	3
HITM2256	Management Practice in Health Information Management	3
HITM2264	Revenue Cycle Management	3
HITM2283	Intermediate Diagnosis Coding	3
HITM2286	Advanced Medical Coding	3
HITM2290	Health Care Data Management and Analysis	3
HITM2310	Health Information Professional Practice	2
HITM2320	Registered Health Information Technician (RHIT) Exam Review	1
HLTH1116	Medical Terminology	3
MATH1112	Applied Statistics	3
PHIL1200	Applied and Professional Ethics	3

3 credits from the following 3

- COMM1120 Introduction to Public Speaking
- COMM1130 Small Group Communication
- COMM1140 Interpersonal Communication

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

History Transfer Pathway
Associate of Arts (AA) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online, Wadena

The History Transfer Pathway 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.

Requirement	Title	Credits
ENGL1101	College Writing	3
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1130 Small Group Communication	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	ENGL1205 Writing About Literature	
	ENGL1210 Writing About Current Issues	
	ENGL1215 Professional and Technical Writing	
9 credits from the following		9
	HIST1101 Western Civilization: Ancient to 1600s	
	HIST1102 Western Civilization: 1600s to the Present	
	HIST1201 American History to 1877	
	HIST1202 American History Since 1877	
6 credits MnTC Goal Are 3 Electives		6
3 credits MnTC Goal Area 4 Electives		3
3 credits MnTC Goal Area 5 Electives		3
9 credits MnTC Goal Are 6 Electives		9
21 credits MnTC Electives*		21

*To earn an AA degree, students must meet the individual requirements of all 10 goal areas of the MnTC. Of the 60 total credits required in the program, a minimum of 40 credits must be from the MnTC.

Human Resources
Associate of Applied Science (AAS) - 60 credits
Moorhead, Online

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, talent acquisition, selection and employment, training and development, compensation and benefit administration.

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT2211	Financial Accounting I	3
BUS1100	Business Computers	3
BUS1141	Introduction to Business	3
BUS2204	Principles of Management	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
HRES2245	Human Resources Internship	1
HRES2252	Human Resource Systems	2
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	ECON2210 Macroeconomics	
	ECON2222 Microeconomics	
3 credits from the following		3
	PSYC1200 General Psychology	
	SOC1111 Introduction to Sociology	
3 credits Technical Electives		6
3 credits MnTC Electives*		3

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Human Resources
Associate of Science (AS) - 60 credits
Moorhead, Online

Human resources programs prepare students to provide support to companies and individual employees in the area of human resources. Associate of Science graduates may assume duties in the following areas: communication with employees, employee analytics, policies and administration, employer and labor relations, talent acquisition, selection and employment, training and development, compensation 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.

Requirement	Title	Credits
BUS1100	Business Computers	3
COMM1120	Introduction to Public Speaking	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
HRES2245	Human Resources Internship	1
HRES2252	Human Resource Systems	2
3 credits from the following		3
	ACCT2211 Financial Accounting I	
	BUS2204 Principles of Management	
3 credits from the following		3
	ECON2210 Macroeconomics	
	ECON2222 Microeconomics	
4 credits from the following		4
	MATH1100 World of Math	
	MATH1114 College Algebra	
	MATH1213 Introduction to Statistics	
3 credits from the following		3
	PHIL1200 Applied and Professional Ethics	
	PHIL1201 Ethics	
3 credits from the following		3
	PSYC1200 General Psychology	
	SOC1111 Introduction to Sociology	
8 credits MnTC Electives*		8

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Human Resources
Certificate - 18 credits
Moorhead, Online

This program is designed to prepare students to enter the Human Resources field and supports continued professional growth for those currently in the field. This certificate will provide students with the basic understanding of key human resource practices and how to support and manage them. The certificate program is transferable to the Human Resources Associate of Applied Science and Associate of Science degrees.

Requirement	Title	Credits
HRES1122	Human Resource Management	3
HRES1126	Talent Acquisition	3
HRES1130	Benefits Administration	3
9 credits from the following		9
HRES1134	Training and Development	
HRES2204	Policy Administration	
HRES2212	Strategic Compensation	
HRES2224	Employee/Labor Relations	
HRES2245	Human Resources Internship	
HRES2252	Human Resource Systems	

HVAC/R - Heating, Ventilation, Air Conditioning and Refrigeration
Diploma - 35 credits
Moorhead, Wadena

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.

Requirement	Title	Credits
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
HVAC2214	Hot Water Heating	2
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 Principles	3
REFR1112	Refrigeration, Air Conditioning and Heating Lab	3

Individualized Studies
Associate of Applied Science (AAS) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online, Wadena

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).

Requirement	Title	Credits
CPTR1104	Introduction to Computer Technology	3
ENGL1101	College Writing	3
3 credits from the following		3
	COMM1100 Communication and Effective Human Relations	
	COMM1120 Introduction to Public Speaking	
	COMM1140 Interpersonal Communication	
42 credits Technical Electives		42
9 credits MnTC Electives*		9

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Information Technology
Associate of Applied Science (AAS) - 60 credits
Online

The focus of this school-to-work degree is customer service, user support and an emphasis on technical skills including desktop and network support. Students will learn the skills needed to provide technical support to customers and users regarding issues related to computer systems, hardware, software and local area networks. Additionally, skills to understand the importance of daily maintenance of computer systems and networks, learning to coach users and customers through problem-solving processes, and communicating a solution will be gained. The use of systems including office applications, virtualization and operating systems will be used in addition to learning analytical, diagnostic, communication and customer service skills.

Requirement	Title	Credits
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 I	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
ENGL1101	College Writing	3
HUM2236	Technology in the Humanities	3
SOC1111	Introduction to Sociology	3

3 credits from the following 3
- BUS1100 Business Computers
- CSCI1110 Informatics

3 credits from the following 3
- CPTR2001 Scripting for Automation
- CPTR2200 CISCO 3
- CPTR2234 Linux II
- CPTR2294 Internship
- CSEC2204 Managing Directory Services

6 credits MnTC Electives* 6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Information Technology
Associate of Science (AS) - 60 credits
Moorhead

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 to complete a bachelor's degree at selected institutions. The degree is an ideal mix of practical experience and general education for a field that is constantly evolving.

Requirement	Title	Credits
COMM1120	Introduction to Public Speaking	3
CPTR1001	Introduction to Programming and Scripting	3
CPTR1106	Microcomputer Databases	3
CPTR1108	CISCO 1	3
CPTR1122	System Maintenance	3
CPTR2001	Scripting for Automation	3
CPTR2224	Linux I	3
CPTR2245	Enterprise Network Technologies	3
CSCI1110	Informatics	3
CSEC1110	Fundamentals of IT Security	3
CSEC2204	Managing Directory Services	3
ENGL1101	College Writing	3
HUM2236	Technology in the Humanities	3
MATH1114	College Algebra	4
PSYC1200	General Psychology	3
14 credits MnTC Electives*		14

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Information Technology - Database Administration
Associate of Applied Science (AAS) - 60 credits
Moorhead, Online

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.

Requirement	Title	Credits
CPTR1001	Introduction to Programming and Scripting	3
CPTR1106	Microcomputer Databases	3
CPTR1108	CISCO 1	3
CPTR2001	Scripting for Automation	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
CPTR2275	Data Analytics	3
CSCI1121	Computer Science I	4
CSEC2204	Managing Directory Services	3
ENGL1101	College Writing	3
HUM2236	Technology in the Humanities	3
MATH1100	World of Math	3
MATH1114	College Algebra	4
MATH1213	Introduction to Statistics	4

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Liberal Arts and Sciences
Associate of Arts (AA) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online, Wadena

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.

Liberal Arts and Sciences AA Requirements:
• Successful completion of a minimum of 60 semester credits numbered 1000 or above.
• Achieve an overall M State GPA of 2.00 and a GPA of 2.00 within the Minnesota Transfer Curriculum (MnTC). Transfer courses with grades of A-D will be included in the GPA calculation for the 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 as listed below.

Minnesota Transfer Curriculum (MnTC) Requirements:
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.

Goal Area 1 – Minimum of 3 courses/9 credits required
ENGL1101 College Writing

One of the following courses:
ENGL1205 Writing About Literature
ENGL1210 Writing About Current Issues
ENGL1215 Professional and Technical Writing

One of the following courses:
COMM1120 Introduction to Public Speaking
COMM1130 Small Group Communication
COMM1140 Interpersonal Communication

Goal Area 2 – Minimum of 6 credits; courses must be from at least 2 different disciplines
Goal Area 3 – Minimum of 6 credits; at least 1 course must include a lab
Goal Area 4 – Minimum of 3 credits
Goal Area 5 – Minimum of 9 credits; courses must be from at least 2 different disciplines
Goal Area 6 – Minimum of 9 credits; courses must be from at least 3 different disciplines
Goal Area 7 – minimum of 3 credits
Goal Area 8 – minimum of 3 credits
Goal Area 9 – minimum of 3 credits
Goal Area 10 – minimum of 3 credits

Liberal Arts and Sciences: Social Science Emphasis
Associate of Arts (AA) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online

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.

Social Work Track

Requirement	Title	Credits
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
3 credits from the following		3
	ENGL1205 Writing About Literature	
	ENGL1210 Writing About Current Issues	
	ENGL1215 Professional and Technical Writing	
3 credits MnTC Goal Area 3 Electives		3
3 credits MnTC Goal Area 4 Electives		3
9 credits MnTC Goal Area 6 Electives		9
	Credits must be taken from at least two different disciplines	
3 credits MnTC Goal Area 8 Electives		3
12 credits MnTC or Technical Electives*		12

*To earn an AA degree, students must meet the individual requirements of all 10 goal areas of the MnTC. Of the 60 total credits required in the program, a minimum of 40 credits must be from the MnTC.

Sociology Track

Requirement	Title	Credits
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

3 credits from the following 3
- ENGL1205 Writing About Literature
- ENGL1210 Writing About Current Issues
- ENGL1215 Professional and Technical Writing

3 credits MnTC Goal Area 3 Electives 3

3 credits MnTC Goal Area 4 Electives 3

9 credits MnTC Goal Area 6 Electives 9
Credits must be taken from at least two different disciplines

3 credits MnTC Goal Area 8 Electives 3

18 credits MnTC or Technical Electives* 18

*To earn an AA degree, students must meet the individual requirements of all 10 goal areas of the MnTC. Of the 60 total credits required in the program, a minimum of 40 credits must be from the MnTC.

Limited Scope Radiography
Diploma - 47 credits
Detroit Lakes

The Limited Scope Radiography program prepares students to become competent entry-level limited scope radiographers. The limited scope radiographer works under the direction of a health care provider and communicates with and positions patients for specified types of radiography examinations. The limited scope radiographer provides quality care to patients; manipulates radiographic equipment and accessories; selects and adjusts technical factors; provides radiation protection for patients, self and others; obtains diagnostic images; performs image evaluation; and carries out activities associated with equipment quality control. Students are equipped with the knowledge and skills necessary to perform a variety of radiography exams on patients in various health care settings.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
BIOL2260	Human Anatomy and Physiology I	3
COMM1140	Interpersonal Communication	3
HLTH1116	Medical Terminology	3
LSR1100	Introduction to Limited Scope Radiography and Patient Care	3
LSR1120	Image Production I	4
LSR1140	Radiation Protection	3
LSR1160	Radiographic Procedures I	5
LSR1220	Image Production II	3
LSR1230	Imaging Equipment and Quality Control	3
LSR1240	Radiobiology	2
LSR1260	Radiographic Procedures II	4
LSR1280	Radiographic Clinical I	4
LSR1380	Radiographic Clinical II	7

LPN to Associate Degree Nursing Bridge
Associate of Science (AS) - 32 credits
Detroit Lakes, Fergus Falls, Moorhead, Wadena

The LPN to Associate Degree Nursing option is designed for licensed practical nurses seeking to become registered nurses. This option is offered at the Detroit Lakes, Fergus Falls, Moorhead 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 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 variety of settings as registered nurses. The graduating nurse will be able to provide nursing care in hospitals, long-term care facilities, clinics, and 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 entering 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 Nursing has officially approved the Associate Degree Nursing program at M State.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
3 credits MnTC Electives*		3

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Management and Marketing
Associate of Applied Science (AAS) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online

The Management and Marketing AAS includes business and general education courses. This program is designed to provide students with the skills necessary to succeed in a variety of careers in the management and marketing fields. Curriculum includes instruction in management, marketing, research, small business planning. Emphasis is on developing skills in management decision making, marketing literacy, communication, problem solving and technology.

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT2211	Financial Accounting I	3
BUS1100	Business Computers	3
BUS1141	Introduction to Business	3
BUS1300	Financial Statement Analysis	3
BUS2204	Principles of Management	3
BUS2206	Principles of Marketing	3
BUS2209	Business Research	3
DMKT2200	Introduction to Digital Marketing	3
ENGL1101	College Writing	3
MKTG1106	Professional Selling	3
MKTG1200	Introduction to Social Media	3
MKTG2000	Integrated Marketing Communications	3
MKTG2236	Small Business Management	3
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1130 Small Group Communication	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	ECON2210 Macroeconomics	
	ECON2222 Microeconomics	
3 credits from the following		3
	HRES1122 Human Resource Management	
	MKTG1120 Supervisory Leadership	
3 credits from the following		3
	MKTG2290 Management, Marketing and Sales Internship	
	MKTG2402 Management and Marketing Seminar	
6 credits MnTC Electives*		6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Massage Therapy
Diploma - 31 credits
Wadena

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.

Requirement	Title	Credits
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
Online

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 in 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.

Requirement	Title	Credits
ADMM1104	Medical Language Applications I	3
ADMM1110	Medical Documentation I	4
ADMM1122	Medical Office Procedures	4
ADMM1150	Medical Billing/Insurance	4
ADMM1152	Outpatient Coding	4
ADMM1160	Medical Documentation II	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
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1130 Small Group Communication	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	PSYC1200 General Psychology	
	PSYC2220 Abnormal Psychology	
	PSYC2222 Lifespan Development	
9 credits MnTC Electives*		9

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Medical Coding and Insurance
Diploma - 50 credits
Online

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

Requirement	Title	Credits
ADMM1104	Medical Language Applications I	3
ADMM1110	Medical Documentation I	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 Exam	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
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1130	Small Group Communication	
COMM1140	Interpersonal Communication	
3 credits MnTC Electives		3

Medical Laboratory Technology
Associate of Applied Science (AAS) - 60 credits
Fergus Falls, Moorhead

Medical laboratory technologists 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 technologists. The curriculum includes general education, science, medical laboratory technology 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. 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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
CHEM1100	Fundamental Concepts of Chemistry	3
ENGL1101	College Writing	3
ENGL1215	Professional and Technical Writing	3
MLT1110	Phlebotomy Skills	2
MLT1115	Basic Laboratory Techniques	2
MLT1124	Immunohematology	3
MLT1125	Immunohematology Lab	1
MLT1130	Laboratory Calculations	2
MLT1216	Hematology	2
MLT1217	Hematology Lab	1
MLT1227	Biological Fluids	1
MLT1228	Biological Fluids Lab	1
MLT2131	Diagnostic Chemistry	3
MLT2132	Diagnostic Chemistry Lab	1
MLT2151	Introduction to Molecular Diagnostics	1
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
MLT2266	Diagnostic Microbiology	3
MLT2267	Diagnostic Microbiology Lab	1
MLT2316	Immunology	1
MLT2317	Immunology Lab	1
MLT2346	Clinical Applications	1
MLT2350	Professional Issues in Medical Laboratory Technology	2

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Medical Office Assistant
Diploma - 44 credits
Online

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.

Requirement	Title	Credits
ADMM1104	Medical Language Applications I	3
ADMM1110	Medical Documentation I	4
ADMM1122	Medical Office Procedures	4
ADMM1150	Medical Billing/Insurance	4
ADMM1152	Outpatient Coding	4
ADMM1160	Medical Documentation II	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
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1130	Small Group Communication	
COMM1140	Interpersonal Communication	
3 credits MnTC Electives		3

Medical Receptionist
Diploma - 34 credits
Online

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.

Requirement	Title	Credits
ADMM1104	Medical Language Applications I	3
ADMM1110	Medical Documentation I	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

3 credits from the following 3

COMM1120 Introduction to Public Speaking
COMM1130 Small Group Communication
COMM1140 Interpersonal Communication

Music
Associate of Fine Arts (AFA) - 68 credits
Fergus Falls

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.

Requirement	Title	Credits
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

9 credits from the following..... 9
- MUSC1114 Beginning Class Piano
- MUSC1151 Individual Voice Lessons
- MUSC1181 Private Instrumental Lessons
- MUSC1185 Private Music Composition Lessons
- MUSC1191 Individual Piano Lessons
- MUSC2251 Individual Voice Lessons
- MUSC2281 Private Instrumental Lessons
- MUSC2285 Advanced Music Composition
- MUSC2291 Individual Piano Lessons

8 credits from the following..... 8
- MUSC1135 Voice Ensemble
- MUSC1141 Concert Choir
- MUSC1162 Jazz Ensemble
- MUSC1164 Concert Band
- MUSC1168 Pep Band

15 credits MnTC Electives*.....15

*To earn this AFA degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Nail Technician
Certificate - 16 credits
Wadena

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 cosmetology 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.

Requirement	Title	Credits
COSM1000	Principles and Practices	3
COSM1003	License Preparation	1
COSM1007	Gel Nail Applications	1
COSM1100	Salon Safety	1
COSM1200	Salon Practicum	6
COSM1161	Nail Structure and Growth	1
COSM1179	Minnesota Cosmetology Laws and Rules	1
COSM2200	Manicuring/Pedicuring	1
COSM2400	Advanced Nail Techniques	1

Paralegal
Associate of Applied Science (AAS) - 60 credits
Online

The Paralegal program provides graduates with a strong legal foundation that prepares them to work under the supervision of an attorney. 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. Graduates of the program find successful careers in legal firms, corporate offices and nonprofit and government organizations.

Requirement	Title	Credits
ACCT2211	Financial Accounting I	3
BUS1100	Business Computers	3
BUS1141	Introduction to Business	3
BUS2150	Legal Environment of Business	3
COMM1120	Introduction to Public Speaking	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 & Probate	3
PARA1112	Legal Ethics for the Paralegal	3
PARA2204	Real Property	3
PARA2212	Family Law	3
PARA2202	Legal Research and Writing II	3
PSYC1200	General Psychology	3
3 credits from the following		3
ECON2210 Macroeconomics		
ECON2222 Microeconomics		
3 credits from the following		3
PARA2210 Advanced Paralegal Practices		
PARA2216 Paralegal Internship		
3 credits from the following		3
POLS1120 American National Government		
POLS1130 State and Local Government		

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Payroll Specialist
Diploma - 32 credits
Detroit Lakes, Fergus Falls, Moorhead, Online

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 returns and employee records. Both manual and computerized accounting concepts and applications are included.

Requirement	Title	Credits
ACCT1101	Payroll	3
ACCT1124	Spreadsheet Applications	3
ACCT2211	Financial Accounting I	3
ACCT2212	Financial Accounting II	3
ACCT2218	QuickBooks	2
BUS1100	Business Computers	3
HRES1122	Human Resource Management	3
HRES1130	Benefits Administration	3

6 credits from the following 6
- ACCT2210 Managerial Accounting
- ACCT2255 Income Tax-Individual
- ACCT2256 Income Tax-Business
- ACCT2616 Intermediate Accounting I
- ACCT2630 Fund/Nonprofit Accounting
- ACCT2640 Accounting Internship
- BUS1141 Introduction to Business
- BUS2150 Legal Environment of Business
- BUS2204 Principles of Management
- BUS2206 Principles of Marketing

3 credits MnTC Goal Area 1 Electives 3

Phlebotomy Technician
Certificate - 16 credits
Fergus Falls

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 student 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.

Requirement	Title	Credits
BIOL2260	Human Anatomy and Physiology I	3
BIOL2261	Human Anatomy and Physiology I Lab	1
MLT1110	Phlebotomy Skills	2
MLT1112	Clinical Phlebotomy	3
MLT1115	Basic Laboratory Techniques	2
MLT2350	Professional Issues in Medical Laboratory Technology	2
3 credits MnTC Goal Area 1 Electives		3

Plumbing Technology
Diploma - 36 credits
Moorhead

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 and North Dakota plumbing codes, 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.

Requirement	Title	Credits
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
PLBG1141	Plumbing Code II	3
PLBG1145	Plumbing Lab II	2
PLBG1150	Plumbing Technology Internship	2
3 credits from the following		3
COMM1130 Small Group Communication		
COMM1140 Interpersonal Communication		
ENGL1101 College Writing		
MATH1000 Technical Mathematics		
PHIL1200 Applied and Professional Ethics		
PHIL1201 Ethics		
PSYC1101 Human Interaction		
PSYC1200 General Psychology		

Political Science Transfer Pathway
Associate of Arts (AA) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online, Wadena

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.

Requirement	Title	Credits
ENGL1101	College Writing	3
POLS1120	American National Government	3
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1130 Small Group Communication	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	ENGL1205 Writing About Literature	
	ENGL1210 Writing About Current Issues	
	ENGL1215 Professional and Technical Writing	
3 credits from the following		3
	POLS1130 State and Local Government	
	POLS2204 Comparative Government	
	POLS2206 Global Politics	
	POLS2950 Introduction to Social Research	
3 credits from the following		3
	POLS2204 Comparative Government	
	POLS2206 Global Politics	
6 credits MnTC Goal Area 3 Electives		6
	One course must include a lab	
3 credits MnTC Goal Area 4 Electives		3
3 credits MnTC Goal Area 5 Electives		3
	Credits must be taken from at least two different disciplines	
	One discipline will be met by taking POLS courses listed above	
9 credits MnTC Goal Area 6 Electives		9
	Credits must be taken from at least three different disciplines	
21 credits MnTC Electives*		21

*To earn an AA degree, students must meet the individual requirements of all 10 goal areas of the MnTC. Of the 60 total credits required in the program, a minimum of 40 credits must be from the MnTC.

PowerSports Technology
Associate of Applied Science (AAS) - 69 credits
Detroit Lakes

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.

Requirement	Title	Credits
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
3 credits ENGL Electives		3
3 credits POLS Electives		3
3 credits PSYC Electives		3
6 credits MnTC Electives*		6

*To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

PowerSports Technology
Certificate - 30 credits
Detroit Lakes

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, and personal watercraft and marine 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.

Requirement	Title	Credits
PWST1000	Introduction to PowerSports	3
PWST1002	Snowmobile, Off Road Vehicle and Motorcycle Maintenance	3
PWST1014	Personal Watercraft and Marine Engine Maintenance	3
PWST1115	Electrical Foundations	3
PWST1017	Fuel Systems I	3
PWST1021	Ignition, Charging and Starter Systems	3
PWST1025	Fuel Systems II	3
PWST1080	Snowmobile Engines	3
PWST2304	Motorcycles I	3
3 credits MnTC Electives		3

PowerSports Technology
Diploma - 60 credits
Detroit Lakes

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.

Requirement	Title	Credits
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
6 credits MnTC Electives		6

Practical Nursing
Diploma - 40 credits
Moorhead

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
PNSG1509	Foundations of Adult Nursing Care I	6
PNSG1512	Practical Nursing Pharmacology	2
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

Pre-Professional Health
Associate of Science (AS) - 60 credits
Fergus Falls, Moorhead

The Pre-Professional Health AS offers students the opportunity to complete an Associate of Science degree that aligns with the course requirements for most professional health degree programs at medical, pharmacy, veterinary, dentistry and chiropractic schools. This degree also works well for students interested in chemistry or biochemistry. Students should consult with an advisor and science faculty member and review the degree requirements of their intended transfer institution when choosing their electives for this degree.

Requirement	Title	Credits
BIOL1122	General Biology I	4
BIOL1123	General Biology II	4
CHEM1111	General Chemistry I	5
CHEM1112	General Inorganic Chemistry II	5
CHEM2224	Organic Chemistry I	5
CHEM2225	Organic Chemistry II	5
COMM1120	Introduction to Public Speaking	3
ENGL1101	College Writing	3
4 credits from the following		4
	BIOL2220 General Microbiology	
	BIOL2240 Genetics	
4 credits from the following		4
	MATH1114 College Algebra	
	MATH1115 Functions/Trigonometry	
	MATH1134 Calculus I	
3 credits from the following		3
	MATH1207 Elementary Statistics	
	MATH1213 Introduction to Statistics	
3 credits from the following		3
	PSYC1200 General Psychology	
	PSYC2222 Lifespan Development	
	SOC1111 Introduction to Sociology	
3 credits MnTC Goal Area 6 Electives		3
9 credits MnTC Electives*		9

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Psychology Transfer Pathway
Associate of Arts (AA) - 60 credits
Detroit Lakes, Fergus Falls, Moorhead, Online, Wadena

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 bachelorâ€™s degree programs in a related field.

Requirement	Title	Credits
ENGL1101	College Writing	3
PSYC1200	General Psychology	3
PSYC2900	Statistics for Behavioral and Social Sciences	4

3 credits from the following 3
- COMM1120 Introduction to Public Speaking
- COMM1140 Interpersonal Communication

3 credits from the following 3
- ENGL1205 Writing About Literature
- ENGL1210 Writing About Current Issues
- ENGL1215 Professional and Technical Writing

4 credits from the following 4
- MATH1114 College Algebra
- MATH1213 Introduction to Statistics

3 credits from the following 3
- PSYC1101 Human Interaction
- PSYC1500 Positive Psychology
- PSYC2220 Abnormal Psychology
- PSYC2222 Lifespan Development
- PSYC2224 Social Psychology
- PSYC2226 Behavior and Environmental Management
- PSYC2230 Personality Psychology
- PSYC2302 Cross-Cultural Psychology
- PSYC2950 Introduction to Social Research

3 credits from the following 3
- PSYC2220 Abnormal Psychology
- PSYC2222 Lifespan Development
- PSYC2224 Social Psychology

3 credits MnTC Goal Area 2 Electives 3

7 credits MnTC Goal Area 3 Electives 7

(Continued on next page)

Psychology Transfer Pathway AA, continued

3 credits MnTC Goal Area 5 Electives 3
Credits must be taken from at least two different disciplines
One discipline will be met by taking PSYC courses listed above

9 credits MnTC Goal Area 6 Electives 9
Credits must be taken from at least three different disciplines
One PHIL course is required

3 credits MnTC Goal Area 7 Electives 3

3 credits MnTC Goal Area 8 Electives 3

3 credits MnTC Goal Area 9 Electives 3

3 credits MnTC Goal Area 10 Electives..... 3

*To earn an AA degree, students must meet the individual requirements of all 10 goal areas of the MnTC. Of the 60 total credits required in the program, a minimum of 40 credits must be from the MnTC.

Radiologic Technology
Associate of Applied Science (AAS) - 79 credits
Detroit Lakes

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.

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
BIOL2260	Human Anatomy and Physiology I	3
BIOL2262	Human Anatomy and Physiology II	3
COMM1140	Interpersonal Communication	3
MATH1114	College Algebra	4
RADT1102	Fundamental Concepts of Radiologic Technology	2
PHYS1105	Fundamental Concepts in Physics	3
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
RADT2101	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

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Sport Management
Associate of Science (AS) - 60 credits
Fergus Falls

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.

Requirement	Title	Credits
ACCT2211	Financial Accounting I	3
BIOL1107	Environmental Science Issues	3
BIOL1108	Environmental Science Issues Lab	1
BUS1100	Business Computers	3
BUS1141	Introduction to Business	3
BUS2204	Principles of Management	3
BUS2206	Principles of Marketing	3
COMM1120	Introduction to Public Speaking	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
PHIL1201	Ethics	3
3 credits from the following		3
	ECON2210 Macroeconomics	
	ECON2222 Microeconomics	
9 credits PE Electives		9
3 credits MnTC Electives*		3

*To earn an AS degree, students must complete courses from at least 6 of the 10 MnTC goal areas.

Surgical Technology
Associate of Applied Science (AAS) - 60 credits
Moorhead

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 surgeons and be active members of the surgical team. Throughout the perioperative experience, students will demonstrate proficiency in surgical asepsis with the preparation and use of surgical equipment, instruments and supplies while employing an understanding of anatomy, physiology, pathophysiology and microbiology.

Program prerequisites:

- American Heart Association Health Care Provider CPR
- MDH Background Check
- National Background Check
- Developmental Education with C or better
- Health Form/Immunization documentation

Students must earn a grade of C or better in all program courses to graduate from this program.

Requirement	Title	Credits
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
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
SURT1225	Surgical Pathophysiology	3
SURT1230	Surgical Technology III	4
SURT1250	Surgical Clinical I	6
SURT1255	Surgical Clinical II	6

To earn an AAS degree, students must complete courses from at least 3 of the 10 MnTC goal areas.

Survey Technician
Certificate - 30 credits
Detroit Lakes

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.

Requirement	Title	Credits
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
Fergus Falls

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.

Requirement	Title	Credits
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: Understanding the Play	3
THTR2130	Design for the Stage	3
3 credits from the following		3
	COMM1120 Introduction to Public Speaking	
	COMM1140 Interpersonal Communication	
3 credits from the following		3
	ENGL1205 Writing About Literature	
	ENGL1210 Writing About Current Issues	
	ENGL1215 Professional and Technical Writing	
11 credits MnTC Electives*		11
20 credits MnTC or Technical Electives*		20

*To earn this AFA degree, students must meet the individual requirements of all 10 goal areas of the MnTC. Of the 60 total credits required in the program, a minimum of 40 credits must be from the MnTC.

Visual Arts
Certificate - 24 credits
Fergus Falls, Online

This certificate offers an introduction to various methods and principles in art-making and art historical research. Students will learn to develop complexity in conceptual discourse and discipline in physical practice. Topics may be diverse depending on student's choice of courses. Courses topics include but are not limited to Drawing; Painting; Ceramics; Art and the Environment; Renaissance to Contemporary Art History; African, Asian, Islamic, and Mesoamerican Art History, etc.

Requirement	Title	Credits
ART1110	Introduction to Art	3
ART1129	Art History: African, Asian, Islamic and Mesoamerican	3
ART2001	Art and the Environment	3
HUM1110	Native American Culture	3

12 credits from the following 12

- ART1101 Drawing I
- ART1107 Foundations of Art, 2-D
- ART1109 Foundations of Art, 3-D
- ART1114 Painting I
- ART1117 Printmaking I
- ART1124 American Art
- ART1127 Art History: Prehistory to the Middle Ages
- ART1128 Art History: Renaissance to Contemporary
- ART1140 Handbuilt Ceramics
- ART1142 Introduction to Ceramics
- ART2000 Intermediate Art Studio
- ART2114 Photographic Art I
- ART2115 Introduction to Digital Photography
- ART2116 Mixed Media I
- ART2201 Foundation Digital Imaging
- ART2241 Advanced Ceramics

COURSE DESCRIPTIONS
2022-2023

Course#	Course Title	Cr	Lec/Lab/OJT

ACCT1012 Foundations of Accounting 3 3/0/0

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.

ACCT1101 Payroll 3 3/0/0

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.

ACCT1108 Business Math 3 3/0/0

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.
Prerequisites: MATH0055 or placement by assessment

ACCT1120 Business Law 3 3/0/0

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.

ACCT1124 Spreadsheet Applications 3 3/0/0

This course provides students with in-depth coverage of a spreadsheet application as used in a business setting. Students should be familiar with Windows and word processing.
Prerequisites: BUS1100

ACCT2210 Managerial Accounting 4 4/0/0

This course focuses on providing financial information to management for strategic decision-making related to cost analysis and cost management.
Prerequisites: ACCT2211

ACCT2211 Financial Accounting I 3 3/0/0

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.

ACCT2212 Financial Accounting II 3 3/0/0

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's equity for sole proprietorships, partnerships and corporations, statement of cash flows and financial statement analysis.

ACCT2213 Managerial Accounting 3 3/0/0

This course focuses on strategic decision-making related to cost analysis and cost management.
Prerequisites: ACCT 2211 or ACCT2212

Course#	Course Title	Cr	Lec/Lab/OJT

ACCT2218 QuickBooks 2 2/0/0

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.
Prerequisites: ACCT2211 and BUS1100

ACCT2219 Microsoft Dynamics - GP 2 2/0/0

This course covers the use of computerized accounting applications and software used in a mid-sized business environment.
Prerequisites: ACCT2211 ***and*** BUS1100 or CPTR1104

ACCT2255 Income Tax-Individual 3 3/0/0

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.
Prerequisites: MATH0055 or placement by assessment

ACCT2256 Income Tax-Business 3 3/0/0

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.
Prerequisites: ACCT2255

ACCT2616 Intermediate Accounting I 3 3/0/0

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.
Prerequisites: ACCT2212

ACCT2618 Intermediate Accounting II 3 3/0/0

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.
Prerequisites: ACCT2616

ACCT2630 Fund/Nonprofit Accounting 3 3/0/0

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.
Prerequisites: ACCT2212

ACCT2640 Accounting Internship 0 N/A

This course provides students with actual work experience in accounting careers. Student is responsible for obtaining accounting internship.
Prerequisites: This internship is for currently enrolled Accounting majors only and must be approved by instructor

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ADMM1104 Medical Language Applications I 3 2/1/0

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.

ADMM1110 Medical Documentation I 4 2/2/0

This course covers the fundamentals of healthcare documentation and medical record production, legal and ethical issues and responsibilities, software usage and utilization of medical references in healthcare-related communication and research.

ADMM1122 Medical Office Procedures 4 3/1/0

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.
Corequisites: ADMM1104 or HLTH1116

ADMM1150 Medical Billing/Insurance 4 3/1/0

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.
Corequisites: ADMM1104 or HLTH1116

ADMM1152 Outpatient Coding 4 3/1/0

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.
Prerequisites: ADMM1104 or HLTH1110

ADMM1160 Medical Documentation II 3 1/2/0

This course is an extension of Medical Documentation I, expanding skills in the English language, technology, medical knowledge, proofreading, editing, research and extracting information from healthcare records.
Prerequisites: ADMM1104 and ADMM1110

ADMM1200 Medical Office Technology Tools 2 1/1/0

Students will utilize technology that is commonly used in a medical office setting and develop 10-key skills necessary for billing and insurance practices.

ADMM2104 Medical Language Applications II 3 2/1/0

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

Course#	Course Title	Cr	Lec/Lab/OJT

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.
Prerequisites: ADMM1104

ADMM2122 Medical Office Management 3 3/0/0

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.
Prerequisites: ADMM1122

ADMM2130 Medical Office Career Insight 2 2/0/0

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.
Prerequisites: ADMM116 or ADMM1122

ADMM2150 Medicare Coding and Billing Applications 3 2/1/0

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.
Corequisites: ADMM1152

ADMM2152 Advanced Coding 4 2/2/0

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.
Prerequisites: ADMM1152

ADMM2154 Hospital Billing 2 1/1/0

This course covers billing processes related to the hospital claim form. Billing for inpatient, ambulatory surgery and hospital-based outpatient services is covered.
Prerequisites: ADMM1150 or ADMM1152

ADMM2255 Evaluation and Management Coding Practices 1 0.5/0.5/0

This course will teach the students to appropriately assign evaluation and management codes based on the physician documentation using 1995, 1997 and 2021 E/M Coding guidelines. Students will abstract information from healthcare documentation and assign appropriate levels of service.
Prerequisites: ADMM1152

ADMM2258 Certified Professional Coder Examination Review 1 1/0/0

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)

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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.
Prerequisites: ADMM1152

ADMM2260 Certified Professional Coder - Hospital Examination Review 1 1/0/0

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.
Prerequisites: ADMM2252

ADMM2320 Medical Office Capstone 1 0/1/0

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.
Prerequisites: ADMM1122

ADMM2500 Human Disease Applications for Administrative Health Professionals 3 2/1/0

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.
Pre/Corequisites: HLTH1110

ADMS1100 Keyboarding I 3 1/2/0

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.
Prerequisites: Placement by assessment or instructor approval

ADMS1104 Skillbuilding 1 0/1/0

This course emphasizes improved computer keyboarding speed and accuracy while strengthening basic keyboarding techniques.
Prerequisites: ADMS0090 or placement by assessment

ADMS1110 Word Processing 3 2/1/0

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.

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ADMS1112 Desktop Publishing 3 1/2/0

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.

ADMS1116 Business Communications I 3 2/1/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

ADMS1120 Administrative Office Procedures 3 2/1/0

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.

ADMS1128 Records Management 3 2/1/0

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.

ADMS1130 Office Software Applications 3 2/1/0

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.

ADMS1142 Career Internship I 2 0/0/2

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.

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ADMS1190 Keyboarding II 1 0/1/0

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.
Pre/Corequisites: ADMS1100

ADMS1240 Presentations and Desktop Publishing 3 2/1/0

This course introduces the concepts, terminology, techniques and applications of presentations and desktop publishing and incorporates advanced document processing skills. Students will create a slide show to present information. Students will enter text, add and delete slides, format and design themes, and present information in a variety of methods. Students develop skills in critical thinking, decision making and creativity while planning, designing and evaluating business presentations and documents.
Pre/Corequisites: BUS1100

ADMS1400 Office Administration 4 3/1/0

This course covers skills and procedures required for the administrative office professional within todayâ€™s office. Students will develop skills in customer service, telephone techniques, appointment scheduling, meeting and event planning, virtual office procedures, records management, project management and safety in the workplace. Topics will focus on professional practices occurring in the modern work environment using technology applications.

ADMS2200 Office Administration Capstone 2 1/1/0

This course is a capstone experience 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 office operations. This course will improve the office professionalâ€™s confidence in software applications by cultivating analytical, critical-thinking and problem-solving skills required in the office setting.
Pre/Corequisites: BUS1100

ADMS2205 Advanced Word Processing 1 0/1/0

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.
Prerequisites: ADMS1110

ADMS2212 Advanced Office Software Applications 3 2/1/0

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.
Prerequisites: ADMS1130 with a grade of C or higher or instructor approval

Course#	Course Title	Cr	Lec/Lab/OJT

ADMS2216 Business Communications II 3 2/1/0

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.
Prerequisites: ADMS1116 with a grade of C or higher or instructor approval

ADMS2240 Administrative Office Professional Internship II 3 0/0/0

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.
Prerequisites: Instructor approval

ADMT2236 Administrative Project Management 3 2/1/0

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.
Prerequisites: CPTR1104

AMST1101 Automotive Equipment Fundamentals 2 1/1/0

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.

AMST1102 Alignment and Suspension I 3 1/2/0

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.
Corequisites: AMST1101

AMST1105 Brakes I 3 1/2/0

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.
Corequisites: AMST1101

Course#	Course Title	Cr	Lec/Lab/OJT

AMST1110 Batteries, Starting and Charging Systems 2 1/1/0

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.
Corequisites: AMST1101 and AMST1111

AMST1111 Automotive Electronics 3 2/1/0

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.
Corequisites: AMST1101

AMST1114 Basic Maintenance Service 1 1/0/0

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.

AMST1122 Engines I 3 2/1/0

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.
Corequisites: AMST1101

AMST1126 Engines II 3 1/2/0

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.
Corequisites: AMST1101 and AMST1122

AMST1132 Drivetrains I 3 2/1/0

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.
Corequisites: AMST1101

AMST1136 Drivetrains II 3 1/2/0

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.

AMST2201 Alignment and Suspension II 3 2/1/0

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.
Corequisites: AMST1101 and AMST1102 and AMST1111

Course#	Course Title	Cr	Lec/Lab/OJT

AMST2206 Body Electrical and Mechanical I 3 1/2/0

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.
Corequisites: AMST1101 and AMST1111

AMST2210 Body Electrical and Mechanical II 2 1/1/0

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.
Prerequisites: AMST1101 and AMST1111 and AMST2206

AMST2211 Exhaust Analysis and Fuel Systems 3 2/1/0

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.
Corequisites: AMST1101 and AMST1111

AMST2214 Electronic Powertrain Control I 3 2/1/0

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.
Corequisites: AMST1101 and AMST1111

AMST2218 Electronic Powertrain Control II 3 1/2/0

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.
Prerequisites: AMST1101 and AMST1111 and AMST2214

AMST2220 Ignition Systems 3 2/1/0

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.
Corequisites: AMST1101 and AMST1111

AMST2225 Brakes II 3 2/1/0

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.
Corequisites: AMST1101 and AMST1105 and AMST1111

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AMST2233 Automatic Transmissions I 3 2/1/0

This course involves the principles of the multiple systems combined into an automatic 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.
Prerequisites: AMST1101 and AMST1111

AMST2237 Automatic Transmissions II 3 1/2/0

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.
Corequisites: AMST1101 and AMST1111 and AMST2233

AMST2240 Heating, Ventilation and Air Conditioning 3 1/2/0

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.
Corequisites: AMST1101 and AMST1111

ANTH1100 Introduction to Anthropology 3 3/0/0

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.

ARCH1122 Computer Aided Drafting for Architecture 4 2/2/0

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.
Prerequisites: CADD1000 and ENGT1134

ARCH1126 Residential Project I 3 1/2/0

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.
Prerequisites: CADD1000 and ENGT1134

ARCH2218 Architectural Internship 3 0/0/3

This course provides the student with an occupational experience in the architectural technology field. Each internship is an individualized experience.
Prerequisites: ARCH1126

ARCH2220 Specification Writing for Construction 3 1/2/0

This course covers the implementation and inclusion of specifications, construction materials and finishes into a set of construction documents.

Course#	Course Title	Cr	Lec/Lab/OJT

ARCH2222 Architectural Drafting Service Learning 4 2/2/0

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.
Prerequisites: ARCH1122 and ARCH1126

ARCH2226 Residential Project II 4 1/3/0

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.
Prerequisites: ARCH1122 and ARCH1126

ARCH2228 Architectural Internship 4 0/0/4

This course provides the student with an occupational experience in the architectural design and construction field. Each internship is an individualized experience.
Prerequisites: CADD1000 and ENGT1134

ARCH2232 Civil and Structural Integration 3 2/1/0

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.
Prerequisites: ARCH1122 and ARCH1126

ARCH2236 Architectural Presentation 2 0/2/0

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.
Prerequisites: ARCH1122 and ARCH1126

ARCH2242 Mechanical and Electrical Integration 3 1/2/0

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.
Prerequisites: ARCH1122 and ARCH1126

ARCH2244 Commercial Projects 4 1/3/0

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.
Prerequisites: ARCH2226 and ARCH2240

ARCH2248 CADD Alternatives 3 1/2/0

This course will familiarize the student with computer drafting and modeling software for the graphic design of residential construction.

Course#	Course Title	Cr	Lec/Lab/OJT

ARCH2250 Project Administration 2 1/1/0

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.
Prerequisites: ARCH2226

ART1101 Drawing I 3 2/1/0

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.

ART1107 Foundations of Art, 2-D 3 2/1/0

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.

ART1109 Foundations of Art, 3-D 3 2/1/0

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.

ART1110 Introduction to Art 3 2/1/0

Meets MnTC Goal Area 6. 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.

ART1114 Painting I 3 2/1/0

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.

ART1117 Printmaking I 3 2/1/0

Meets MnTC Goal Areas 2 and 6. Students will create original works in a variety of printmaking techniques with emphasis on relief and serigraphy.

ART1124 American Art 3 3/0/0

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.

ART1127 Art History: Prehistory to the Middle Ages 3 3/0/0

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.

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ART1128 Art History: Renaissance to Contemporary 3 3/0/0

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. The course focuses on the fascinating changes that occurred in the Italian Renaissance and continues through to modern artists and influences of the 20th century.

ART1129 Art History: African, Asian, Islamic and Mesoamerican 3 3/0/0

Meets MnTC Goal Areas 2, 6 and 8. 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.

ART1140 Handbuilt Ceramics 3 2/1/0

Meets MnTC Goal Area 6. 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.

ART1141 Ceramics I 3 2/1/0

Meets MnTC Goal Area 6. 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.

ART1142 Introduction to Ceramics 3 2/1/0

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.

ART2000 Intermediate Art Studio 3 2/1/0

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.

ART2001 Art and the Environment 3 3/0/0

Meets MnTC Goal Areas 6 and 10. Students will explore works of land or earth art and architecture from historical, contemporary, and environmental contexts. Topics vary but will include the origins and development of land and earth art and architecture in the Americas and their interrelationships with and effects on ecosystems, landscapes, and cultures.

ART2111 Drawing II 3 2/1/0

Meets MnTC Goal Areas 2 and 6. 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.
Prerequisites: ART1111

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ART2112 Painting II 3 2/1/0

Meets MnTC Goal Areas 2 and 6. 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.
Prerequisites: ART1112

ART2114 Photographic Art I 3 3/0/0

Meets MnTC Goal Areas 2 and 6 This course introduces students to photographic equipment, 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.

ART2115 Introduction to Digital Photography 3 3/0/0

Meets MnTC Goal Areas 2 and 6. 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.

ART2116 Mixed Media I 3 2/1/0

Meets MnTC Goal areas 2 and 6. Multimedia art exploration is a problem-solving art studio experience involving the use of a variety of traditional and non-traditional art materials.

ART2201 Foundation Digital Imaging 3 2/1/0

Meets MnTC Goal Areas 2 and 6. 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.

ART2241 Advanced Ceramics 3 2/1/0

Meets MnTC Goal Area 6. This course will build on the skills developed in Introduction to Ceramics, ART1142, with emphasis on wheel throwing, glazing and firing techniques.
Prerequisites: ART1142

ART2999 AFA-Visual Art Capstone Exhibition 1 0/1/0

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.
Corequisites: ART2260; must be taken in the semester of graduation of the AFA-Visual Art

Course#	Course Title	Cr	Lec/Lab/OJT

ASL1100 Introduction to Deaf Studies 3 3/0/0

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 related to Deaf and hard-of-hearing people and the cultural impacts of being Deaf.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

ASL1101 American Sign Language and Deaf Culture I 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

ASL1102 American Sign Language and Deaf Culture II 3 3/0/0

This is the second in a series of courses designed to develop the skills and knowledge needed to communicate in American Sign Language (ASL). ASL1102 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.
Prerequisites: ASL1101 with a grade of B or higher

ASL1103 American Sign Language and Deaf Culture III 3 3/0/0

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.
Prerequisites: ASL1102 with a grade of B or higher

ASL1104 American Sign Language and Deaf Culture IV 3 3/0/0

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.
Prerequisites: ASL1103 with a grade of B or higher

ASL1105 Advanced Fingerspelling and Numbers 3 3/0/0

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.
Prerequisites: ASL 1101 with a grade of B or higher

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ASL1106 Classifiers and Non-Manual Markers 3 3/0/0

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.
Prerequisites: ASL1102 with a grade of B or higher

ASL1107 American Deaf History 3 3/0/0

This course will introduce the history of the American Deaf community. Students will examine Deaf people in the United States who share a distinct language and culture. This course will focus on specific issues that Deaf people faced as a minority group, including education, employment, discrimination and eugenics.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

ASL1108 Conversational Sign Language 3 3/0/0

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.
Prerequisites: ASL1103 with a grade of B or higher

ASL1115 American Sign Language and Deaf Culture V 3 3/0/0

This course focuses on advanced vocabulary, communicative functions and language techniques for effective expression of meaning and context of American Sign Language (ASL).
Prerequisites: ASL1114 with a grade of B or higher

ASL2000 Advanced Fingerspelling, Numbers and Classifiers 2 2/0/0

This course focuses on enhancement of receptive and expressive fingerspelling and number skills. It also includes the fundamentals of American Sign Language (ASL) classifiers.
Prerequisites: ASL1115 with a grade of B or higher

ASL2100 Linguistics of American Sign Language 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment
Corequisites: ASL1101

BIOL1104 Biology of Human Concerns 3 2/1/2

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.

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BIOL1107 Environmental Science Issues 3 3/0/0

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.

BIOL1108 Environmental Science Issues Lab 1 0/1/0

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 BIOL1107.

BIOL1115 Introduction to Biotechnology 3 3/0/0

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.

BIOL1122 General Biology I 4 3/1/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

BIOL1123 General Biology II 4 3/1/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

BIOL1152 Food Science 3 3/0/0

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.

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BIOL1170 Essentials of Human Anatomy and Physiology 4 4/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

BIOL2010 General Ecology 4 3/1/0

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 global 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.
Prerequisites: BIOL1122 and BIOL1123 ***and*** MATH1020 or placement by assessment

BIOL2202 Principles of Nutrition 3 3/0/0

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.
Prerequisites: BIOL1122 or BIOL2260 or CHEM1100 or CHEM1111 or instructor approval

BIOL2220 General Microbiology 4 3/1/0

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.
Prerequisites: BIOL1122

BIOL2240 Genetics 4 3/1/0

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.
Prerequisites: BIOL1122

BIOL2260 Human Anatomy and Physiology I 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

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BIOL2261 Human Anatomy and Physiology I Lab 1 0/1/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment
Corequisites: BIOL2260

BIOL2262 Human Anatomy and Physiology II 3 3/0/0

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.
Prerequisites: BIOL2260 ***and*** ENGL0097 or ELL1080 or placement by assessment

BIOL2263 Human Anatomy and Physiology II Lab 1 0/1/0

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.
Prerequisites: BIOL2260 and BIOL2261 ***and*** ENGL0097 or ELL1080 or placement by assessment
Corequisites: BIOL2262

BIOL2267 Medical Microbiology 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

BIOL2268 Medical Microbiology Lab 1 0/1/0

Meets MnTC Goal Area 3. This laboratory course includes the fundamental techniques of cultivation, staining, biochemical analysis and identification of known and unknown bacterial isolates, and antimicrobial susceptibility testing. Morphological examination and pathogenesis of fungi, protozoans and helminths are also addressed.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment
Corequisites: BIOL2267

BIOL2970 Internship Experience 0 N/A

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

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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.
Prerequisites: Instructor approval

BLDG1000 Introduction to the Construction Trades 3 0/3/0

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.

BLDG1110 Principles of Residential and Commercial Construction 3 1/2/2

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.
Prerequisites: Instructor approval

BLDG1114 Blueprint Reading I 2 2/0/0

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.

BLDG1120 Construction Estimating I 2 1/1/2

This course covers the mathematical procedures used in material estimating and completing quantity takeoffs for building projects.

BUS1100 Business Computers 3 2/1/2

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.

BUS1120 Spreadsheet and Database Concepts 3 3/0/0

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.

BUS1141 Introduction to Business 3 3/0/0

This course offers a broad overview of the business world for both business and non-business majors. It is an introduction to the business environment, business ownership, management, marketing, technology and information, human resources, accounting and legal studies. This course introduces students to the concepts and knowledge of key business functions within the context of the global economy. This class will provide a foundation for other business courses and help students discover their career path while learning the fundamentals of business.

BUS1143 Office Procedures 3 3/0/0

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.

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BUS1146 Personal Finance 3 3/0/0

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.

BUS1170 Introduction to Agribusiness, Food Systems and Global Agriculture 3 3/0/0

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.

BUS1300 Financial Statement Analysis 3 3/0/0

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.

BUS2150 Legal Environment of Business 3 3/0/0

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.

BUS2204 Principles of Management 3 3/0/0

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.

BUS2206 Principles of Marketing 3 3/0/0

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.

BUS2209 Business Research 3 3/0/0

Business research refers to the process of conducting research to assist with the launch or operation of a company and involves gathering data and using it to make business predictions, plans, or decisions. This Business Research course will involve analyzing market trends, collecting consumer information, and comparing competitors within the industry.
Prerequisites: BUS2206

Course#	Course Title	Cr	Lec/Lab/OJT

BUS2220 Global Business 3 3/0/0

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.

BUS2310 Hospitality Management 3 3/0/0

This course provides students with a comprehensive overview of hospitality management including lodging, food and beverage, entertainment, recreation, travel and service companies, as well as an overview of the tourism industry. Students will be exposed to local industries through guest speakers and/or field trips.
Pre/Corequisites: BUS2204

BUS2500 Business Internship 3 0/0/3

This internship 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 learning plan is created for each student in conjunction with the business 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.
Prerequisites: Instructor approval

BUS2700 Technology Research and Presentation 3 2/1/2

Business technology is a continuously evolving catalyst for opportunity and innovation. It is necessary to learn and share new technologies and innovations in order to maintain a competitive advantage; therefore this course requires students to do comprehensive research on a preapproved business technology or innovation topic. Students will develop and present a written report and visual presentation designed to educate their peers.
Prerequisites: BUS1100 and ENGL1101

CADD1000 AutoCAD Basics 3 2/1/2

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.

CADD1100 Solid Modeling with AutoCAD 2 1/1/2

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.
Prerequisites: CADD1000

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CADD1102 Fundamentals of CADD 4 2/2/2

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.

CADD1114 Introduction to Solids and Parametric Modeling 4 2/2/2

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.
Prerequisites: CADD1102 and MCDD1102

CADD1200 Introduction to SolidWorks 2 1/1/2

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.

CADD1210 Introduction to Autodesk Inventor 2 1/1/2

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.

CADD1400 Introduction to SolidWorks 3 2/1/2

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.
Prerequisites: CADD1000

CADD1410 Introduction to Autodesk Inventor 3 2/1/2

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.
Prerequisites: CADD1000

CADD2120 Visual Communication for Engineers 3 3/0/0

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.
Prerequisites: ENGR2210

CADD2214 Advanced Solids and Parametric Modeling 4 2/2/2

This course covers advanced part modeling, assembly modeling, sheet metal and presentation files in the latest versions of the Inventor and Solidworks drawing software.
Prerequisites: CADD1114

Course#	Course Title	Cr	Lec/Lab/OJT

CHEM1100 Fundamental Concepts of Chemistry 3 2/1/2

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.
Prerequisites: MATH0095 or placement by assessment

CHEM1101 Principles of General Chemistry 4 3/1/2

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 solids, liquids and gases. The laboratory component introduces techniques, methods and instrumentation.
Prerequisites: Math 0095 or placement by assessment

CHEM1111 General Chemistry I 5 4/1/0

Meets MnTC Goal Areas 2 and 3. This course is the first of a two-course series (CHEM1111 and CHEM1112) intended for science majors. Students will learn the general chemistry principles: problem solving, nomenclature, atomic structure, electronic structure, stoichiometry, titration, reaction types, molecular structure, thermochemistry, electronic structure, and properties and laws of gases. The course includes a lab. Students completing the two-semester sequence will be competent in all areas listed in General Chemistry I & II of the Minnesota State Chemistry Transfer Pathway.
Prerequisites: MATH1020

CHEM1112 General Chemistry II 5 4/1/2

Meets MnTC Goal Areas 2 and 3. This course is the second of a two-course series (CHEM1111 and CHEM1112) intended for science majors. Students will learn the general chemistry principles: intermolecular forces, properties of solids and liquids, solution chemistry, kinetics, chemical equilibrium, acid-base equilibrium, solubility equilibrium, thermodynamics, electrochemistry, nuclear chemistry, and possibly coordination chemistry and an introduction to environmental chemistry. The course includes a lab. Students completing the two-semester sequence will be competent in all the areas listed in General Chemistry I & II of the Minnesota State Chemistry Transfer Pathway.
Prerequisites: CHEM1111 and MATH1114

CHEM1115 Introduction to Organic and Biochemistry 4 3/1/2

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.
Prerequisites: CHEM1100

CHEM2224 Organic Chemistry I 5 4/1/2

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, nomenclature, reactions and reaction mechanisms of carbon compounds. The following topics will be included: structure and properties of organic compounds, nomenclature, structural representation and interpretation, isomerism, acid base properties of organic molecules, reaction representation and interpretation, reactions of organic molecules (mechanistic representations, proton transfer, nucleophilic substitution, elimination, electrophilic addition and free radical), reaction considerations and basic principles of spectroscopy. The

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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.
Prerequisites: CHEM1112

CHEM2225 Organic Chemistry II 5 4/1/2

Meets MnTC Goal Areas 2 and 3. This course is the second 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: functional groups, nomenclature and preparation, structure and reactivity, reaction representation and interpretation, reaction considerations and spectroscopy. 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.
Prerequisites: CHEM2224

CHEM2970 Internship Experience 0 N/A

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.
Prerequisites: Instructor approval

CIVL1100 Survey I: Fundamentals of Surveying 3 2/1/2

The student will learn the principles of vertical distance measurement, as well as construction 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.

CIVL1119 Survey II: Land Surveys 3 1/2/2

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.
Prerequisites: CIVL1100

CIVL1138 CADD II: Plan Layout 3 2/1/2

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.
Prerequisites: CADD1000 or CADD1102

CIVL2209 Construction Inspection 3 2/1/2

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.
Prerequisites: CIVL1100 or CIVL1102

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CIVL2210 Road Design 3 2/1/2

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.
Prerequisites: CIVL1119 and CIVL1138

CIVL2230 Civil Engineering Technology Internship 3 0/0/3

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.
Prerequisites: CIVL1138

CIVL2234 Utility Design 3 2/1/2

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.
Prerequisites: CIVL1119 and CIVL1138

CIVL2238 CADD III: Project Design 3 2/1/2

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.
Prerequisites: CIVL1138

CIVL2240 Introduction to Geographic Information Systems 3 3/0/0

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.

CIVL2246 Introduction to Hydrology 3 3/0/0

This course will include introduction to hydraulic principles, hydrology, pipe and open channel flow, watershed analysis and storm water regulations.
Prerequisites: CIVL2234 and CIVL2240

COMM1100 Communication and Effective Human Relations 3 3/0/0

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 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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

COMM1120 Introduction to Public Speaking 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

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COMM1130 Small Group Communication 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

COMM1140 Interpersonal Communication 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

COMM2200 Intercultural Communication 3 3/0/0

Meets MnTC Goal Areas 1 and 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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

COMM2260 Computer-Mediated Communication 3 3/0/0

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.
Prerequisites: ENGL1101

CONM1101 Construction Documents and Codes 3 2/1/2

This course provides an introduction to understanding construction drawings, specifications, processes and building codes.

CONM1102 Site/Building Layout 2 1/1/2

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.

CONM1104 Construction Management Principles 2 2/0/0

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.

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CONM1108 Principles of Estimating 4 2/2/2

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.
Prerequisites: CONM1101

CONM1124 Building Systems 3 3/0/0

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.

CONM2204 Materials Testing 3 1/2/2

This course covers inspection techniques, methods of material measurement, documentation, material sampling and testing methods for soils and concrete.

CONM2206 Building Codes 2 2/0/0

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.

CONM2208 Construction Bidding 2 1/1/2

This course will explore standard construction contract documents and project estimating procedures and their use in building a competitive bid.
Prerequisites: CONM1108

CONM2210 Construction Scheduling 3 2/1/2

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.
Corequisites: CONM2217

CONM2212 Site Management 3 3/0/0

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.

CONM2213 Safety Management 2 2/0/0

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.

CONM2217 Computer Estimating and Bidding 3 2/1/2

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.
Prerequisites: CONM1108 and CON1124
Corequisites: CONM2210

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CONM2222 Construction Management Internship 2 0/0/2

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.

COSM1000 Principles and Practices 3 3/0/0

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.

COSM1002 Client Consultations 1 1/0/0

This course is for cosmetology and esthiology students. Students will develop the skills necessary for a successful client consultation to achieve the client's desired outcome.

COSM1003 License Preparation 1 1/0/0

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.

COSM1004 Cosmetic Chemistry and Makeup Applications 1 1/0/0

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.

COSM1005 Hair Reformation 1 1/0/0

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.

COSM1006 Spa Therapies 1 1/0/0

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.

COSM1007 Gel Nail Applications 1 1/0/0

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.

COSM1010 Eyelash Extensions 1 1/0/0

This course is for cosmetology students, esthiology 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

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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.

COSM1100 Salon Safety 1 1/0/0

This course is for students pursuing a cosmetology, esthiology, 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.

COSM1101 Introduction to Cosmetology 3 1/2/2

In this course students will learn basic techniques pertaining to hair, skin and nails and meet a portion of the hours required by the State Board of Cosmetology. The course content will include a brief overview of all cosmetology topics required for licensure by the State Board of Cosmetology. Upon completion, students could earn up to 75 hours (based on attendance) toward their cosmetology license. Students who elect to take the course a second time could earn up to 75 additional hours toward their cosmetology license.

COSM1109 Skin Analysis 1 1/0/0

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.

COSM1117 Shampooing and Rinsing 1 1/0/0

This course covers shampooing and draping. Students will learn the importance of selecting the correct shampoo for various hair types.

COSM1119 Haircutting 1 1/0/0

This course will help students develop a strong foundation in haircutting. Students will learn basic sectioning and cutting techniques, along with correct use of scissors, razors and clippers to achieve a strong foundation in haircutting.

COSM1129 Hairstyling 1 1/0/0

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.

COSM1130 Properties of the Hair and Scalp 1 1/0/0

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.

COSM1153 North Dakota Laws and Rules 1 1/0/0

This course prepares students for the North Dakota Laws and Rules portion of their state license examination.
Prerequisites: Graduate from a Minnesota cosmetology program or hold a valid Minnesota license

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COSM1157 Histology of the Skin 1 1/0/0

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.

COSM1159 Facials and Hair Removal 1 1/0/0

Students will learn the uses of various skin care products and how to apply them to different skin types. Students will learn many types of hair removal techniques and basic massage movements to assist in providing skin care services.

COSM1161 Nail Structure and Growth 1 1/0/0

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.

COSM1163 Hair Color 1 1/0/0

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.

COSM1171 Principles of Hair Design 1 1/0/0

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.

COSM1179 Minnesota Cosmetology Laws and Rules 1 1/0/0

This course prepares students for the Laws and Rules portion of their state license examination.

COSM1200 Salon Practicum 0 N/A

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.

COSM2000 Artistry in Hairstyling 1 1/0/0

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 are pleasing to clients.

COSM2100 Chemical Texture Services 1 1/0/0

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.

COSM2200 Manicuring/Pedicuring 1 1/0/0

In this course students will learn basic manicuring and pedicuring procedures. Students will understand the importance of providing services in a safe environment.

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COSM2300 Cosmetology Anatomy 1 1/0/0

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.

COSM2400 Advanced Nail Techniques 1 1/0/0

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.

COSM2500 Salon Business 1 1/0/0

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.

COSM2800 Alexandria Body Sugaring 1 1/0/0

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.

CPTR1001 Introduction To Programming and Scripting 3 1/2/0

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.

CPTR1103 Introduction to Assistive Technology 3 3/0/0

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.

CPTR1104 Introduction to Computer Technology 3 2/1/0

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.

CPTR1106 Microcomputer Databases 3 2/1/0

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.

CPTR1108 CISCO 1 3 1/2/0

This is an introduction to networks course that covers the architecture, structure, functions and components of the Internet and other computer networks. Students achieve a basic understanding of how networks operate while building simple local area networks (LANs). Students perform basic configurations for routers and switches and implement Internet Protocol.

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CPTR1110 Visual Basic Program I 3 2/1/2

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.

CPTR1115 COBOL Programming 4 3/1/0

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.

CPTR1118 CISCO 2 3 2/1/0

This course covers the architecture, components and operations of routers and switches in small networks and introduces wireless local area networks (WLANs) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both Internet Protocol Version 4 (IPv4) and Internet Protocol Version 6 (IPv6) networks.
Prerequisites: CPTR1108

CPTR1121 Information Technology Service Desk 3 2/1/0

This course is an introduction to the IT service desk and user support. Students will be introduced 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 application of the skills to difficult customer situations.

CPTR1122 System Maintenance 3 2/1/0

The focus of this course is troubleshooting computers and computing-related equipment. The course begins with an overview of basic electronics and progresses to building and troubleshooting computing equipment and IoT (Internet of Things) devices. It also deals with optimizing the performance of systems.

CPTR1125 IT Essentials I 3 1/2/0

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.

CPTR1129 RPG Programming 4 2/2/0

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.

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CPTR1130 IT Essentials II 3 1/2/0

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 troubleshooting of information technology hardware, software, security and networked devices.
Prerequisites: CPTR1125

CPTR1135 Beginning Networking 3 2/1/0

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.

CPTR1148 Microcomputer Operating System 3 1/2/0

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.

CPTR1170 Web Engineering I 3 2/1/0

This course is an introduction to programming and maintaining professional Web pages for the business environment. Topics will include page design, authoring tools, accessibility 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.

CPTR1178 Robotics 3 2/1/0

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.

CPTR2000 Mobile Application Development 3 2/1/0

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.
Pre/Corequisites: CPTR2242

CPTR2001 Scripting for Automation 3 2/1/0

Students will build on the skills learned in Introduction to Programming and Scripting. Students will learn scripting styles, procedures and methods for system, database, web and network environments.
Prerequisites: CPTR1001

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CPTR2100 Supporting End-User Applications 3 2/1/0

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's computer including the operating system and the software applications installed on the computer.

CPTR2200 CISCO 3 3 2/1/0

This course describes the architecture, components, operations and security to scale for large, complex networks, including wide area network (WAN) technologies. The course emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation.
Prerequisites: CPTR1118

CPTR2208 CISCO 4 3 2/1/0

This course covers WAN configuration and remote access configuration. Students will practice design and configuration of systems to solve WAN and remote access problems.
Prerequisites: CPTR2200

CPTR2210 Database Report Generation 3 2/1/0

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 requirements behind database reporting.
Prerequisites: CPTR1106

CPTR2224 Linux I 3 2/1/0

This course deals with Linux installation, configuration and system administration. This course lays the groundwork for continued study of Linux.

CPTR2230 Structured Query Language 3 2/1/0

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.
Prerequisites: CPTR1106

CPTR2234 Linux II 3 2/1/0

The primary focus of this course is Linux networking, security, ethics and privacy.
Prerequisites: CPTR2224

CPTR2236 Network Security 3 2/1/0

This course deals with the understanding of basic network security. Students learn how to manage systems to guard against various security threats.
Pre/Corequisites: CPTR2272

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CPTR2238 Database Integration 3 2/1/0

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.
Pre/Corequisites: CPTR2230 and CPTR2242

CPTR2240 Database Administration 3 2/1/0

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.
Prerequisites: CPTR1001
Corequisites: CPTR2224 and CPTR2230

CPTR2242 Java Programming 3 2/1/0

In this course the student utilizes the Java programming language to create both Internet applets and applications.

CPTR2245 Enterprise Network Technologies 3 2/1/0

This course will introduce information technologies used in an enterprise network environment. This course follows computing development from single hardware/single operating system operation to virtualization to container technology to implementation on the cloud. Students work with technology from each phase of computing development. The class discusses current trends within enterprise networking.
Prerequisites: CPTR1108

CPTR2250 IT Supervised Occupational Experience 3 0/0/3

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, volunteering, 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.
Prerequisites: Instructor approval

CPTR2252 Microcomputer Systems Project 3 1/2/0

Students utilize learning in previous courses to design and implement solutions to a business need. Activities include learning about current business practices and preparation for employment.
Prerequisites: CPTR2272

CPTR2255 Software Security and Testing 3 2/1/0

This course is an introduction to software security and testing. Students will learn the importance of this aspect of software development by exploring historical and current needs in the area of stable and secure software development. The use of development operations in these areas will be included.
Pre/Corequisites: CPTR2001 and CPTR2230

Course#	Course Title	Cr	Lec/Lab/OJT

CPTR2260 Advanced Structured Query Language 3 2/1/0

Students will build upon the skills learned in the Structured Query Language (SQL) class. 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 definitions and use of the CASE statement.
Prerequisites: CPTR2230

CPTR2272 Network Operating Systems 3 2/1/0

This course teaches the functions of a network operating system so the student can effectively 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.
Prerequisites: CPTR1122

CPTR2275 Data Analytics 3 2/1/0

This course is an Introduction to data analytics. Students will explore historical roots and reasons for business intelligence. They will be introduced to big data, data mining and data warehousing and how they help businesses. Database scalability and optimization also will be covered.
Pre/Corequisites: CPTR2230 and CPTR2240 and MATH1213

CPTR2294 Internship 3 0/0/3

This course provides students with the opportunity to apply knowledge and skill sets learned in concurrent coursework. Students will perform activities in an employer-supervised industry setting that is consistent with program outcomes. Students also will utilize interpersonal communication skills within the context of applying knowledge and skill sets.
Prerequisites: Instructor approval

CPTR2296 Topics in Computers 3 1/2/0

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.

CRJU1101 Introduction to Criminal Justice 3 3/0/0

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.

CRJU1102 Policing and Practices 3 3/0/0

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.

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CRJU1104 Juvenile Justice and Delinquency 3 3/0/0

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 Police Officer Standards and Training objectives.

CRJU1106 Introduction to Corrections/Probation 3 3/0/0

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.

CRJU1108 Physical Control Tactics for Corrections 3 2/1/0

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.

CRJU1109 Law Enforcement Behavioral Science 3 3/0/0

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.

CRJU1112 Juvenile Justice 2 2/0/0

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.

CRJU1117 Special Topics in Criminal Justice 3 3/0/0

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.

CRJU2201 Criminal Law 3 3/0/0

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.

CRJU2202 Criminal Procedures 3 3/0/0

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.

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CRJU2206 Police Report Writing 3 3/0/0

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.
Prerequisites: ENGL1101

CRJU2209 Criminal Investigations 3 3/0/0

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.

CRJU2210 Introduction to Criminalistics 3 2/1/0

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.

CRJU2235 Criminal Justice Internship 3 0/0/3

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.

CSCI1110 Informatics 3 3/0/0

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.

CSCI1121 Computer Science I 4 4/0/0

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.

CSCI1122 Computer Science II 4 4/0/0

This course focuses on advanced programming concepts including an introduction to data structures, analysis of algorithms, recursion, searching, sorting and memory management.
Prerequisites: CSCI1121

CSEC1110 Fundamentals of IT Security 3 2/1/0

Security is an important component of information technology. This course introduces industry-recommended security guidelines and controls. Students will practice implementing several examples of controls and encrypting data in transit and for storage.

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CSEC2204 Managing Directory Services 3 2/1/0

Directory services provide a central repository for information available on a network. In this course, students will learn that the purpose of a directory is to provide information about people and other resources, which supports the increasingly important function of identity management. Students will learn to automate directory service management functions.
Prerequisites: CPTR1001 or CPTR1122 or CPTR1148

CSEC2210 Security Breaches and Countermeasures 3 2/1/0

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.
Prerequisites: CPTR2236

CSEC2214 Topics in Network Security 3 2/1/0

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.
Prerequisites: CPTR2236

CSEC2228 Network Defense 3 2/1/0

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.
Prerequisites: CPTR2236

CVRI1100 Cardiovascular Technology Survey 2 1/1/0

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 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.

Corequisites:
- Clear Minnesota Department of Health background check
- Clear national background check
- North Dakota Board of Nursing Unlicensed Assistive Personnel registration

CVRI1105 Introduction to Cardiovascular Technology 2 2/0/0

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.

Prerequisites:
- BIOL2260 and BIOL2261 and BIOL2267 and BIOL2268 and COMM1130 and CRVI1100 and MATH1114
- Acceptance into the Cardiovacular Technology Program
- Clear Minnesota Department of Health background check

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- Clear national background check
- Current American Heart Association Health Care Provider CPR
- North Dakota Board of Nursing Unlicensed Assistive Personnel Registration

Corequisites: BIOL2262 and BIOL2263

CVRI1110 Cardiovascular Anatomy and Physiology 3 3/0/0

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.
Corequisites: BIOL2262 and BIOL2263 and CVRI1100

CVRI1120 Principles of Patient Care 4 2/2/0

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.
Corequisites: CVRI1100 and CVRI1110

CVRI1130 Cardiovascular Technology I 3 2/1/0

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.
Prerequisites: BIOL2260 and BIOL2261 and BIOL2267 and BIOL2268 and CVRI1100
Corequisites: CVRI1105 and CVRI1110 and CVRI1120

CVRI1136 Cardiovascular Technology Clinical 2 0/0/2

In this course, students will participate as part of the cardiovascular, neurovascular, peripheral vascular and electrophysiology teams during diagnostic and interventional procedures.
Corequisites: CVRI1105 and CVRI1110 and CVRI1120 and CVRI1130

CVRI2130 Cardiovascular Technology II 5 3/2/0

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.
Prerequisites: CVRI1120 and CVRI1130

CVRI2141 Pharmacology for Cardiovascular Technology 2 2/0/0

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.
Prerequisites: CVRI1130
Corequisites: CVRI2130

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CVRI2146 Cardiovascular Electrocardiography 1 1/0/0

Students will learn electrocardiography (ECG) electrode placement, ECG measurements and rhythm interpretation for patients experiencing cardiac conditions treated in the cardiac catheterization laboratory.
Prerequisites: CVRI1120

CVRI2250 Radiation Safety 2 1/1/2

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.
Prerequisites: CVRI1120 and CVRI1130
Corequisites: CVRI2130 and CVRI2141 and CVRI2145

CVRI2262 Cardiovascular Technology Practicum I 5 0/0/5

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 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.

Prerequisites:
- 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 immunizations and health form

CVRI2263 Cardiovascular Technology Practicum II 5 0/0/5

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.

Prerequisites:
- 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 immunizations and health form

Corequisites: CVRI2262

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CVRI2264 Cardiovascular Technology Practicum III 5 0/0/5

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.

Prerequisites:
- 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 immunizations and health form

Corequisites: CVRI2262 and CVRI2263

DCNH1116 CNH (Case New Holland) Supervised Occupational Experience (SOE) I 3 0/0/3

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.

DCNH1118 CNH (Case New Holland) Supervised Occupational Experience (SOE) II 7 0/0/7

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.

DCNH2210 Mobile Hydraulics 4 1/3/0

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.
Prerequisites: DSET1100 and DSET1112

DCNH2218 CNH (Case New Holland) Supervised Occupational Experience (SOE) III 3 0/0/3

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.

DCNH2238 Transmissions and Drive Systems 4 1/3/0

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.
Prerequisites: DSET1110

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DCNH2242 Advanced Engines and Fuel Systems 6 2/4/0

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.
Prerequisites: DSET1132 and DSET1136

DENT1100 Biomaterials 3 2/1/0

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.

DENT1102 Dental Anatomy 2 2/0/0

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.

DENT1103 Introduction for Dental Health Care Providers 2 1/1/0

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.

DENT1104 Dental Health Care Providers II 1 1/0/0

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.

DENT1106 Dental Radiology Lecture 3 3/0/0

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.

DENT1122 Dental Ethics and Jurisprudence 1 1/0/0

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.

DMKT2200 Introduction to Digital Marketing 3 3/0/0

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.
Pre/Corequisites: BUS2206

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DMKT2210 Social Media Marketing 3 3/0/0

This course is a study of how organizations use social media to support their marketing strategies through social listening, social analytics and social engagement. Students will learn techniques to create 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.
Pre/Corequisites: BUS2206 and DMKT2200

DMKT2300 Content Marketing 3 3/0/0

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.
Prerequisites: DMKT2200

DMKT2310 Digital Marketing UX Design 3 3/0/0

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.
Prerequisites: DMKT2200

DMKT2320 Search Engine Marketing 3 3/0/0

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.
Prerequisites: DMKT2200

DMKT2330 Email and MMS Marketing 3 3/0/0

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.
Pre/Corequisites: BUS2206 and DMKT2200

DMKT2400 Digital Marketing Analytics 3 3/0/0

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.
Prerequisites: DMKT2200

DMKT2410 Digital Marketing Capstone 3 3/0/0

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

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required to demonstrate the ability to understand and solve complex digital marketing problems. Students will assess an organization's marketing problem or opportunity and create a digital marketing strategy designed to improve the overall performance of the organization.
Prerequisites: DMKT2310 and DMKT2320
Pre/Corequisites: DMKT2300

DNAS1103 Clinical Assisting I 6 3/3/0

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.

DNAS1105 Clinical Assisting II 5 1/4/0

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.
Prerequisites: DNAS1103

DNAS1106 Biodental Science 3 3/0/0

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.
Prerequisites: DENT1103

DNAS1106 Biodental Science 3 3/0/0

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.

DNAS1114 Dental Practice Management 2 2/0/0

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.

DNAS1119 Advanced Functions 5 2/3/2

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

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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.
Prerequisites: DNAS1103

DNAS1144 Dental Assisting Clinical Affiliations 6 0/0/6

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.
Prerequisites: Acceptance into the dental assisting program.

DNAS1210 Dental Assisting Radiology Lab I 1 0/1/0

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.
Corequisites: DENT1106

DNAS1212 Dental Assisting Radiology Lab II 1 0/1/0

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.
Prerequisites: DNAS1210

DNAS1215 Dental Specialties 1 1/0/0

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.

DNHY1104 Dental Anatomy Lab 1 0/1/0

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.

DNHY1106 Head and Neck Anatomy 2 2/0/0

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.
Prerequisites: Acceptance into the dental hygiene program

DNHY1108 Oral Histology and Embryology 2 2/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

DNHY1109 Dental Hygiene Radiology Lab 2 0/2/0

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.
Pre/Corequisites: DENT1106

DNHY1110 Principles I 2 2/0/0

This course introduces the student to dental hygiene with emphasis on theory of preventative dentistry, OSHA standards, disinfectant/sterilants, formation of plaque and calculus, patient assessment and an introduction to the caries process and periodontal assessment.

DNHY1112 Dental Hygiene Practice I 3 0/3/0

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.

DNHY1113 Radiology Lab I 1 0/1/0

Dental Hygiene students will be introduced to techniques and processes for exposing digital full-mouth series and extra-oral digital radiographs on skulls and manikins. 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.
Corequisites: DENT1106

DNHY1114 Radiology Lab II 1 0/1/0

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.
Prerequisites: DENT1106 and DNHY1113

DNHY1118 Oral Pathology 2 2/0/0

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.
Prerequisites: DNHY1106 and DNHY1108 and DNHY1110 and DNHY1119 and DNHY1130

DNHY1119 Dental Hygiene Principles II 4 4/0/0

In this course, students will continue their study of the dental hygiene process of care introduced in DNHY 1110, focusing on dental hygiene diagnosis, care planning (including patients with special needs) and non-surgical periodontal therapy.
Pre/Corequisites: DNHY1110

DNHY1123 Dental Hygiene Practice II 5 0/5/0

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.
Prerequisites: DNHY1112

Course#	Course Title	Cr	Lec/Lab/OJT

DNHY1124 Pain Control Lab 2 0/2/0

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.
Prerequisites: DNHY1106 and DNHY1136

DNHY1130 Dental Hygiene Principles III 1 1/0/0

In this course, students will study the Minnesota Board of Dentistry delegated procedures for dental hygienists. Topics include intra-oral/extra-oral photography, enamel sealants, periodontal dressing placement, bleaching agents, suture removal and gingival displacement.
Prerequisites: DNHY1119
Corequisites: DNHY1132

DNHY1132 Dental Hygiene Practice III 1 0/1/0

This lab course is a continuation of DNHY1123 with emphasis on Minnesota Board of Dentistry allowable procedures for dental hygienists.
Prerequisites: DNHY1123

DNHY1136 Dental Pharmacology 2 2/0/0

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.

DNHY2210 Dental Hygiene Principle IV 2 2/0/0

This course is a continuation of DNHY 1130 and introduces the student to dietary counseling, with special emphasis on advanced dental hygiene techniques including periodontal assessment and debridement, power instrumentation and implant maintenance.
Prerequisites: DNHY1130

DNHY2213 Dental Hygiene Practice IV 6 0/6/0

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.

Prerequisites:

- DNHY1132
- The student must be accepted into the Dental Hygiene program and comply with the Dental Program Student/Faculty Handbook.

Corequisites: DNHY2240

DNHY2219 Periodontology 2 2/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

DNHY2220 Dental Hygiene Principle V 1 1/0/0

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.
Prerequisites: DNHY2210

DNHY2223 Dental Hygiene Practice V 6 0/6/0

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.

Prerequisites:
- DNHY1132 and DNHY2213
- The student must be accepted into the Dental Hygiene program and comply with the Dental Program Student/Faculty Handbook.

Corequisites: DNHY2246

DNHY2226 Community Dental Hygiene 4 3/1/0

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.

DNHY2232 Dental Hygiene Review 1 1/0/0

This course is designed to assist students in reviewing content in preparation to write the National Board Dental Hygiene Examination.
Prerequisites: DNHY2213

DNHY2240 Clinical Affiliation I 1 0/0/1

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.
Corequisites: DNHY2213

DNHY2246 Clinical Affiliation II 1 0/0/1

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.
Corequisites: DNHY2223

DSET1100 Diesel Equipment Fundamentals 2 1/1/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

DSET1101 Software Systems in Transportation 2 1/1/0

This course introduces students to proprietary software used in the diesel technology industry. Students will become familiar with various software from industry-leading manufacturers.

DSET1106 Fuel Systems 2 1/1/0

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.

DSET1110 Power Train I 3 1/2/0

This course covers the operating principles, diagnosis and repair of drive train components. Components included will be clutches, mechanical transmissions, drive lines and drive axles.
Prerequisites: DSET1100 or TRNS1102

DSET1112 Hydraulics I 4 2/2/0

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.

DSET1114 Vehicle Brakes 3 1/2/0

This course covers hydraulic and air brake system operation, service and diagnosis. Anti-lock braking systems will also be covered.

DSET1116 Fall Supervised Occupational Experience 3 0/0/3

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.

DSET1124 Diesel Shop Management 1 1/0/0

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.

DSET1130 Trans Elec/Start/Charge 4 2/2/0

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.

DSET1132 Introduction to Engine Theory 2 2/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

DSET1136 Introduction to Diesel Engines 2 0/2/0

This course introduces students to the four-cycle diesel engine. Coursework includes disassembly, inspection, measurement, assembly and adjustment of diesel engines and their components.
Pre/Corequisites: DSET1132

DSET1140 Supervised Occupational Experience I 7 0/0/7

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.

DSET1144 Electrical Troubleshooting 3 1/2/0

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.
Prerequisites: DSET1130

DSET2200 Introduction to Electronic Controls 3 1/2/0

Students in this course are exposed to various original equipment manufacturer (OEM) software used to diagnose computer control systems in the transportation, construction and agricultural industries. Coursework includes the operation, diagnosis and repair of sensors and actuators used on engines, transmissions, brakes and hydraulic systems.
Prerequisites: DSET2204

DSET2204 Advanced Electrical and Emission Systems 3 1/2/0

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.
Prerequisites: DSET1100 and DSET1130

DSET2206 Electronic Controls 3 1/2/0

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.
Prerequisites: DSET1130 ***and*** DSET1100 or TRNS1102

DSET2210 Mobile Hydraulics 4 1/3/0

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.
Prerequisites: DSET1100 and DSET1112

DSET2214 Suspension and Alignment 3 1/2/0

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.
Prerequisites: DSET1100

Course#	Course Title	Cr	Lec/Lab/OJT

DSET2216 Advanced Air Brake Systems 2 1.5/0.5/0

This course will focus on the pneumatic and electrical air brake systems used on straight truck and tractor-trailer applications. Students enrolled in this course should have a firm understanding of foundation brakes and wheel ends. Areas of emphasis will include theory of operation, pneumatics, valve operation, component identification, schematics and anti-lock systems.

DSET2218 Advanced Fuels 3 1/2/0

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.
Prerequisites: DSET1106

DSET2238 Transmissions & Drive Systems 4 1/3/0

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.
Prerequisites: DSET1110

DSET2240 Supervised Occupational Experience II 3 0/0/3

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.

DSET2242 Advanced Engines and Fuel Systems 6 2/4/0

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.
Prerequisites: DSET1132 and DSET1136

DSET2250 Bobcat Electrical and Hydraulic Systems 2 1.5/0.5/0

This course is designed to give students an understanding of the electrical and hydraulic systems used on Doosan/Bobcat equipment. Areas of study include electrical and hydraulic structure on compact track and skid loaders.

DSET2251 Advanced Hydraulics 2 1.5/0.5/0

This course covers the hydraulic components used in 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.

DTRK1140 Supervised Occupational Experience 1 7 0/0/7

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.

Course#	Course Title	Cr	Lec/Lab/OJT

DTRK2214 Suspension and Alignment 3 1/2/0

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.
Prerequisites: DSET1100 or TRNS1102

DTRK2238 Transmissions and Drive Systems 4 1/3/0

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.
Prerequisites: DSET1110

DTRK2240 Supervised Occupational Experience II 4 0/0/4

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.

DTRK2242 Advanced Engines and Fuel Systems 6 2/4/0

This course is designed to give students 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 truck diesel engines manufactured by Caterpillar, Cummins, Detroit, Navistar, Mack and Volvo.
Prerequisites: DSET1132 and DSET1136

EAP1001 Reading and Editing Strategies I 3 3/0/0

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.
Prerequisites: Course placement is determined by assessment
Corequisites: Enrollment in ENGL0097: Express English and paired MnTC course is required for students registering for this course

EAP1101 Reading and Editing Strategies II 3 3/0/0

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.
Prerequisites: EAP1001 and ENGL0097
Corequisites: ENGL1101

ECE1105 Introduction to Early Childhood Education 3 2/1/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

ECE1107 Child Growth and Development 3 3/0/0

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.

ECE1109 Health, Wellness and Nutrition 3 3/0/0

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.

ECE1111 Diverse Children and Family Relations 3 3/0/0

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.
Prerequisites: ECE1105 and ECE1107 and ECE1109

ECE1113 Behavior Guidance 3 2/1/0

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 successful professionals 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.
Prerequisites: ECE1105 and ECE1107 and ECE1109

ECE1115 Creative Activities and Environment 3 3/0/0

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.
Prerequisites: ECE1105 and ECE1107 and ECE1109

ECE2101 Observation and Assessment 3 2/1/0

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.
Prerequisites: ECE1111 and ECE1113 and ECE1115

Course#	Course Title	Cr	Lec/Lab/OJT

ECE2103 Introduction to Special Education 3 3/0/0

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.
Prerequisites: ECE1111 and ECE1113 and ECE1115

ECE2105 Internship 3 0/0/3

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.
Prerequisites: ECE2101 and ECE2103

ECE2107 Introduction to Language and Literacy 3 3/0/0

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.
Prerequisites: ECE2101 and ECE2103

ECON1150 Essentials of Economics 3 3/0/0

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.

ECON2210 Macroeconomics 3 3/0/0

Meets MnTC Goal Areas 2 and 5. This course provides the student with a means to study economic principles as they relate to determinants of national income, national income accounting, business cycles, unemployment, inflation and aggregate expenditures. The course also examines macroeconomic policy and provides information to gain further understanding in the areas of fiscal policy, financial markets, money and banking, monetary policy, international policy and the varying viewpoints that have evolved throughout history, including the Keynesian and Monetarist schools of thought.

Course#	Course Title	Cr	Lec/Lab/OJT

ECON2222 Microeconomics 3 3/0/0

Meets MnTC Goal Areas 2, 5 and 9. 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.

ED2205 Introduction to Education and Technology 2 2/0/0

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.

ED2206 Early Field Experience 1 0/0/1

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.
Corequisites: ED2205

ED2233 Strategies for Working With Individuals With Autism Spectrum Disorder 4 4/0/0

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 2233.

ED2294 Educational Psychology 3 3/0/0

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.

EDUC1113 Career and Life Planning 2 2/0/0

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.

ELEC1100 Electrical Safety 1 1/0/0

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.

ELEC1102 Introduction to Electric Circuit Theory 4 2/2/0

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.

ELEC1104 Introduction to National Electrical Code 2 2/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

ELEC1107 Introduction to Residential Wiring 3 1/2/0

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.

ELEC1108 Electrical Circuit Theory 4 2/2/0

This course provides the student with an understanding of complex AC circuits, single-phase and three-phase circuit connections, transformer principles and calculations.
Prerequisites: ELEC1102

ELEC1110 Electric Motors and Generators 4 2/2/0

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.
Prerequisites: ELEC1102

ELEC1112 Residential Wiring 3 1/2/0

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.
Prerequisites: ELEC1107

ELEC1114 National Electrical Code 2 2/0/0

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.
Prerequisites: ELEC1104

ELEC1115 Solar Photovoltaic Installation 1 1/0/0

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.

ELEC1116 Conduit/Tool Applications 2 0/2/0

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.
Prerequisites: ELEC1100

ELEC1118 Electrical Services 3 2/1/0

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.
Prerequisites: ELEC1104

Course#	Course Title	Cr	Lec/Lab/OJT

ELEC1122 Introduction to Electrical Materials 1 0/1/0

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.

ELEC1124 Introduction to Electrical Blueprint Reading 2 1/1/0

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.

ELEC1130 Electrical Blueprints 3 2/1/0

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.
Prerequisites: ELEC1124

ELEC1140 Power-Limited Exam Prep 2 2/0/0

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.

ELEC1170 Predictive Maintenance Technology 2 1/1/0

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.

ELEC1175 Best Maintenance Practices I 2 1/1/0

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.

ELEC2202 Heating/Cooling Controls 3 1/2/0

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.
Prerequisites: ELEC1107

ELEC2205 Introduction to Commercial Wiring 3 1/2/0

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.
Prerequisites: ELEC1104 and ELEC1122

Course#	Course Title	Cr	Lec/Lab/OJT

ELEC2206 Introduction to Motor Control Applications 3 2/1/0

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.
Prerequisites: ELEC1108 and ELEC1110

ELEC2208 Programmable Logic Controllers 2 1/1/0

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.

ELEC2211 Electronic Motor Control 3 2/1/0

This course provides application of basic theory and operation to electronic motor control including semi-conductors, rectifiers, regulators and amplifiers.
Prerequisites: ELEC1108

ELEC2212 Commercial Wiring 3 1/2/0

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.
Prerequisites: ELEC2205

ELEC2214 Industrial Wiring 2 1/1/0

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.
Prerequisites: ELEC1114

ELEC2216 Motor Control Application 3 1/2/0

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.
Prerequisites: ELEC2206

ELEC2217 Building Automation I 2 0/2/0

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.

ELEC2218 Building Automation II 2 0/2/0

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.
Prerequisites: ELEC2217

Course#	Course Title	Cr	Lec/Lab/OJT

ELEC2220 Electrician Internship 3 0/0/3

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.

ELEC2222 Advanced Programmable Logic Controllers 3 1/2/0

This course presents practical applications of Advanced Programmable Logic Controllers (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.
Prerequisites: ELEC2208

ELEC2225 Transformers 2 0/2/0

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.
Prerequisites: ELEC1108

ELEC2228 Electrical Troubleshooting 1 0/1/0

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.
Prerequisites: 36 credits of ELEC courses

ELEC2230 Electrical Building Information Modeling 2 1/1/0

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.
Prerequisites: ELEC1130

ELEC2236 Industrial Motor Maintenance 2 1/1/0

This course includes principles of industrial motor maintenance and experience with maintenance and troubleshooting situations common to industrial settings.
Prerequisites: ELEC1110

ELEC2238 Low Voltage Wiring 2 1/1/0

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.

ELEC2240 Code Update 1 1/0/0

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.
Prerequisites: 30 credit of ELEC courses or instructor approval

Course#	Course Title	Cr	Lec/Lab/OJT

ELEC2244 National Electrical Code Changes 1 1/0/0

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.
Prerequisites: ELEC1104

ELEC2246 Advanced Electronics 2 1/1/0

This course provides theory, operation and practical applications of various field-effect transistors, thyristors, photosensitive devices, sensing devices and wave chopping circuitry.
Prerequisites: ELEC2211

ELEC2248 Code Applications 2 1/1/0

This course applies the principles of the National Electrical Code to job-specific situations.
Prerequisites: ELEC1104 and ELEC1114

ELEC2250 Special Topics/Projects 2 0/2/0

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.

ELL0050 English Language Learner Foundations 4 3/1/0

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.

ELL0055 Academic Vocabulary 2 2/0/0

This vocabulary course is for non-native learners of English. Students will learn the vocabulary most frequently used in college-level coursework, as well as the strategies necessary to acquire this vocabulary quickly and efficiently.

ELL0060 English Language Learner Reading 3 3/0/0

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.

ELL0065 American English Expressions 2 2/0/0

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.

ELL0075 American English Pronunciation 2 2/0/0

This pronunciation course is for non-native speakers of English. It is designed to help students improve their ability to be clearly understood in spoken communication in the United States. Through focusing on general speaking habits, intonation,

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syllabification, stress, rhythm, contraction and vowel and consonant sounds, students will learn how to more accurately adjust their pronunciation to general North American English pronunciation.

ELL1020 English Language Learner Listening Comprehension and Speaking 3 3/0/0

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.

ELL1060 English Language Learner Writing I 4 3/1/0

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.

ELL1080 English Language Learner Writing II 3 3/0/0

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.
Prerequisites: ELL1060 or placement by assessment

ELWT1100 Introduction to Lineworker Theory 4 2/2/0

This introductory course provides the student with knowledge of electrical theory including atomic structure, Ohms law, and series and parallel circuits. This course also includes some hands-on dealing with the terminating of underground wire and rigging of ropes used in the electrical lineworker industry.

ELWT1102 Electrical Line Worker Theory I 4 2/2/0

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.

ELWT1104 Electrical Structure Installation 5 2/3/0

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.

ELWT1106 Climbing Electrical Structure 4 0/4/0

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.

ELWT1108 Construction of Overhead Structures 3 0/3/0

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.

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ELWT1110 Line Worker Theory II 4 2/2/0

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.
Prerequisites: ELWT1102

ELWT1112 Transformers 2 0/2/0

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.
Prerequisites: ELWT1108
Corequisites: ELWT1110

ELWT1114 Line Construction Reports 2 2/0/0

This course provides the student with an understanding of the design of line work construction drawings and equipment installation orders.
Prerequisites: ELWT1108

ELWT1116 Pole Top and Bucket Rescue 1 0/1/0

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.
Prerequisites: ELWT1106

ELWT1118 Field Construction I 3 0/3/0

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.
Prerequisites: ELWT1106
Corequisites: ELWT1112 and ELWT1114

ELWT1120 Field Construction II 3 0/3/0

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.
Pre/Corequisites: ELWT1118

ELWT1122 Field Construction III 3 0/3/0

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.
Pre/Corequisites: ELWT1120

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ELWT1130 Electrical Line Worker Internship 2 0/0/2

This course will concentrate on the student receiving apprentice line work skills under the supervision of an appropriate industry representative.
Prerequisites: Instructor approval

ELWT1132 Electrical Line Worker Internship 3 0/0/3

In this course, the student will learn apprentice line work skills under the supervision of an appropriate industry representative.
Prerequisites: Instructor approval

ELWT1134 Hydraulics for Lineworkers 2 0/2/0

This course provides knowledge and safe use of hydraulic and pneumatic tools used in the electrical lineworker industry.

ENG1101 Ethics and the Engineering Profession 3 3/0/0

This course covers ethical theories, professional responsibilities and social impacts as they relate to engineering teamwork skills, design and engineering careers.

ENGL0091 English Foundations 3 3/0/0

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.
Prerequisites: Placement by assessment

ENGL0097 English Strategies 3 3/0/0

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.
Prerequisites: ENGL0091 with a grade of C or higher or placement by assessment

ENGL0098 Accelerated English 3 3/0/0

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.
Prerequisites: ENGL0091 with a grade of C or higher or placement by assessment

ENGL1101 College Writing 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

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ENGL1205 Writing About Literature 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL1210 Writing About Current Issues 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL1215 Professional and Technical Writing 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2200 Introduction to Creative Writing 3 3/0/0

Meets MnTC Goal Area 6. 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.
Prerequisites: ENGL1101

ENGL2228 A Well Examined Life: Reading and Writing Memoir 3 3/0/0

Meets MnTC Goal Areas 6 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.
Prerequisites: ENGL1101

ENGL2230 Environmental Literature 3 3/0/0

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

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thinking and reading as they examine perspectives, explore attitudes and analyze current problems/solutions through discussions, writings and other activities.
Prerequisites: ENGL 1101

ENGL2234 Introduction to Literature: Short Stories 3 3/0/0

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 may include selections from various ethnic groups, genders or classes.
Prerequisites: ENGL1101

ENGL2235 Introduction to Literature: Drama 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2236 Introduction to Literature: Novel 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2237 Introduction to Literature: Short Prose 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2238 Literature, Illness and the Human Condition 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2239 Nature Writers 3 3/0/0

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.
Prerequisites: ENGL1101

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ENGL2302 American Ethnic Literature 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2310 Introduction to Mythology 3 3/0/0

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).
Pre/Corequisites: ENGL1101

ENGL2314 Introduction to Shakespeare 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2321 Women in Literature 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2322 Banned Literature 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2323 Horror and Supernatural Fiction 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2324 Travel Literature 3 3/0/0

Meets MnTC Goal Areas 2, 6 and 10. The course is an in-depth study of travel literature. It 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 including blogs and ecotourism.
Prerequisites: ENGL1101

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ENGL2325 Contemporary World Literature 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2372 Children's Literature 3 3/0/0

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.
Prerequisites: ENGL1101

ENGL2374 The Poetics of Rock Lyrics 3 3/0/0

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 'n roll era (1950s through today).
Prerequisites: ENGL1101

ENGR1100 Project Management 1 1/0/0

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.

ENGR2210 Engineering Mechanics I 3 3/0/0

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.
Prerequisites: MATH1134

ENGR2220 Engineering Mechanics II 3 3/0/0

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.
Prerequisites: ENGR2210 and MATH1135

ENGR2230 Mechanics of Materials 3 3/0/0

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.
Prerequisites: ENGR2210

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ENGR2970 Internship Experience 0 N/A

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.
Prerequisites: Instructor approval

ENGT1100 Introduction to Building Information Modeling 3 3/0/0

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.
Prerequisites: CONM1101 or CADD1000 or Instructor approval

ENGT1118 Construction and Manufacturing Math 3 3/0/0

This course covers the application of common geometric and trigonometric calculations related to the construction and manufacturing industries.
Prerequisites: MATH0055

ENGT1126 Engineering Graphics 3 1/2/0

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.

ENGT1134 Office Systems and Equipment 3 1/2/0

This course covers the application of Windows software systems in coordination with AutoCAD software as well as general office equipment set-up and use.

ENST2001 Fundamentals of Utilities 4 4/0/0

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.

ENST2002 Energy Safety Principles 1 1/0/0

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.

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ENST2222 Blueprint Reading for Energy Industry 2 2/0/0

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.

ENST2223 GPS Mapping 2 1/1/0

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.

ENTR1100 Introduction to Entrepreneurship 3 3/0/0

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.

ENTR1400 Opportunity Analysis 3 2/1/0

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.

ENTR2200 Entrepreneurial Field Studies 3 0/0/3

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.

ENTR2220 Business Ethics/Professionalism 3 3/0/0

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.

ENTR2222 Business Plan Development 3 2/1/0

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.

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ESTH1801 Advanced Skin Treatments 1 1/0/0

In this course students learn about advanced skin care techniques including lymph drainage, chemical peels, microdermabrasion and spa body treatments.

ESTH1803 Advanced Exfoliation 1 1/0/0

This course will provide practical knowledge and practice of exfoliation using advanced chemicals and devices including but not limited to peels, microdermabrasion and dermaplaning. Students will learn to recognize and treat skin conditions, conduct advanced consultations, and perform client charting and health screening. Students will understand wound healing as it relates to advanced esthetics and proper pre- and post-surgical at-home care. This class will cover training in advanced products and ingredients.

ESTH1804 Advanced Skin Care Techniques 1 1/0/0

This course will provide knowledge of and training in machines and devices used in an advanced practice esthetics setting, including but not limited to galvanic, high-frequency, ultrasonic, microcurrent, skin needling and LED. Students will receive training in cellulite treatments, advanced extractions, electrical and light theory, and advanced histology of the skin.

FYE1000 Student Success Strategies 1 1/0/0

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.

FYE1101 First Year Experience 3 3/0/0

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.

GAS1000 Gas Utility Field Training I 4 2/2/0

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.

GAS1001 Underground Utility Locating 2 0/2/0

This course provides the skills and procedures necessary to locate and accurately mark underground utilities.

GAS1002 Gas Service Welding I 3 1/2/0

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.

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GAS1003 Gas Utility Equipment Training 5 1/4/0

This is an Introductory course that prepares students for basic field utility work. The course includes safety procedures, equipment operations and maintenance.

GAS1004 Gas Utility Field Training ll 4 2/2/0

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.
Prerequisites: GAS1000

GAS2001 Forklift Certification 1 0/1/0

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.

GAS2002 Gas Utility Field Training lll 5 1/4/0

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.

GAS2003 Gasless Leak Detection 3 1/2/0

Each gas company across the country annually conduct leak detection audits on all lines. Gas Utility Construction and Service students will be trained with state of the art leak detection equipment. This course has opportunities to either work with a gas company or start a detection business with the skill sets taught within this course.

GAS2600 Electric and Gas Appliances 4 2/2/0

This course provides the student with the skills necessary for the installation, maintenance and repair of residential electric/gas appliances.

GDTC1100 Macintosh Production Processes 3 2/1/0

This course covers general processes, workflow methods and utilization of the Macintosh Operating System features in a graphic design or production environment.
Pre/Corequisites: GDTC1105 and GDTC1135

GDTC1105 Adobe Photoshop I 3 2/1/0

This course covers the fundamental functions of Adobe Photoshop to manipulate and combine digital images.

GDTC1113 Design and Layout I 3 2/1/0

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 using Adobe Creative Suite applications.
Corequisites: GDTC1120

GDTC1115 Design and Layout II 3 2/1/0

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

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students to employ more sophisticated methods of research, concept development, design strategy and assessment. Students will create a variety of projects in Adobe software.
Prerequisites: GDTC1113

GDTC1120 Adobe InDesign I 3 2/1/0

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.
Corequisites: GDTC1113

GDTC1124 Interactive Design I 3 2/1/0

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.

GDTC1126 Digital Photo / Video 3 1/2/0

In this course students will develop basic photographic and video production skills and knowledge using a digital camera for a variety of assignments.

GDTC1135 Adobe Illustrator I 3 2/1/0

This course covers fundamental functions of Adobe Illustrator to create basic illustrations and layout.

GDTC1150 Process Printing Theory 3 3/0/0

In this course, students will gain an understanding of the foundational theory of the printing process and be introduced to printing terminology.

GDTC2120 Adobe InDesign II 3 2/1/0

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.
Prerequisites: GDTC1120

GDTC2205 Adobe Photoshop II 3 2/1/0

This course covers digital image creation, manipulation and preparation for output using a variety of advanced functionalities of Adobe PhotoShop.
Prerequisites: GDTC1105

GDTC2212 Design and Layout III 3 2/1/0

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.
Prerequisites: GDTC1113 and GDTC1115

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GDTC2224 Interactive Design II 3 2/1/0

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.
Prerequisites: GDTC1124

GDTC2230 Design Portfolio 3 1/2/0

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.
Prerequisites: GDTC2120 and GDTC2205 and GDTC2212

GDTC2245 Adobe Illustrator II 3 2/1/0

This course covers the use of Adobe Illustrator to create and manipulate electronic illustrations, logos and artwork.
Prerequisites: GDTC1135

GDTC2248 Dimensional Design 3 1/2/0

In this course students will develop an understanding of design scaling techniques and design dielines and will apply their knowledge as they create a variety of two- and three-dimensional design solutions focused on large scale products such as signage, packaging, product merchandising and display graphics.
Prerequisites: GDTC1115

GDTC2250 Design Campaigns 3 2/1/0

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.
Prerequisites: GDTC1124 and GDTC2212 and GDTC2278

GDTC2258 Graphic Design Professional Practices 3 2/1/0

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.
Prerequisites: GDTC2212 and GDTC2278

GDTC2276 Graphic Design Internship 3 0/0/3

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.
Prerequisites: GDTC2203 and GDTC2212

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GDTC2278 Digital Preflight 3 2/1/0

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.
Prerequisites: GDTC2120 and GDTC2205 and GDTC2245

GEOG1110 World Regional Geography 3 3/0/0

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 geography. Students will become aware of how the world and the earth's people interact in local regions and in patterns around the globe.

GEOG1160 Global Physical Geography 3 3/0/0

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.

GLST1100 Introduction to Global Studies 3 3/0/0

Meets MnTC Goal Areas 6 and 8. This course will consider political, economic, cultural, environmental and social issues influencing Africa, the Americas, Asia, Europe and Oceania and the relationship among these regions. Students will explore the institutions that impact these relationships. Students also will consider how world views are altered when one's point of view shifts from national and regional perspectives to a global perspective. The course also examines the impact of world affairs on our understanding of human relationships, lifestyles and our political and personal philosophies.

GLST1510 Global Studies: Natural Science 3 3/0/0

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.
Prerequisites: Instructor approval

HEAT2218 Gas Heating 2 1/1/0

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.

HEAT2220 Oil Heating 2 1/1/0

This course covers the use of oil as a means used to heat various media including air and water.
Prerequisites: CONE1102 and PLBG1128

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HIST1101 Western Civilization: Ancient to 1600s 3 3/0/0

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.

HIST1102 Western Civilization: 1600s to the Present 3 3/0/0

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.

HIST1201 American History to 1877 3 3/0/0

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.

HIST1202 American History since 1877 3 3/0/0

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.

HIST1500 European Experience 3 3/0/0

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.

HIST1600 History of Baseball 3 3/0/0

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.

HIST1700 The History of America's National Parks 3 3/0/0

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.

HIST2220 Minnesota and Northern Plains History 3 3/0/0

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

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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.

HITM1150 Introduction to Health Care Delivery 3 3/0/0

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.

HITM1151 Introduction to Health Information Management 3 3/0/0

This course is an introduction to the delivery of health care in the United States and the health information management profession.

HITM1152 Health Information Systems 3 1/2/0

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.
Prerequisites: HITM1150

HITM1153 Introduction to Electronic Health Records 1 1/0/0

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.
Prerequisites: Instructor approval

HITM1155 Medicolegal Aspects 3 2/1/0

This course focuses on the application of legal principles, policies, regulations and standards for the control and use of health information.

HITM1159 Professional Practice Experience Functions 2 0/0/2

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.
Prerequisites: HITM1155

HITM1165 Information Systems in Health 3 2/1/0

This course provides an introduction to computer use in health care and health information management. It focuses on electronic health records and other computer systems used in health care.
Prerequisites: BUS1100 and HITM1151

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HITM1220 Foundations of Medical Coding 3 2/1/0

This course introduce students to coding and classification systems used in the delivery of health care, along with the basic rules and regulations of coding.
Prerequisites: HITM1151 and HLTH1116

HITM2202 Computer Applications in Healthcare 3 2/1/0

This course develops the health information technology student's knowledge of computer theory and application in the areas of system collection, storage and retrieval.

HITM2204 Fundamentals of Electronic Health Records 3 1/2/0

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.
Prerequisites: CPTR1104 and HITM1150

HITM2211 Basic Pharmacology for Coders 2 2/0/0

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.
Prerequisites: HLTH1116

HITM2214 Introduction to International Classification of Diseases (ICD) Coding 3 2/1/0

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.
Prerequisites: BIOL2260 and BIOL2261 and HLTH1116 and HLTH2208

HITM2216 Introduction to Procedure Coding 3 1/2/0

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.
Prerequisites: BIOL2260 and HLTH1116

HITM2218 Intermediate Procedure Coding 3 1/2/0

This course is a continuation of coding guidelines using the current procedural classification systems. Students will practice assigning procedure codes to clinical information found in a health record while maintaining ethical coding standards.
Prerequisites: BIOL1170 and HITM1220

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HITM2230 Medical Science for Health Information Professionals 3 3/0/0

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.
Prerequisites: BIOL2260 and HLTH1116

HITM2236 Advanced International Classification of Diseases (ICD) Coding 2 1/1/0

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.
Prerequisites: Instructor approval

HITM2238 Advanced Coding CPT 2 1/1/0

This course is a continuation of the in-depth study of the Physician's Current Procedural Terminology (CPT) coding system.
Prerequisites: HITM2216

HITM2250 Supervisory Leadership in Health 3 3/0/0

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.
Prerequisites: HITM1150

HITM2252 Quality Management & Statistics 3 2/1/0

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.
Prerequisites: HITM1152

HITM2253 Quality Management Studies 3 2/1/0

This course covers the components of quality improvement systems in health care such as quality assessments, performance improvement and risk management.
Prerequisites: BUS1100 and HITM1151 and MATH0095

HITM2256 Management Practice in Health Information Management 3 3/0/0

This course provides instruction in management principles from a health information management (HIM) viewpoint, providing a foundation for management practice and decision making. In addition to theories of management, budgeting, staffing and performance management are studied.
Prerequisites: HITM1151 and MATH0095

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HITM2263 Reimbursement Systems 3 2/1/0

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.
Prerequisites: HITM1150

HITM2264 Revenue Cycle Management 3 2/1/0

This course covers the current revenue cycle systems that are used in the health care industry from initial patient encounter to receipt of payment.
Prerequisites: HITM1151 and HITM1220

HITM2270 Professional Practice Experience Management 1 0/0/1

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.
Prerequisites: Instructor approval

HITM2272 Professional Practice Experience Coding 2 0/0/2

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.
Prerequisites: HITM2216 and HITM2282

HITM2275 Health Record Documentation 1 1/0/0

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.
Prerequisites: HITM1160

HITM2280 Registered Health Information Technology Exam Review 1 1/0/0

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.
Prerequisites: Instructor approval

HITM2282 Introduction to Diagnosis Coding 3 1/2/0

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.
Prerequisites: BIOL2260 and HLTH1116

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HITM2283 Intermediate Diagnosis Coding 3 1/2/0

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.
Prerequisites: BIOL1170 and HITM1220

HITM2284 Advanced International Classification of Diseases,Tenth Edition 2 1/1/0

This course is a continuation of the in-depth study of the International Classification of Diseases, 10th Edition.
Prerequisites: HITM2282

HITM2286 Advanced Medical Coding 3 1/2/0

This course provides advanced cases for students to code utilizing various classification systems, with added emphasis on evaluating and auditing code assignment.
Prerequisites: HITM2218 and HITM2283

HITM2290 Health Care Data Management and Analysis 3 1/2/0

This course provides an in-depth look into the management of health care data and how this data is used for analysis, statistics and graphical representation.
Prerequisites: HITM1165 and MATH0095

HITM2310 Health Information Professional Practice 2 0/2/0

This course provides students with professional practice experience within the field of health information under the supervision of a qualified health information professional.
Prerequisites: Instructor approval

HITM2320 Registered Health Information Technician (RHIT) Exam Review 1 1/0/0

This course assists students in the development of a personal plan to prepare for the Registered Health Information Technician (RHIT) certification examination offered by the American Health Information Management Association (AHIMA). This course should be taken during a student's final semester.
Prerequisites: Instructor approval

HLTH1110 Introduction to Anatomy and Physiology 3 3/0/0

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.

HLTH1111 Personal and Community Health 3 3/0/0

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.

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HLTH1115 Introduction to Nursing in Long Term Care 3 1/2/0

This course provides an introduction to the concepts of infection control, safe and clean environment, communication, lifespan issues, basic human care needs and special population care needs. The primary focus is on basic nursing care and the skills needed to safely and competently perform personal holistic care under the supervision of a registered nurse to clients in long-term and acute-care settings. It meets the requirements for the Minnesota Department of Health Nursing Assistant course, and successful completion allows the student to be eligible to take the State Registry Exam for Nursing Assistant.

HLTH1116 Medical Terminology 3 3/0/0

This course covers prefixes, suffixes and root words used to compose medical terms. The student learns to spell, pronounce, define, analyze and formulate terminology related to body structure, disease, diagnosis and treatment. Medical abbreviations are also included.

HLTH1122 CPR-First Aid 1 0.5/0.5/0

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.

HLTH2213 Emergency Responder 3 2.5/0.5/0

The first responder-level course covers regular and more advanced first aid practices and procedures including extrication and transportation, professional-level CPR, oxygen administration, long bone splinting, blood pressure monitoring, emergency childbirth, patient assessment, backboarding and stress management.

HLTH2215 EMT Basic 6 4/2/0

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.

HRES1122 Human Resource Management 3 3/0/0

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.

HRES1126 Talent Acquisition 3 3/0/0

This course covers the basic knowledge of the factors to be considered and the strategies used in the employment process.

HRES1130 Benefits Administration 3 3/0/0

This course covers basic knowledge and information about the various types of benefits that are typically offered by employers for their employees.

HRES1134 Training and Development 3 3/0/0

This course covers basic information about the characteristics of effective training and development programs in building an engaged workforce.

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HRES2204 Policy Administration 3 3/0/0

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.

HRES2212 Strategic Compensation 3 3/0/0

This course provides an understanding of employee compensation both direct and indirect, and how it relates to business strategy.

HRES2224 Employee/Labor Relations 3 3/0/0

This course covers basic information about the history and current role of labor unions, current labor laws and the rights of employees.

HRES2245 Human Resources Internship 0 N/A

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.

HRES2252 Human Resource Systems 2 1/1/0

This capstone course reviews and assesses the principles covered in the Human Resource program through simulated activities related to program outcomes.
Prerequisites: Instructor approval

HRES2254 Human Resource Competency Evaluation 3 2/1/0

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.
Prerequisites: Instructor approval

HUM1101 Introduction to the Humanities 3 3/0/0

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's conception of itself and society. This course serves to expand the student's knowledge of the human condition and human cultures, especially the values expressed in works of human imagination and thought.

HUM1105 Religion in the Humanities 3 3/0/0

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.

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HUM1110 Native American Culture 3 3/0/0

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.

HUM1120 Culture of Italy 3 3/0/0

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.

HUM1132 Women in the Humanities 3 3/0/0

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.

HUM1134 Global Perspectives for Women 3 3/0/0

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's cultural contributions as composers, artists and social reformers. The course will incorporate studies on women of China, Latin America and Europe.

HUM1201 Religion and the American Experience 3 3/0/0

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.

HUM2210 Introduction to Film 3 3/0/0

Meets MnTC Goal Areas 2 and 6. This course offers students an overview of the elements that comprise “telling stories on film.” 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.

HUM2230 World Cinema 3 3/0/0

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.

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HUM2236 Technology in the Humanities 3 3/0/0

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 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.

HUM2281 Culture of the British Isles 3 3/0/0

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.

HUM2293 Field Experience: Europe 3 3/0/0

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.

HUM2295 Field Experience: The East 3 3/0/0

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.

HUM2301 Heroes, Moral and Cultural 3 3/0/0

Meets MnTC Goal Areas 2 and 6. The term “hero” is sometimes used synonymously with the term “role model” 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 “incorruptibility” or is it to spare them the “hard decisions” (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 “superpowers” 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 “generic good?” These are the types of questions we will explore in this class.

HVAC1102 Duct Fitting Construction 3 1/2/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

HVAC1103 Electricity for Heating, Ventilating and Air Conditioning 4 2/2/0

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.

HVAC1104 Heating, Ventilating and Air Conditioning Electrical Controls 3 1/2/0

This course covers the wiring of typical heating and cooling circuits, as well as the installation of heating and air conditioning systems.
Prerequisites: HVAC1103

HVAC1128 Heating, Ventilating, and Air Conditioning Design and Installation 5 2/3/0

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.

HVAC1224 Gas and Oil Heating 3 1/2/0

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.
Prerequisites: HVAC1128

HVAC2202 Air Handling 2 1/1/0

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.

HVAC2214 Hot Water Heating 2 2/0/0

This course covers both hot water baseboard and in-floor heating, with emphasis on calculations involved in hydronic heating.
Prerequisites: HVAC1128

HVAC2221 Heat Pump Theory and Operation 3 2/1/0

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.
Prerequisites: HVAC1103

HVAC2290 Heating, Ventilating, and Air Conditioning Internship 1 0/0/1

This course will add to the student's electrical knowledge regarding circuits and schematics.

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LSR1100 Introduction to Limited Scope Radiography and Patient Care 3 2/1/0

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.
Prerequisites: BIOL2260 and COMM1140 and HLTH1116
Corequisites: LSR1120 and LSR1140 and LSR1160

LSR1120 Image Production I 4 3/1/0

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.
Prerequisites: BIOL2260 and COMM1140 and HLTH1116
Corequisites: LSR1100 and LSR1140 and LSR1160

LSR1140 Radiation Protection 3 3/0/0

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 other members of the interdisciplinary health care team; 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.
Prerequisites: BIOL2260 and COMM1140 and HLTH1116
Corequisites: LSR1100 and LSR1120 and LSR1160

LSR1160 Radiographic Procedures I 5 2/3/0

This course provides the information students need to perform radiographic/imaging procedures related to the thoracic viscera, abdomen, and the upper and lower extremities (including shoulder girdle and podiatric exams). General medical and radiographic terminology, anatomy, routine positions and projections are 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.
Prerequisites: BIOL2260 and COMM1140 and HLTH1116
Corequisites: LSR1100 and LSR1120 and LSR1140

LSR1220 Image Production II 3 2/1/0

This course will build on and expand the student'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.
Prerequisites: LSR1120 and LSR1140 and LSR1160
Corequisites: LSR1230 and LSR1240 and LSR1260 and LSR1280

LSR1230 Imaging Equipment and Quality Control 3 2/1/0

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

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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.
Prerequisites: LSR1120 and LSR1140 and LSR1160
Corequisites: LSR1220 and LSR1240 and LSR1260 and LSR1280

LSR1240 Radiobiology 2 2/0/0

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.
Prerequisites: LSR1120 and LSR1140 and LSR1160
Corequisites: LSR1220 and LSR1230 and LSR1260 and LSR1280

LSR1260 Radiographic Procedures II 4 2/2/0

This course provides the information students need to perform radiographic/imaging procedures related to the pelvic girdle, bony thorax, spine and skull. 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.
Prerequisites: LSR1120 and LSR1140 and LSR1160
Corequisites: LSR1220 and LSR1230 and LSR1240 and LSR1280

LSR1280 Radiographic Clinical I 4 0/0/4

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).
Prerequisites: LSR1120 and LSR1140 and LSR1160
Corequisites: LSR1220 and LSR1230 and LSR1240 and LSR1260

LSR1380 Radiographic Clinical II 7 0/0/7

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.
Prerequisites: LSR1220 and LSR1230 and LSR1240 and LSR1260 and LSR1280

MATH0055 Foundational Mathematics 2 2/0/0

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.

MATH0085 Elementary Algebra I 2 2/0/0

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

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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.
Prerequisites: MATH0055 or placement by assessment

MATH0095 Elementary Algebra II 2 2/0/0

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.
Prerequisites: MATH0085 or placement by assessment

MATH0098 Essentials for College Algebra 2 2/0/0

This course must be taken in conjunction with a linked section of College Algebra (MATH 1114) taught by the same instructor. It is comprised of skills such as graphing, interpreting the graphs of, evaluating and performing operations on different types of functions. It also includes skills for working with complex numbers and with rational and radical functions.
Prerequisites: MATH0095 or placement by assessment
Corequisites: MATH1114

MATH0100 Essentials for World of Math 1 1/0/0

This course is taken in conjunction with a linked section of World of Math (MATH 1100) and must be taken by students placing in the cut score range for the class or entering the course after successful completion of MATH 0095 Elementary Algebra II. It is comprised of algebra skills that will be needed to be successful in World of Math. Topics may include evaluating, simplifying and translating algebraic expressions, solving equations, solving and interpreting percent problems, and calculating and describing rate of change.
Prerequisites: MATH0095 with a grade of C or higher or placement by assessment
Corequisites: MATH1100

MATH1000 Technical Mathematics 3 3/0/0

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 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.
Prerequisites: MATH0095 with a grade of C or higher or placement by assessment

MATH1020 Intermediate Algebra 3 3/0/0

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.
Prerequisites: MATH0095 with a grade of C or higher or placement by assessment

MATH1100 World of Math 3 3/0/0

Meets MnTC Goal Areas 2 and 4. This course introduces mathematical approaches to question asking, understanding, problem solving and presentation. Students will apply mathematical principles to varied disciplines including an exploration of a variety

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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: MATH1020 or placement by assessment

MATH1101 Mathematical Reasoning 4 4/0/0

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: MATH0095 with a grade of C or higher or placement by assessment

MATH1112 Applied Statistics 3 3/0/0

Meets MnTC Goal Areas 2 and 4. This course focuses on the principles and applications of statistics and data analysis with an emphasis on inference. Students will acquire a solid foundation in the basics of statistics and its application in solving practical problems. This course uses examples from various disciplines to illustrate the relevancy of statistics in real-world situations. Topics may include frequency distributions, introduction to probability, normal distribution, central limit theorem, estimation, hypothesis testing, non-parametric techniques, design of experiments, one-way and two-way analysis of variance and simple linear regression.
Prerequisites: MATH1020 or placement by assessment

MATH1114 College Algebra 4 4/0/0

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.
Prerequisites: MATH1020 or placement by assessment

MATH1115 Functions/Trigonometry 4 4/0/0

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.
Prerequisites: MATH1114

MATH1116 College Trigonometry 3 3/0/0

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.
Prerequisites: MATH1114

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MATH1118 Precalculus 5 5/0/0

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.
Prerequisites: MATH1020 with a C or better or placement by assessment

MATH1122 Applied Calculus 3 3/0/0

Meets MnTC Goal Areas 2 and 4. This course is an introduction to optimization, 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.
Prerequisites: MATH1114

MATH1134 Calculus I 5 5/0/0

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.
Prerequisites: MATH1115 or MATH1116 or MATH1118 or placement by assessment

MATH1135 Calculus II 5 5/0/0

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.
Prerequisites: MATH1134

MATH1207 Elementary Statistics 3 3/0/0

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.
Prerequisites: MATH1114 or Math1118 or placement by assessment

MATH1213 Introduction to Statistics 4 4/0/0

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.
Prerequisites: MATH1114 or MATH1118 or placement by assessment

MATH2231 Calculus III 4 4/0/0

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' Theorem, Green's Theorem, and the Divergence Theorem.
Prerequisites: MATH1135

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MATH2257 Linear Algebra 3 3/0/0

Meets MnTC Goal Areas 2 and 4. The course focuses on systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors.
Prerequisites: MATH1134

MATH2259 Differential Equations 4 4/0/0

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.
Prerequisites: MATH2231

MCDD1104 Mechanical Engineering Drawing I 4 1/3/0

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.

MCDD1106 Mechanical Engineering Drawing II 4 0/4/0

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.
Prerequisites: MCDD1104

MCDD1114 Manufacturing Processes 2 2/0/0

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.

MCDD1124 Mechanical Drafting Applications I 3 1/2/0

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 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.
Prerequisites: CADD1400 and CADD1410 and MCDD1106

MCDD1210 Drafting Practices 1 1/0/0

The objective of this course is to develop the student's knowledge of engineering communications, attitudes and finances.

MCDD2112 Geometric Dimensioning and Tolerancing 2 2/0/0

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.
Prerequisites: CADD1000 and MCDD1104
Corequisites: MCDD1106

MCDD2122 Geometric Dimensioning and Tolerancing 3 2/1/0

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.
Prerequisites: CADD1100 and MCDD1106

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MCDD2200 Advanced Modeling with SolidWorks 3 2/1/0

This course covers advanced part modeling, assembly modeling, sheet metal, weldments and presentation files in the latest version of the SolidWorks drawing software package.
Prerequisites: CADD1400 and MCDD1106

MCDD2204 Mechanical Engineering Drawing III 4 1/3/0

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.
Prerequisites: CADD1000 and MCDD1106

MCDD2206 Mechanical Engineering Drawing IV 2 1/1/0

This course introduces the student to multiple specialized computer programs to create working drawings for manufacturing and construction.
Prerequisites: CADD1102

MCDD2210 Advanced Modeling with Inventor 3 2/1/0

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.
Prerequisites: CADD1410 and MCDD1106

MCDD2220 Mechanical Engineering Drawing IV 3 2/1/0

This course introduces the student to multiple specialized computer programs to create working drawings for manufacturing and construction.
Prerequisites: CADD1000

MCDD2230 3D Printing and Prototyping 2 1/1/0

This course covers the basic concepts of rapid prototyping for manufacturing utilizing three-dimensional printers and scanning equipment.
Prerequisites: CADD1400 or CADD1410 or CADD2120

MCDD2246 Tool Design 3 2/1/0

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.
Prerequisites: CADD1400 and CADD1410 and MCDD1106
Corequisites: MCDD2200 and MCDD2210

MCDD2248 CNC Application 3 1/2/0

The objective of this course is to develop the student's knowledge of computer numerical control components and basic programming codes.
Prerequisites: CADD1114 and MCDD1106

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MCDD2252 Mechanical Drafting Applications II 4 1/3/0

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.
Prerequisites: MCDD2200 and MCDD2210

MCDD2254 Computer Numerical Control 2 1/1/0

This course develops the student's knowledge of computer numerical control components, machines, and basic programming codes and functions.
Prerequisites: CADD1000

MCDD2260 Mechanical Drafting Internship 3 0/0/3

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.
Prerequisites: CADD1114 and MCDD1106

MCOM1122 Introduction to Mass Communication 3 3/0/0

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.
Prerequisites: ENGL0097 or ELL1080 or placement by assessment

MCOM1142 Popular Culture and Social Media 3 3/0/0

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.
Corequisites: ENGL1101

MCS2230 Multicultural America 3 3/0/0

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.

MCS2231 Multicultural America: Service Learning 1 1/0/0

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.
Corequisites: MCS2230

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METC1112 Manufacturing Processes 4 2/2/0

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.

METC1152 Safety and Accident Prevent 3 3/0/0

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.

METC2208 Basic Electricity and Electronics 3 2/1/0

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.

MGMT2225 Project Management 3 3/0/0

This course provides an introduction to all aspects of project management including the technical, cultural and interpersonal skills necessary to manage projects from initiation to completion. The course identifies the process groups and knowledge area of the PMBOK Ã‚Â® (Project Management Body of Knowledge) guide. Topics include the strategic role of projects in contemporary organizations, working with stakeholders (customers, vendors, organizational cultures) and the technical management tools available for time management, schedules and costs, risks and project completion.
Prerequisites: BUS2204

MKTG1106 Professional Selling 3 3/0/0

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.

MKTG1110 Customer Service 3 3/0/0

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.

MKTG1114 Customer Experience 3 3/0/0

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.

MKTG1120 Supervisory Leadership 3 3/0/0

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.

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MKTG1200 Introduction to Social Media 3 3/0/0

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.
Corequisites: CPTR1104

MKTG2000 Integrated Marketing Communications 3 3/0/0

This course is an introduction to the field of integrated marketing communications (IMC) and its role in marketing plans. Emphasis is on the converging fields of advertising, public relations, sales promotion, personal selling and digital marketing. This course focuses on the marketing communications strategy that includes consumer insight and research, market segmentation, brand positioning, communication messages and media channels.
Prerequisites: BUS2206

MKTG2204 Advanced Professional Selling 3 2/1/0

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.
Prerequisites: MKTG1106

MKTG2214 E-Marketing 3 3/0/0

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.
Prerequisites: MKTG1100 or MKTG2206

MKTG2218 Retail Management 3 3/0/0

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 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.

MKTG2225 Omni-Channel Retailing 3 3/0/0

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.
Prerequisites: BUS2204 and BUS2206 and MKTG1114 and MKTG2000

MKTG2230 Marketing Research 3 2/1/0

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.

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MKTG2232 Marketing Management 3 2/1/0

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.
Prerequisites: BUS2206

MKTG2234 Computer Marketing Applications 3 2/1/0

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.

MKTG2236 Small Business Management 3 3/0/0

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.
Prerequisites: ACCT1012 or ACCT2211

MKTG2290 Management, Marketing and Sales Internship 3 0/0/3

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.
Prerequisites: Instructor approval

MKTG2292 Supervised Occupational Experience 3 0/0/3

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.
Prerequisites: Instructor approval

MKTG2402 Management and Marketing Seminar 3 3/0/0

This seminar provides an avenue for the exploration and investigation of special study topics in management and marketing. As a career enrichment course, it is designed to integrate the coursework taken and contribute to the student's personal and/or professional career goals. Students will organize and complete a professional portfolio and develop technology and decision-making skills through simulation. Additionally, students will get hands-on learning opportunities in a variety of ways,

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which may include mentorships with business experts, networking events, conferences, workshops or webinars related to business.
Prerequisites: BUS2204 and BUS2206
Corequisites: MKTG2236

MKTG2410 Management and Marketing and Sales Capstone 3 3/0/0

This capstone course is designed to provide students the opportunity to use business acumen gained throughout the Business: Management, Marketing and Sales program to complete a comprehensive business plan. The capstone course is intended to be taken during the student's final semester prior to graduation.
Prerequisites: BUS2204 and MKTG2230

MLT1110 Phlebotomy Skills 2 1/1/0

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.
Prerequisites: Admission to either the Medical Laboratory Technician or the Phlebotomy Technician program

MLT1112 Clinical Phlebotomy 3 0/3/0

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.
Corequisites: MLT1110

MLT1115 Basic Laboratory Techniques 2 1/1/0

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.
Prerequisites: MATH1020 ***and*** admission to either the Medical Laboratory Technician or the Phlebotomy Technician program

MLT1124 Immunohematology 3 3/0/0

This introductory course for Medical Laboratory Technology students covers the clinical areas of blood banking and transfusion medicine. The course discusses compatibility theory, principles of antigens on red blood cells and serum antibodies.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT1125

MLT1125 Immunohematology Lab 1 0/1/0

This course is the laboratory component of MLT1124, Immunohematology, and addresses the analytical principles, techniques and correlation of results related to blood banking and transfusion medicine. The course covers techniques including evaluating criteria for specimen rejection, blood type and cross match procedures, antigen typing, identification of expected and unexpected antibodies, investigation of transfusion reactions and blood component preparation.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT1124

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MLT1130 Laboratory Calculations 2 2/0/0

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.

MLT1216 Hematology 2 2/0/0

This is an introductory course for Medical Laboratory Technology students covering the production, maturation, function and abnormalities of blood cells and coagulation to maintain body homeostasis.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT1217

MLT1217 Hematology Lab 1 0/1/0

This course is the laboratory component for MLT1216, Hematology, and covers the analytical principles, techniques and correlation of results related to hematology and homeostasis. Learners will perform basic laboratory techniques related to hematological and coagulation analysis, including the preparation, analysis, interpretation and reporting of quality control material and patient sample results.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT1216

MLT1227 Biological Fluids 1 1/0/0

This is an introductory course for Medical Laboratory Technology students. The course is an overview of the urinary system in health and disease. The course also includes study of other body fluids including cerebral spinal fluid, amniotic fluid, serous fluid, synovial fluid, sputum, semen and feces.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT1228

MLT1228 Biological Fluids Lab 1 0/1/0

This course is the laboratory component of the Biological Fluids course that includes basic fundamental concepts of analytical principles, techniques and correlation of results in the analysis of various biological fluids. Learners will practice the performance of basic laboratory techniques related to biological fluid analysis including the preparation, analysis, interpretation and reporting of quality control material and patient sample results.
Prerequisites: Admission to the Medical Laboratory Technician program
Corequisites: MLT1227

MLT2131 Diagnostic Chemistry 3 3/0/0

This is an introductory course for Medical Laboratory Technology 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, quality assurance and quality control, analysis and result interpretation.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT2132

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MLT2132 Diagnostic Chemistry Lab 1 0/1/0

This course is the laboratory component of a comprehensive introductory overview of diagnostic chemistry that includes basic fundamental concepts of analytical principles, techniques and correlation of results in the science of body chemistry. Learners will practice performing basic laboratory techniques related to diagnostic chemistry analysis including the preparation, analysis, interpretation and reporting of quality control material and patient sample results.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT2131

MLT2151 Introduction to Molecular Diagnostics 1 1/0/0

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.
Prerequisites: MLT1115

MLT2219 Clinical Chemistry and Special Chemistry 3 0/3/0

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.
Prerequisites: CHEM1105

MLT2223 Clinical Urinalysis and Body Fluids 2 0/2/0

This course is a clinical experience related to the analysis of urine and body fluids 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 tests.
Prerequisites: MLT1115 and MLT1123 and MLT1130 and MLT1215 and MLT1225 and MLT2131 and MLT2132 and MLT2151 and MLT2315

MLT2224 Clinical Immunohematology 3 0/3/0

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.
Prerequisites: MLT1115 and MLT1123 and MLT1130 and MLT1215 and MLT1225 and MLT2131 and MLT2132 and MLT2151 and MLT2315

MLT2227 Clinical Chemistry and Immunology 3 0/3/0

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 immunological testing.
Prerequisites: MLT1115 and MLT1123 and MLT1215 and MLT1225 and MLT2131 and MLT2132 and MLT2151 and MLT2315

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MLT2231 Clinical Microbiology 3 0/3/0

This is a clinical experience course related to the performance of microbiological tests under the supervision of laboratory professional at an affiliate laboratory. This course provides further investigation and study of the methods and techniques related to bacteriology, mycology and parasitology.
Prerequisites: MLT1115 and MLT1123 and MLT1130 and MLT1215 and MLT1225, and MLT2131 and MLT2132 and MLT2151 and MLT2315

MLT2232 Clinical Hematology and Coagulation 3 0/3/0

This is a clinical experience course related to the performance of hematology and coagulation tests under the supervision of laboratory professional at an affiliate laboratory. This course provides further investigation and study of the methods and techniques related to hematology and coagulation tests.
Prerequisites: MLT1115 and MLT1123 and MLT1130 and MLT1215 and MLT1225 and MLT2131 and MLT2132 and MLT2151 and MLT2315

MLT2266 Diagnostic Microbiology 3 3/0/0

This is an introductory course for Medical Laboratory Technology students which covers the analytical principles, techniques and correlation of results related to diagnostic microbiology. This course discusses microorganisms of medical importance in relationship to disease and diagnosis, emphasizing identification of common pathogenic bacteria, fungi, yeast, viruses and parasites in humans. Other topics included in the course are instrumentation, calculations, quality assurance and quality control, analysis and result interpretation.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT2267

MLT2267 Diagnostic Microbiology Lab 1 0/1/0

This course is the laboratory component of Diagnostic Microbiology that includes basic fundamental concepts such as the analytical principles, techniques and correlation of results related to diagnostic microbiology. This course 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.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT2266

MLT2316 Immunology 1 1/0/0

This is an introductory course for Medical Laboratory Technology students which covers fundamentals of the immune system. Other topics included in the course are discussion of laboratory methods that utilize principles of the immune system for diagnosis of disease and discussion of antigens and antibodies and their presence in health and disease.
Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT2317

MLT2317 Immunology Lab 1 0/1/0

This course is the laboratory component of the Immunology course that includes the fundamental techniques related to the science of immunology. Learners will practice performing basic laboratory techniques related to immunological methods including the preparation, analysis, interpretation and reporting of quality control material and patient sample results.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.

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Prerequisites: Admission to the Medical Laboratory Technician program
Pre/Corequisites: MLT2316

MLT2346 Clinical Applications 1 1/0/0

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.
Prerequisites: MLT1115 and MLT1123 and MLT1215 and MLT1225 and MLT2131 and MLT2132 and MLT2315

MLT2350 Professional Issues in Medical Laboratory Technology 2 2/0/0

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.

MUSC1113 Beginning Class Voice 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1114 Beginning Class Piano 2 2/0/0

Meets MnTC Goal Area 6. 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.

MUSC1115 America's Musical Heritage 3 3/0/0

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&B, hip hop, rap, salsa, reggae and urban folk styles.

MUSC1116 World Music 3 3/0/0

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.

MUSC1117 Beginning Class Guitar 2 2/0/0

Meets MnTC Goal Area 6. Group guitar lessons are designed for students with no guitar experience. Includes emphasis on solo and ensemble playing as well as technique and theory.

MUSC1118 Rock and Pop Music 3 3/0/0

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.

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MUSC1120 Introduction to Music Technology 3 3/0/0

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.

MUSC1121 Basic Theory and Musicianship I 3 3/0/0

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.

MUSC1122 Basic Theory and Musicianship II 3 3/0/0

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.
Prerequisites: MUSC1121

MUSC1123 Sight Singing and Ear Training I 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1124 Sight Singing and Ear Training II 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1131 Civic Orchestra 1 1/0/0

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.

MUSC1135 Voice Ensemble 1 1/0/0

Meets MnTC Goal Area 6. 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.
Prerequisites: MUSC1141

MUSC1141 Concert Choir 1 1/0/0

Meets MnTC Goal Area 6. 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.

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MUSC1145 Chamber Chorale 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1150 History of Jazz 3 3/0/0

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.

MUSC1151 Individual Voice Lessons 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1160 Music Business: Creating and Promoting Music 3 3/0/0

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.

MUSC1162 Jazz Ensemble 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1164 Concert Band 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1168 Pep Band 1 1/0/0

Meets MnTC Goal Area 6. 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.

MUSC1181 Private Instrumental Lessons 1 1/0/0

Meets MnTC Goal Area 6. 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.

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MUSC1185 Private Music Composition Lessons 1 1/0/0

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.

MUSC1191 Individual Piano Lessons 1 1/0/0

Meets MnTC Goal Area 6. Students should contact the music department to arrange individual piano lessons. There is an additional fee. May be repeated for credit.

MUSC2214 Class Piano II 2 2/0/0

Meets MnTC Goal Area 6. 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.
Prerequisites: MUSC1114

MUSC2223 Sight Singing and Ear Training III 1 1/0/0

Meets MnTC Goal Area 6. 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. Must be taken concurrently with MUSC 2231.
Prerequisites: MUSC1124

MUSC2224 Sight Singing and Ear Training IV 1 1/0/0

Meets MnTC Goal Area 6. 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 concurrently with MUSC 2232.
Prerequisites: MUSC2223

MUSC2231 Advanced Theory and Musicianship III 3 3/0/0

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.
Prerequisites: MUSC1122 and MUSC1124

MUSC2232 Advanced Theory and Musicianship IV 3 3/0/0

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.
Prerequisites: MUSC2231

MUSC2251 Individual Voice Lessons 2 2/0/0

Meets MnTC Goal Area 6. Individual voice lessons of one hour per week are open to advanced students with instructor'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.

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MUSC2281 Private Instrumental Lessons 2 2/0/0

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'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.

MUSC2285 Advanced Music Composition 2 2/0/0

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. Prerequisites: MUSC1185

MUSC2291 Individual Piano Lessons 2 2/0/0

Meets MnTC Goal Area 6. Individual piano lessons of one hour per week are open to advanced students with instructor's consent and required of piano performance or piano pedagogy majors. Course includes additional studio classes and required performances at the instructor's discretion. Interested students should contact the music department to arrange instruction. There is an additional fee. May be repeated for credit.

NURS1400 Introduction to Professional Nursing 2 2/0/0

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.

Prerequisites:

- 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 program application packet
- Must be eligible to take ENGl1101 and MATH1114
- Up-to-date immunizations and health form

NURS1406 Nursing Fundamentals I 3 2/1/0

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.

Prerequisites:

- 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 program application packet

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- Must be eligible to take ENGl1101 and MATH1114
- Up-to-date immunizations and health form

NURS1415 Nursing Clinical I 2 0/2/0

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.

Prerequisites:
- BIOL2260 and BIOL2261 and BIOL2267 and BIOL2267 and ENGL1101 and NURS1400 and NURS1406 and PSYC2222
- 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 program application packet
- Up-to-date immunizations and health form

NURS1416 Nursing Fundamentals II 4 2/2/0

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.

Prerequisites:
- BIOL2260 and BIOL2261 and BIOL2267 and BIOL2267 and ENGL1101 and NURS1400 and NURS1406 and PSYC2222
- 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 program application packet
- Up-to-date immunizations and health form

NURS1426 Reproductive Health 2 2/0/0

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.

Prerequisites:
- BIOL2260 and BIOL2261 and BIOL2267 and BIOL2267 and ENGL1101 and NURS1400 and NURS1406 and PSYC2222
- 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 program application packet
- Up-to-date immunizations and health form

Course#	Course Title	Cr	Lec/Lab/OJT

NURS2410 Role Transition 2 2/0/0

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.

Prerequisites:
- ENGL0097 or ELL1080 or placement by assessment
- MATH1020 or placement by assessment
- Graduate of an approved Practical Nursing program and admitted to the Nursing: LPN to ADN Bridge program

NURS2426 Reproductive Disorders 2 2/0/0

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.

Prerequisites:
- BIOL2262 and BIOL2263 and CHEM1100 and NURS1415 and NURS1416 and NURS1426
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2437 Nursing Clinical II 4 0/4/0

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.

Prerequisites:
- BIOL2262 and BIOL2263 and CHEM1100 and NURS1415 and NURS1416 and NURS1426
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2438 Restorative Nursing I 4 4/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

Prerequisites:
- BIOL2262 and BIOL2263 and CHEM1100 and NURS1415 and NURS1416 and NURS1426
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2447 Nursing Clinical III 4 0/4/0

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.

Prerequisites:
- BIOL2202 and NURS2426 and NURS2437 and NURS2438 and NURS2455
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2448 Restorative Nursing II 3 3/0/0

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.

Prerequisites:
- BIOL2202 and NURS2426 and NURS2437 and NURS2438 and NURS2455
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2455 Advanced Intravenous Therapy 1 0/1/0

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.

Prerequisites:
- BIOL2262 and BIOL2263 and CHEM1100
- NURS1415 and NURS1416 and NURS1426

Course#	Course Title	Cr	Lec/Lab/OJT

- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2464 Nursing Leadership 1 1/0/0

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.

Prerequisites:
- NURS2437
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

NURS2466 Mental Health Nursing 2 2/0/0

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.

Prerequisites:
- NURS2437
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Experience as nursing assistant as guided by the program application packet OR graduate of an approved Practical Nursing program
- Up-to-date immunizations and health form

OPT1100 Introduction to Fiber Optics 3 2/1/0

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.

PARA1101 Introduction to Paralegal 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PARA1102 Legal Research and Writing I 3 3/0/0

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.
Prerequisites: ENGL097 or ELL1080 or placement by assessment
Corequisites: ENGL1101 and PARA1101

PARA1104 Civil Law for Paralegals 3 3/0/0

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, mediation, arbitration and the role of the paralegal as it relates to civil law.

PARA1105 Criminal Law for Paralegals 3 3/0/0

This course prepares the paralegal for working with criminal defense or criminal prosecution through study of the organization of the criminal justice system, criminal procedure, constitutional issues, applicable appellate procedures and the role of the paralegal as it relates to criminal law.

PARA1106 Wills, Trusts & Probate 3 3/0/0

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.

PARA1112 Legal Ethics for the Paralegal 3 3/0/0

This course covers the attorney-client privilege as it relates to paralegals, unauthorized practice of law, regulation of paralegals, ethical codes and rules.

PARA2202 Legal Research and Writing II 3 3/0/0

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.
Prerequisites: PARA1102

PARA2204 Real Property 3 3/0/0

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.

PARA2210 Advanced Paralegal Practices 3 3/0/0

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.

PARA2212 Family Law 3 3/0/0

This course will explore and research family law concepts of marriage, divorce, annulment, child custody, property settlements and adoption.

Course#	Course Title	Cr	Lec/Lab/OJT

PARA2216 Paralegal Internship 3 0/0/3

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.
Prerequisites: ENGL1101 and PARA1102
Corequisites: PARA2202

PDEV1100 College Success Seminar 2 2/0/0

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.

PDEV1101 Campus Life- Active Living 3 3/0/0

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.

PDEV1102 Contemporary Career Search 1 0/1/0

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.

PDEV1112 Job Search Skills 1 1/0/0

This course is designed to develop the application, resume writing, interviewing and job maintenance skills needed to conduct an effective job search.

PDEV1113 Career Life Planning 2 2/0/0

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.

PE1109 Wellness Skills 2 1/1/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PE1130 Beginning Golf 1 0/1/0

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.

PE1141 Introduction to Strength Training 1 0/1/0

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.

PE1190 Varsity Football 1 0/1/0

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.
Prerequisites: The participants of this class must be approved by the head football coach

PE1192 Varsity Basketball 1 0/1/0

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.

PE1193 Varsity Baseball 1 0/1/0

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.
Prerequisites: The participants of this course must be approved by the head coach

PE1194 Varsity Golf 1 0/1/0

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 skills in a competitive golf environment. This class may be repeated once for credit.

PE1197 Varsity Volleyball 1 0/1/0

This course presents students with numerous opportunities in a variety of situations to learn and develop physical skills in a competitive intercollegiate volleyball setting.
Prerequisites: The participants in this course must be approved by the head coach

PE1199 Varsity Softball 1 0/1/0

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.
Prerequisites: The participants of this course must be approved by the head coach

Course#	Course Title	Cr	Lec/Lab/OJT

PE1200 Varsity Clay Target Competition 1 0/1/0

This course presents the opportunity to educate the participants in gun and range safety. This is a hands-on learning course emphasizing gun safety and safely handling shotguns while teaching the skills necessary to break clay targets. Students enrolled in this course will have the opportunity to compete in Minnesota College Athletic Conference clay target competition.
Prerequisites: This course requires the permission of the coach and participants must have proper gun safety certification before participation in the course

PE2100 Introduction to Sport Management 3 3/0/0

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.

PE2111 Sports Facilities Management 3 3/0/0

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.

PE2112 Applied Coaching: Football 1 1/0/0

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.

PE2114 Applied Coaching: Volleyball 1 1/0/0

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.

PE2115 Applied Coaching: Basketball 1 1/0/0

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.

PE2145 Advanced Strength Training 1 0/1/0

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.
Prerequisites: PE1141

PE2240 Athletic Injury, Care and Prevention 2 2/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PE2241 Principles of Coaching 3 3/0/0

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.

PE2254 Sports in Society 3 3/0/0

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.

PE2999 Athletic Leadership 1 0/1/0

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.
Prerequisites: Instructor approval

PHIL1130 Critical Thinking 3 3/0/0

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.

PHIL1200 Applied and Professional Ethics 3 3/0/0

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.

PHIL1201 Ethics 3 3/0/0

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.

PHIL1211 Introduction to Philosophy 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PHIL2220 Environmental Ethics 3 3/0/0

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?

PHIL2224 Philosophy of Religion 3 3/0/0

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.

PHIL2225 Bioethics 3 3/0/0

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.

PHIL2230 Existentialism 3 3/0/0

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.

PHIL2235 Symbolic Logic 3 3/0/0

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.

PHIL2240 Non-Western Philosophical Perspectives 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PHIL2300 Political and Social Philosophy 3 3/0/0

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.

PHYS1105 Fundamental Concepts in Physics 3 3/0/0

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, 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.
Prerequisites: MATH0095

PHYS1106 Fund of Physics - Mechanics 3 2/1/0

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.
Prerequisites: MATH1020

PHYS1107 Physics of Music 3 3/0/0

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.

PHYS1108 Physics of Flight 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PHYS1120 Introduction to Astronomy 3 3/0/0

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.
Prerequisites: MATH0095

PHYS1401 College Physics I 4 3/1/0

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.
Prerequisites: MATH115 or MATH116 or MATH1118

PHYS1402 College Physics II 4 3/1/0

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.
Prerequisites: MATH115 or MATH116 or MATH1118

PHYS1411 University Physics I 5 3/2/0

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.
Prerequisites: MATH1134

PHYS1412 University Physics II 5 3/2/0

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.
Prerequisites: MATH1134

Course#	Course Title	Cr	Lec/Lab/OJT

PHYS2970 Internship Experience 0 N/A

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.
Prerequisites: Instructor approval

PLBG1101 Piping and Job Safety 2 2/0/0

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.

PLBG1103 Plumbing Trade Tools 2 2/0/0

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.

PLBG1115 Faucets and Fixtures 2 2/0/0

This course covers various faucets and fixtures used in plumbing, including residential and commercial fixtures, their installation and application.

PLBG1119 Materials and Fittings 4 4/0/0

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.

PLBG1123 Plumbing Code I 3 3/0/0

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.

PLBG1125 Plumbing Lab I 2 0/2/0

In this course students will meet with the instructor for the purpose of applying, demonstrating and reinforcing content covered in lecture courses.
Corequisites: PLBG1101 and PLBG1103 and PLBG1115 and PLBG1119 and PLBG1123

PLBG1131 Grade and Elevation 2 2/0/0

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.
Prerequisites: PLBG1123

PLBG1133 Blueprint Reading 2 2/0/0

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.
Prerequisites: PLBG1123

Course#	Course Title	Cr	Lec/Lab/OJT

PLBG1135 Drainage, Waste and Venting 4 4/0/0

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.
Prerequisites: PLBG1123

PLBG1137 Water Distribution 3 3/0/0

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 Dakota Plumbing Code. Drawing isometrics will be introduced.
Prerequisites: PLBG1123

PLBG1139 Backflow Basics 2 2/0/0

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.
Prerequisites: PLBG1123

PLBG1141 Plumbing Code II 3 3/0/0

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.
Prerequisites: PLBG1123

PLBG1145 Plumbing Lab II 2 0/2/0

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.
Prerequisites: PLBG1125

PLBG1150 Plumbing Technology Internship 2 0/0/2

This course will provide plumbing students with the opportunity to apply their knowledge, practice their skills, integrate behaviors and explore areas of employment within the plumbing industry. Students will perform activities consistent with program outcomes in an industry setting under the supervision of the site employer.
Prerequisites: PLBG1125

PNSG1509 Foundations of Adult Nursing Care I 6 4/2/0

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.

Prerequisites:

- Acceptance into the Practical Nursing program
- Experience as a nursing assistant as guided by the PN application packet

Course#	Course Title	Cr	Lec/Lab/OJT

- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check

PNSG1512 Practical Nursing Pharmacology 2 2/0/0

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.

Prerequisites:
- Acceptance into the Practical Nursing program
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check

PNSG1514 Clinical I Practical Nurse Foundations 4 0/4/0

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.

Prerequisites:
- Acceptance into the Practical Nursing program
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Up-to-date immunizations and health form

PNSG1518 Foundations of Adult Nursing Care II 5 3/2/0

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.

Prerequisites:
- BIOL2260 and BIOL2261 and PNSG1509 and PNSG1512 and PNSG1514 and PSYC2222
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Up-to-date immunizations and health form

Course#	Course Title	Cr	Lec/Lab/OJT

PNSG1520 Nursing Care of Women, Newborns and Children 2 2/0/0

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.

Prerequisites:

- BIOL2260 and BIOL2261 and PNSG1509 and PNSG1512 and PNSG1514 and PSYC2222
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Up-to-date immunizations and health form

PNSG1522 Transition to Practical Nursing Practice 1 1/0/0

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.

Prerequisites:

- BIOL2260 and BIOL2261 and PNSG1509 and PNSG1512 and PNSG1514 and PSYC2222
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Up-to-date immunizations and health form

PNSG1524 Practical Nursing Mental Health 2 2/0/0

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.

Prerequisites:

- BIOL2260 and BIOL2261 and PNSG1509 and PNSG1512 and PNSG1514 and PSYC2222
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Up-to-date immunizations and health form

PNSG1528 Clinical II Practical Nursing 4 0/4/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

Prerequisites:

- BIOL2260 and BIOL2261 and PNSG1509 and PNSG1512 and PNSG1514 and PSYC2222
- Experience as a nursing assistant as guided by the PN application packet
- Current American Heart Association Basic Life Support
- Current, clear Minnesota Department of Health criminal background check
- Current, clear national background check
- Up-to-date immunizations and health form

POLS1120 American National Government 3 3/0/0

Meets MnTC Goal Areas 5 and 9. This course provides an analysis of the organization, institutions and functions of the United States government.

POLS1130 State and Local Government 3 3/0/0

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.

POLS2204 Comparative Government 3 3/0/0

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.

POLS2206 Global Politics 3 3/0/0

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.

POLS2950 Introduction to Social Research 3 3/0/0

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.
Prerequisites: ENGL1101 and MATH1020 and completion of six (6) credits in SOC, PSYC, or POLS

PSYC1101 Human Interaction 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PSYC1200 General Psychology 3 3/0/0

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.

PSYC1201 Introduction to Mental Health Behavioral Aide 4 4/0/0

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.

PSYC1202 Introduction to Autism Spectrum Disorders 3 3/0/0

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.

PSYC1203 Introduction to Child and Adolescent Therapeutic Behavioral Health 4 4/0/0

This course will provide students with an introduction to the etiology, assessment and treatment of common behavioral and emotional health disorders in children and adolescents. The framework of developmental psychopathology will be used to examine how childhood psychopathology arises in different contexts and developmental transitions within the self, family, school, community and culture. Students will achieve entry-level competencies in providing therapeutic and rehabilitative care for children and adolescents with behavioral and emotional disturbances. In addition, this course will provide students with the knowledge and resources to enter practice as a mental health worker (e.g., mental health behavioral aide).

PSYC1500 Positive Psychology 3 3/0/0

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'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.

PSYC2220 Abnormal Psychology 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PSYC2222 Lifespan Development 3 3/0/0

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.

PSYC2224 Social Psychology 3 3/0/0

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.

PSYC2226 Behavior and Environmental Management 3 3/0/0

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.

PSYC2230 Personality Psychology 3 3/0/0

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.

PSYC2233 Strategies for Working With Individuals With Autism Spectrum Disorder 4 4/0/0

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 2233.

PSYC2236 Special Topics for Autism Spectrum Disorder 3 3/0/0

This course provides in-depth study into current issues surrounding autism spectrum disorders (ASD). For example, this course may focus on the impact of mental health and medical issues on an individual's experience living with ASD. Content will vary depending upon current research-driven topics in the field at the time of course delivery.

PSYC2300 Internship Experience 0 N/A

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.
Prerequisites: Instructor approval

Course#	Course Title	Cr	Lec/Lab/OJT

PSYC2900 Statistics for Behavioral and Social Sciences 4 3/1/0

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.
Prerequisites: MATH1114 or higher and PSYC1200 with a grade of C or higher

PSYC2950 Introduction to Social Research 3 3/0/0

Meets MnTC Goal Areas 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.
Prerequisites: ENGL1101 and MATH1020 and completion of six (6) credits in SOC, PSYC, or POLS

PWST1000 Introduction to PowerSports 3 1/2/0

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.

PWST1002 Snowmobile, Off Road Vehicle and Motorcycle Maintenance 3 1/2/0

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.

PWST1014 Personal Watercraft and Marine Engine Maintenance 3 1/2/0

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.

PWST1015 Marine Engine Installation and Set Up 3 2/1/0

This course will cover marine engine and drive systems: fundamentals, engine removal, engine installation and basic system testing.

PWST1017 Fuel Systems I 3 2/1/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PWST1021 Ignition, Charging and Starter Systems 3 1/2/0

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.

PWST1025 Fuel Systems II 3 1/2/0

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.
Prerequisites: PWST1017

PWST1080 Snowmobile Engines 3 1/2/0

This course covers snowmobile engine designs, component identification and engine service procedures, as well as snowmobile fuel systems and service.

PWST1115 Electrical Foundations 3 2/1/0

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.

PWST1302 Snowmobile I 5 2/3/0

This course covers snowmobile engine designs, component identification and engine service procedures. This course also covers snowmobile fuel systems and service.

PWST1404 Generators 2 1/1/0

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.

PWST2013 Power Hydraulics 3 1/2/0

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.

PWST2016 Outboard Engine Systems 3 1/2/0

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.

PWST2017 Marine Drive Systems 3 1/2/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

PWST2115 All-Terrain Vehicles Systems 3 1/2/0

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.

PWST2206 Chainsaws and Generators 3 1/2/0

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.

PWST2210 Snowmobile Clutch and Drive Systems 3 1/2/0

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).

PWST2304 Motorcycles I 3 1/2/0

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.

PWST2308 Advanced Snowmobiles 3 1/2/0

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.

PWST2312 Advanced Motorcycle Systems 3 1/2/0

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.

RADT1102 Fundamental Concepts of Radiologic Technology 2 2/0/0

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.

RADT1112 Introduction to Radiologic Technology and Patient Care 4 3/1/0

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.
Prerequisites: RADT1102
Corequisites: RADT1116 and RADT1124

Course#	Course Title	Cr	Lec/Lab/OJT

RADT1116 Radiographic Procedures I 5 3/2/0

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.
Prerequisites: RADT1102
Corequisites: RADT1112 and RADT1124

RADT1124 Radiographic Procedures II 4 2/2/0

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.
Prerequisites: RADT1102
Corequisites: RADT1112 and RADT1116

RADT1132 Principles of Radiobiology 4 3/1/0

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.
Prerequisites: RADT1112 and RADT1116 and RADT1124
Corequisites: RADT1140 and RADT1146

RADT1140 Radiographic Imaging 4 2/2/0

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 are 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.
Prerequisites: RADT1112 and RADT1116 and RADT1124
Corequisites: RADT1132 and RADT1146

RADT1146 Radiographic Procedures III 4 2/2/0

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 discusses 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.
Prerequisites: RADT1112 and RADT1116 and RADT1124
Corequisites: RADT1132 and RADT1140

Course#	Course Title	Cr	Lec/Lab/OJT

RADT1180 Radiographic Clinical I 5 0/0/5

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.
Prerequisites: RADT1132 and RADT1140 and RADT1146
Corequisites: RADT1190

RADT1190 Radiographic Clinical II 5 0/0/5

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.
Prerequisites: RADT1132 and RADT1140 and RADT1146
Corequisites: RADT1180

RADT1270 Radiographic Procedures Bridge 4 2/2/0

This course will provide the student with the knowledge necessary to perform routine and mobile radiographic procedures relative to facial bones, bony thorax, urinary system, gastrointestinal system, arthrology, traumatic injury and surgical radiography. 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. Additionally, the student will be introduced to highly specialized studies of the central nervous system, cardiovascular system, lymphatic system, reproductive system and cross-sectional imaging. Special imaging equipment, physical settings and techniques used in these highly specialized studies will also be included.
Prerequisites: Graduation from the M State Limited Scope Radiography program

RADT1274 Radiation Safety and Equipment Bridge 2 2/0/0

This course is designed to establish a knowledge base in fluoroscopic, mobile and tomographic equipment (including computed tomography) requirements and design. Radiation safety procedures unique to these specialized equipment types will also be covered.
Prerequisites: Graduation from the M State Limited Scope Radiography program

RADT2101 Radiographic Clinical III 0 N/A

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.
Prerequisites: RADT1180 and RADT1190
Corequisites: RADT2110 and RADT2224

RADT2110 Radiographic Clinical IV 5 0/0/5

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.
Prerequisites: RADT1180 and RADT1190
Corequisites: RADT2101 and RADT2224

Course#	Course Title	Cr	Lec/Lab/OJT

RADT2120 Radiographic Clinical V 5 0/0/5

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.
Prerequisites: RADT2101 and RADT2110 and RADT2224
Corequisites: RADT2130 and RADT2280

RADT2130 Radiographic Clinical VI 5 0/0/5

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.
Prerequisites: RADT2101 and RADT2110 and RADT2224
Corequisites: RADT2120 and RADT2280

RADT2224 Imaging Equipment 4 2/2/0

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.
Prerequisites: RADT1180 and RADT1190
Corequisites: RADT2101 and RADT2110

RADT2268 Mammography Clinical 4 0/0/4

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.
Prerequisites: RADT2258 and ARRT Certification in Radiography

RADT2280 Radiologic Technology Registry Review 2 2/0/0

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.
Prerequisites: RADT2101 and RAADT2110 and RADT2224
Corequisites: RADT2120 and RADT2130

REFR1110 Refrigeration, Air Conditioning and Heating Principles 3 3/0/0

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.
Prerequisites: HVAC1128

Course#	Course Title	Cr	Lec/Lab/OJT

REFR1112 Refrigeration, Air Conditioning and Heating Lab 3 0/3/0

This course covers the operation and service procedures of domestic refrigeration and an introduction to residential heating and air conditioning and commercial refrigeration equipment.
Pre/Corequisites: REFR1110

REFR2202 Commercial Refrigeration and Air Conditioning Principles 4 4/0/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2204 Commercial Refrigeration and Air Conditioning Lab 3 0/3/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2206 Commercial Electrical Principles 3 3/0/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2208 Commercial Electrical Lab 3 0/3/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2211 Advanced Refrigeration Principles 4 4/0/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2212 Advanced Refrigeration Lab 3 0/3/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

Course#	Course Title	Cr	Lec/Lab/OJT

REFR2213 Advanced Electrical Theory 3 3/0/0

This course covers the electrical principles and schematics used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2215 Advanced Electrical Applications 3 0/3/0

This course covers the application of electrical principles used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2216 Refrigeration Internship 3 0/0/3

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.
Prerequisites: Completion of M State HVAC/R Diploma program

REFR2217 Commercial Grocery Store Refrigeration 3 3/0/0

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.
Prerequisites: Completion of M State HVAC/R Diploma program

SOC1111 Introduction to Sociology 3 3/0/0

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.

SOC1113 Social Problems 3 3/0/0

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.

SOC1114 Sociology Service Learning 1 0/1/0

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.
Pre/Corequisites: SOC1111 or SOC1113 or SOC2213 or SOC2217 or or SOC2210 or SOC2220 or SOC2222 or WMST1130 or WMST1136

Course#	Course Title	Cr	Lec/Lab/OJT

SOC2030 Community and Environmental Sociology 3 3/0/0

Meets MnTC Goal Areas 5 and 10. Students will use the sociological perspective to examine the relationship between the social and physical environment. The course evaluates the ways in which the environment, sustainability, resources, and conflict are embedded within broader cultural, social, health, economic, and political contexts. Students will seek to understand environmental stewardship and social justice while considering intersections of race, ethnicity, class, and gender.

SOC2210 Social Deviance 3 3/0/0

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
Prerequisites: SOC1111

SOC2213 Sociology of the Family 3 3/0/0

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.

SOC2215 Criminology 3 3/0/0

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 judicatory process and penology.

SOC2216 Sociology of Race and Ethnicity 3 3/0/0

Meets MnTC Goal Areas 5 and 7. This course examines the ambiguities and conflicts embedded within the broad and inclusive concept of diversity and endeavors to combine subjective interpretations of diversity with sociological perspectives to better prepare students to participate in, and appreciate, an increasingly diverse culture.
Prerequisites: College-level reading and writing skills are recommended

SOC2217 Rural Sociology 3 3/0/0

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.

SOC2220 Food, Culture and Society 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

SOC2222 Sociology of Agriculture 3 3/0/0

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.

SOC2950 Introduction to Social Research 3 3/0/0

Meets MnTC Goal Areas 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 POLS2950 and PSYC2950 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.
Prerequisites: Completion of six (6) credits in SOC, PSYC, or POLS, ENGL1101, MATH1020

SPAN1111 Beginning Spanish I 4 4/0/0

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.

SPAN1112 Beginning Spanish II 4 4/0/0

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.
Prerequisites: SPAN1111

SPAN2211 Intermediate Spanish I 4 4/0/0

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.
Prerequisites: SPAN1112 or Instructor approval

SPAN2212 Intermediate Spanish II 4 4/0/0

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.
Prerequisites: Instructor approval

SPED2250 Individuals with Exceptionalities 3 3/0/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

SUPL1110 Budget and Financial Management 3 3/0/0

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.

SUPL1118 Lead and Facilitate Teams 3 3/0/0

This course addresses the role of supervisor, manager and leader as a leader and facilitator of work teams. Topics 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.

SURT1200 Introduction to Surgical Technology 3 3/0/0

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.

SURT1210 Surgical Technology I 6 3/3/0

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.
Prerequisites: Acceptance into Surgical Technology program.
Corequisites: SURT1200

SURT1215 Surgical Pharmacology 3 2/1/0

This course introduces basic surgical pharmacology. Topics include drug classification, therapeutic effects, side effects, interactions and dosage calculations.
Prerequisites: SURT1200 and SURT1210
Corequisites: SURT1220

SURT1220 Surgical Technology II 5 2/3/0

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.
Prerequisites: SURT1210 / Corequisites: SURT1215

SURT1225 Surgical Pathophysiology 3 3/0/0

This course introduces the learner to human disease processes that prompt surgical intervention. Relationships between cell pathology and disease will be examined. Disorders that disrupt homeostasis and surgical considerations will be presented. Surgical pathologies of the human body will be illustrated.

Prerequisites:
- Admission to the Surgical Technology program
- BIOL2260 and BIOL2261 and ENGL1101 and PHIL1200 and PSYC2222 and SURT1210
- Cumulative GPA of 2.5 or higher
- Current CPR Certification (must be AHA HeartCode BLS Healthcare Provider)
- North Dakota State Board of Nursing Unlicensed Assistive Personnel-Student Surgical Technologist Registry

Corequisites: SURT1215 and SURT1220

Course#	Course Title	Cr	Lec/Lab/OJT

SURT1230 Surgical Technology III 4 4/0/0

This course continues to expands 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.
Prerequisites: SURT1215 and SURT1220
Corequisites: SURT1240

SURT1250 Surgical Clinical I 6 0/0/6

This course allows the student to practice the role of the surgical technologist under supervision in an active surgical setting.
Prerequisites: SURT1200 and SURT1210 and SURT1215 and SURT1220
Corequisites: SURT1230

SURT1255 Surgical Clinical II 6 0/0/6

This course introduces the student to patient care in an operating room in the role of surgical technologist.
Prerequisites: Successful completion of all SURT courses with a C or better
Corequisites: SURT1240

SW2250 Introduction to Social Work/Social Welfare 3 3/0/0

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.

THPY1101 Nutrition and Wellness 2 2/0/0

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.

THPY1110 Massage Techniques and Ethics 3 2/1/0

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.

THPY1118 Kinesiology 3 2/1/0

This course teaches students to identify the location and movements of skeletal muscles. 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.

THPY1123 Integrative Massage 2 1/1/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

THPY1130 Advanced Massage 2 1/1/0

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.
Prerequisites: THPY1110

THPY1135 Deep Tissue Massage 2 1/1/0

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.
Prerequisites: THPY1110 and current Certified CPR/First Aid card holder

THPY1142 Practical Skills Clinic 3 0/3/0

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.
Prerequisites: THPY1110 and current Certified CPR/First Aid card holder

THPY1146 Certification Preparation 2 2/0/0

This course is designated to prepare the students to take the National Certification Examination (NEC) issued by the National Certification Board of Therapeutic Massage & 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.
Prerequisites: THPY1110

THPY1148 Sports Massage and Hydrotherapy 2 1/1/0

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.

THPY1151 Business Development 3 2/1/0

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.

Course#	Course Title	Cr	Lec/Lab/OJT

THPY1156 Massage Pathophysiology 3 3/0/0

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.

THPY2102 Lymphatic and Hospice Massage 1 0/1/0

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.
Prerequisites: Diploma or Certificate in Massage Therapy, THPY1118

THPY2106 Neuromuscular Therapy 2 0/2/0

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.
Prerequisites: THPY1118 and Diploma or Certificate in Massage Therapy

THTR1101 Introduction to Theatre 3 3/0/0

Meets MnTC Goal Areas 6 and 7. Students will explore the technical and artistic elements of theatre, examine theatre spaces and the roles of theatre artists and technicians, and study the history of theatre. Students will critically analyze a variety of works of theatre through reading scripts and viewing productions. Discussions will include how works of theatre express historical and social values which change over time, including power inequalities, identities, and contributions by diverse groups. No prior theatre background necessary.

THTR1105 Acting I 3 3/0/0

Meets MnTC Goal Area 6. Students will gain performance skills and techniques through vocal and physical activities; improvisation; and by practicing, memorizing and performing various theatre pieces in front of the class audience. Students will also use imagination and apply analysis to build characters and scenes. Coursework will require showing respect and working collaboratively. No prior acting experience necessary.

THTR1115 Digital Theatre Production Practicum 3 0/3/0

Meets MnTC Goal Area 6. Students will participate as performers and technicians in a digital theatrical production. Student opportunities include writing, editing and recording the performance or video editing.

THTR1120 Theatre Performance Practicum 2 0/2/0

Meets MnTC Goal Area 6. Students will audition, accept a role and participate as performers in a main stage or approved theatrical production. Students may enroll after audition dates, and the course may be repeated twice.

Course#	Course Title	Cr	Lec/Lab/OJT

THTR1125 Theatre Technical Practicum 2 0/2/0

Meets MnTC Goal Area 6. Students participate as a production crew member and/or as a run crew member on a main stage or approved theatrical production in various technical areas, including set construction and props, lighting and sound, make-up and costuming, stage managing, etc. Students do not need prior experience, but skills with tools or an interest in building would be beneficial. Students will complete required lab hours and exhibit essential skills of communication, cooperation, respect and responsibility. Students will arrange their lab hour schedule with the director after they have enrolled in the course. The course may be repeated twice.

THTR1130 Stage Make-up 3 2/1/0

Meets MnTC Goal Area 6. Students will explore the fundamental design principles, materials and application techniques of stage make-up. Students will conduct research, plan and design face plots and apply stage make-up. Beginning with make-up fundamentals, students will progress to more advanced projects including aging, special effects, Kabuki, animal and fantasy. Student work will culminate with a final project and a final portfolio.

THTR1142 Stagecraft 3 2/1/0

Meets MnTC Goal Areas 6 and 10. In this hands-on course, students will learn how to safely use materials, tools and theatrical equipment to complete a variety of projects and will be required to complete lab hours working with the tools and techniques learned in class. Students do not need prior experience, but skills with tools or an interest in building would be beneficial. Students will also explore traditional theatre production practices and more environmentally sustainable practices, including benefits and challenges.

THTR2120 Script Analysis: Understanding the Play 3 3/0/0

Meets MnTC Goal Area 6. Students will explore the process of taking a play script from the page to the stage. Students will study various plays, identify literary elements and explore how actors, designers or directors use the text of a play to understand the historical period, setting, dialogue and character objectives.

THTR2126 Musical Theatre 3 3/0/0

Meets MnTC Goal Areas 6 and 7. Students will explore musical theatre as a unique art form from its origins to the present, including influential musicals, theatres, producers, writers, composers and performers. Students will analyze the relationship between musical theatre works and the historical and cultural contexts in which they were written, including identifying contributions by diverse groups who have suffered discrimination and exclusion. Students will view musical theatre performances and provide literary, dramatic, musical, and cultural analyses of the works.

THTR2130 Design for the Stage 3 3/0/0

Meets MnTC Goal 6. Students will study the concepts, processes and practices common to theatrical design: stage scenery, lighting, sound, props and costumes. Students will analyze scripts, research design, practice creative and mechanical drawing, build set design models and present design concepts. 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.
Prerequisites: THTR1100 or THTR1125 or THTR1100

Course#	Course Title	Cr	Lec/Lab/OJT

TRNS1112 Heating Ventilation A/C 3 1/2/0

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.
Prerequisites: DSET1100 or TRNS1102

WMST1130 Introduction to Women's Studies 3 3/0/0

Meets MnTC Goal Areas 5 and 7. This course is an interdisciplinary study designed to 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.

WMST1136 Global Perspectives of Women 3 3/0/0

Meets MNTC Goal Areas 6 and 8. This course examines the present-day realities of women's lives around the world.
Corequisites: ENGL1101

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