



COLLEGE CATALOG

2023-2024

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

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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 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 Dacia Johnson, 1414 College Way, Fergus Falls, MN 56537, Office A520, 218-736-1512, fax: 218-736-1705. 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

Title IX and Cleary Compliance Director

Kara Helmig

1900 28th Avenue South, Moorhead, MN 56560

Office D111B

kara.helmig@minnesota.edu

TitleIX@minnesota.edu

218.299.6522

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. I am excited to welcome you to the 2023-24 academic year!

We know that every M State student has a story. You may already have your career path planned, or you may be hoping your M State experience helps you find your path in life. We are ready to serve you, no matter where you are in your educational journey.

At M State, our instructors and staff are committed to student success. You'll see our 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 assisted me through the ups and downs of my journey. Today, I'm certain that our employees believe in you and are ready to help you in any way possible!



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. We are honored you have chosen to attend M State, and it is our privilege to support you every step along the way to graduation.

Carrie Brimhall, Ph.D.
President
1997 M State Graduate



MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

DIRECTORY OF COLLEGE SERVICES

ACADEMIC AND STUDENT SERVICES

Provost/Vice President of Academic Affairs Dr. Matthew Borcharding.....	218.736.1506
Dean of School of Applied Technology Dr. Mark Bannatyne	218.299.6817
Dean of Extended Learning Dr. Marsha Weber	218.299.6631
Dean of the School of Health Sciences, Human Services and Nursing Dr. Ken Kompelien.....	218.736.1522
Dean for the School of Liberal Arts and Sciences Alicia Carley.....	218.299.6505
Vice President of Student Affairs Elise Sturdvant.....	218.299.6853
Interim Dean of Student Affairs Scott Ebsen	219.299.6620
Dean of Integrated Communication 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	218.329.6040

FERGUS FALLS

Academic Advising	218.736.1533
Assessments/Accuplacer.....	218.736.1529
Athletics	218.736.1648
Bookstore	218-736.1556
Computer Help Center	218.736.1655
Counseling.....	218.736.1539
Disability Services	218.736.1595
Enrollment.....	218.736.1549
Facilities.....	218.736.1560
Financial Aid	218.736.1534
Food Service.....	218.736.1760
Foundation	218.736.1514
Housing	218.736.1635
Information	218.736.1533
Library	218.736.1650
Multicultural Services/ Diversity and Inclusion.....	218.736.1512
Security	218.770.9861

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

DIRECTORY OF COLLEGE SERVICES

Spartan Center	218.736.1619
Student Life	218.736.1537
Student Records	218.736.1529
Support Center	877.450.3322
Veterans Services	218.329.6040

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	218.329.6040

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	218.329.6040

K12 COLLABORATIONS

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



2023-2024 M STATE ACADEMIC CALENDAR

AUGUST 2023

- 21 | Spartan Welcome Days begin
- 21 | Fall semester begins
- 23 | Last day to add full-term fall semester courses
- 25 | Last day to drop full-term fall semester courses

SEPTEMBER 2023

- 4 | Labor Day **COLLEGE CLOSED**
- 15 | Application deadline for fall commencement ceremony
- 17 | Constitution Day
- 26 | No Classes/College Open

OCTOBER 2023

- 19-20 | Fall break No Classes/College Open
- 23 | Spring 2024 registration begins

NOVEMBER 2023

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

DECEMBER 2023

- 11-15 | Final exams
- 15 | Fall semester ends
- 15 | Fall commencement for all campuses; ceremony in Moorhead
- 18-24 | Semester break No Classes/College Open
- 25 | Christmas Day **COLLEGE CLOSED**

JANUARY 2024

- 1 | New Year's Day **COLLEGE CLOSED**
- 8 | Spring semester begins
- 10 | Last day to add full-term spring semester courses
- 12 | Last day to drop full-term spring semester courses
- 15 | Martin Luther King Jr. Day **COLLEGE CLOSED**

FEBRUARY 2024

- 2 | Application deadline for spring graduates/spring commencement ceremony
- 19 | Presidents Day **COLLEGE CLOSED**

MARCH 2024

- 4 | Summer/fall 2024 registration begins
- 8 | Application deadline for summer graduates/spring commencement ceremony
- 11-15 | Spring break No Classes/College Open

APRIL 2024

- 5 | No Classes/College Open
- 10 | Last day to withdraw from full-term spring semester courses
- 29-30 | Final exam and commencement week

MAY 2024

- 1-3 | Final exam and commencement week
- 3 | Spring semester ends
- 6 | Summer term begins
- 27 | Memorial Day **COLLEGE CLOSED**

JUNE 2024

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

JULY 2024

- 4 | Independence Day **COLLEGE CLOSED**
- 26 | Summer term ends

AUGUST 2024

- 26 | Fall semester begins (2024-2025 School Year)



D F M W O

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

minnesota.edu | 877.450.3322



MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

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 and communications, 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 creating and 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.

Pillars of Success

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. Equity and Inclusion - M State will be a vibrant inclusive body of diverse students and employees who challenge, inspire and support each other.

III. 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.



DETROIT LAKES

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



FERGUS FALLS

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

About the Campus

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

About the Community

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

About the Campus

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

About the Community

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



MOORHEAD

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



WADENA

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

About the Campus

The 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 agribusiness, marketing, technology, research, health and construction in the heart of the Red River Valley. The metropolitan area is a regionally recognized health care provider whose members are in the process of constructing a state-of-the-art hospital complex.

About the Campus

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

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

Students also can earn an Associate of Arts degree, completing the first two years of a four-year degree at an affordable cost.

The college and the M State Foundation have many options for scholarships and grants that help lower the cost of college, including many for students in specific programs.

M State's small class sizes mean a more personal education, and most programs offer the kind of hands-on classroom and real-life experiences that are ideal for preparing students for careers. The college also offers courses and programs online to accommodate busy student lifestyles.

A strong interest in the highly regarded Electrical Line Worker Technology program prompted the college to open a satellite site for the program in Baudette, near the Canadian border. The Electrical Lineworker Club has won numerous awards at the annual Powerline Rodeo in Nebraska.

The campus provides food service, student organizations, a bookstore and tutoring support services to promote academic success. Housing options are available near the campus through public rentals. There is an on-site day care available and Adult Basic Education services.

About the Community

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

ACCREDITATIONS

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

230 South LaSalle St., Suite 7-500, Chicago, IL 60604
Website: www.hlcommission.org
Email: info@hlcommission.org
Phone: 800.612.7440 or 312.263.0456

Programs accredited/approved/licensed by additional agencies include:

Automotive Service Technology

Automotive Service of Excellence Education Foundation (ASE EF)
1503 Edwards Ferry Rd., NE, Suite 401
Leesburg, VA 20176
Phone: 703.669.6650
Email: info@ASEEducationFoundation.org

Cosmetology

Minnesota Board of Cosmetology
1000 University Ave. W, Suite 100, St. Paul, MN 55104
Phone: 651.201.2742 | Email: cosmetology@state.mn.us
Website: mn.gov/boards/cosmetology

Criminal Justice

Minnesota Board of Peace Officer Standards and Training (POST)
1600 University Ave., Suite 200, St. Paul, MN 55104
Phone: 651.643.3060 | Email: postboard.agency.docs@state.mn.us
Website: mn.gov/post/

Dental Hygiene and Dental Assisting

Commission on Dental Accreditation (CODA)
211 East Chicago Ave., Chicago, IL 60611
Phone: 800.621.8099
Website: coda.ada.org

Diesel Equipment Technology

Associated Equipment Distributors Foundation (AEDF)
650 East Algonquin Rd., Suite 305,
Schaumburg, IL 60173
Phone: 630.574.0650
Website: aedfoundation.org/
Email: info@aednet.org

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 Rd. N., St. Paul, MN 55155
Phone: 651.284.5005 or 800.342.5354
Website: www.dli.mn.gov/about-department/about-dli

Health Information Technology/Coding

Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
200 E. Randolph St., Suite 5100, Chicago, IL 60601
Phone: 312.235.3255
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 North River Rd., Suite 720, Rosemont, IL 60018-5119
Phone: 773.714.8880
Email: info@naacls.org
Website: www.naacls.org

Nursing (AS)

Minnesota Board of Nursing
1210 Northland Dr., Suite 120, Mendota Heights, MN 55120
Phone: 612.317.3000
Email: nursing.board@state.mn.us
Website: mn.gov/boards/nursing

National League for Nursing Commission for Nursing Education

Accreditation (CNEA)
2600 Virginia Ave., NW, Eighth Floor, Washington, DC 20037
Website: cnea.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 Rd. N, St. Paul, MN 55155
Phone: 651.284.5005 or 800.342.5354
Website: www.dli.mn.gov/about-department/about-dli

Practical Nursing (Diploma/AAS)

Minnesota Board of Nursing
1210 Northland Dr., Suite 120
Mendota Heights, MN 55120
Phone: 612.317.3000
Email: nursing.board@state.mn.us
Website: mn.gov/boards/nursing

Radiologic Technology

Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 North Wacker Dr., 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)
9355 - 113th St. N., #7709
Seminole, FL 33775
Phone: 727.210.2350
Email: mail@caahep.org
Website: <https://www.caahep.org/>

in cooperation with the
Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA)
19751 East Mainstreet, Suite #339
Parker, CO 80138
Phone: 303.694.9262
Email: info@arcstsa.org
Website: arcstsa.org
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
ART	2260	Art, Portfolio Design and Professional Development	6
ART	2261	Art, Portfolio Design and Professional Development Internship	6
ART	2999	AFA-Visual Art Capstone Exhibition	2, 6
ASL	1100	Introduction to Deaf Studies	7
ASL	1101	American Sign Language and Deaf Culture I	8
ASL	1102	American Sign Language and Deaf Culture II	8
BIOL	1102	Introduction to Horticulture	3
BIOL	1104	Biology of Human Concerns	2, 3
BIOL	1107	Environmental Science Issues	2, 3, 10
BIOL	1108	Environmental Science Issues Lab	2, 3, 10
BIOL	1115	Introduction to Biotechnology	3

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

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

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

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)

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



PROGRAMS AND MAJORS
2023-2024

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
ACCT2256	Income Tax-Business	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
ACCT 2630	FUND/Non-Profit Accounting	
ACCT 2640	Accounting Internship	
BUS 2204	Principles of Management	
BUS 2206	Principles of Mkt	
DKMG 2200	Digital Mkt	
HRES 1122	Human Resource Management	
HRES 1130	Benefits Admin	
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	
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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Accounting Clerk Diploma - 32 credits Moorhead, Online

This program provides the knowledge and skills necessary to perform routine calculating, journalizing, posting and verifying duties to maintain accounting records and 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		
ACCT2640 Accounting Internship (1 – 4 credits)		
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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

The Accounting Transfer Pathway 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 directly transfer and apply to designated bachelor's 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
BUS2206	Principles of Marketing	3
BUS2204	Principles of Management	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 Technical 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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
ADMS1110	Word Processing.....	3
ACCT2211	Financial Accounting I.....	3
ACCT2218	QuickBooks	2
ADMS1116	Business Communications I.....	3
ADMS1240	Presentations and Desktop Publishing.....	3
ADMS1400	Office Administration	4
ADMS2200	Office Administration Capstone	2
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	

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

This program includes courses in all major areas of agribusiness, including management, marketing, agronomy, animal science, precision agriculture and business analysis. The program prepares students to work in agricultural businesses at the technical, sales or managerial level. The program also prepares students to be engaged in a farming operation and learn to make sound management decisions based on financial analysis and production information.

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT2211	Financial Accounting I	3
AGRI1100	Principles of Agronomy	3
AGRI1170	Introduction to Agribusiness.....	3
AGRI1200	Introduction to Animal Science	3
AGRI1300	Introduction to Precision Agriculture	3
AGRI2100	Agricultural Commodity Marketing.....	3
AGRI2200	Principles of Farm and Ranch Management	3
AGRI2300	Farm Records and Business Analysis	3
BUS1100	Business Computers	3
BUS1141	Introduction to Business.....	3
BUS2204	Principles of Management	3
BUS2206	Principles of Marketing.....	3
ENGL1101	College Writing.....	3
6 credits from the following		6
ACCT2212	Financial Accounting II	
ACCT2218	QuickBooks	
BUS1300	Financial Statement Analysis	
BUS2150	Legal Environment of Business	
BUS2500	Business Internship	
MGMT2225	Project Management	
MKTG1106	Professional Selling	
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	
6 credits MnTC Electives		6

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

American Sign Language and Deaf Studies Certificate - 9 credits Moorhead

The American Sign Language and Deaf Studies certificate program is designed to introduce students to the language, culture, and history of the American Deaf community. Students will acquire a foundation of American Sign Language (ASL) and become acquainted with various issues and concerns of the Deaf community. The curriculum provides students with the academic qualifications to enter advanced ASL courses and is also ideal for those pursuing professions that work with Deaf people. This program does not prepare students to become interpreters.

Requirement	Title	Credits
ASL1100	Introduction to Deaf Studies.....	3
ASL1101	American Sign Language and Deaf Culture I.....	3
ASL1102	American Sign Language and Deaf Culture II	3

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
CADD1000	AutoCAD Basics.....	3
CONM1101	Construction Documents and Codes	3
CONM1108	Principles of Estimating.....	4
CONM1124	Building Systems.....	3
ENGL1101	College Writing.....	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics	3
ENGT1134	Office Systems and Equipment	3

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 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
CADD1000	AutoCAD Basics.....	3
CONM1101	Construction Documents and Codes	3
CONM1108	Principles of Estimating.....	4
CONM1124	Building Systems.....	3
ENGL1101	College Writing	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics	3
ENGT1134	Office Systems and Equipment	3
3 credits from the following		3
COMM1120 Introduction to Public Speaking		
COMM1140 Interpersonal Communication		
9 credits MnTC Electives*		9

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

PROGRAMS AND MAJORS

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	
ENGL2239	Nature Writers	
ENGL2324	Travel Literature	
HIST1700	The History of America National Parks	
3 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1140	Interpersonal Communication	
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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
PSYC2236	Special Topics for Autism Spectrum Disorder	3
4 credits from the following		4
ED2233	Strategies for Working With Individuals With Autism Spectrum Disorder	
PSYC2233	Strategies for Working With Individuals With Autism Spectrum Disorder	

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
AMST2201	Alignment and Suspension II.....	3
AMST2206	Body Electrical and Mechanical I	3
AMST2210	Body Electrical and Mechanical II	2
AMST2211	Exhaust Analysis and Fuel Systems	3
AMST2214	Electronic Powertrain Control I.....	3
AMST2218	Electronic Powertrain Control II.....	3
AMST2220	Ignition Systems	3
AMST2225	Brakes II.....	3
AMST2233	Automatic Transmissions I	3
AMST2237	Automatic Transmissions II	3
AMST2240	Heating, Ventilation and Air Conditioning	3
6 credits COMM Electives.....		6
3 credits HUM Electives.....		3
6 credits MnTC Electives*		6

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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, drivability 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
AMST2201	Alignment and Suspension II	3
AMST2206	Body Electrical and Mechanical I.....	3
AMST2210	Body Electrical and Mechanical II.....	2
AMST2211	Exhaust Analysis and Fuel Systems.....	3
AMST2214	Electronic Powertrain Control I	3
AMST2218	Electronic Powertrain Control II	3
AMST2220	Ignition Systems.....	3
AMST2225	Brakes II	3
AMST2233	Automatic Transmissions I.....	3
AMST2237	Automatic Transmissions II.....	3
AMST2240	Heating, Ventilation and Air Conditioning.....	3
9 credits MnTC Electives		9

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

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

Requirement	Title	Credits
BIOL1122	General Biology I.....	4
BIOL1123	General Biology II.....	4
BIOL2240	Genetics	4
CHEM1111	General Chemistry I	5
CHEM1112	General 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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 Chemistry II	5
ENGL1101	College Writing.....	3
MATH1114	College Algebra.....	4

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Business

Associate of Applied Science (AAS) - 60 credits

Detroit Lakes, Fergus Falls, Moorhead, 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 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, nonprofit and government. Upon graduation, students will be qualified for entry-level management, administration, marketing and human resources positions, such as sales, office management, customer service and project management. Students may also transfer to a Business Pathway AS degree, which aligns with business bachelor's degree options throughout the Minnesota State system.

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT2211	Financial Accounting I	3
BUS2206	Principles of Marketing.....	3
BUS1100	Business Computers.....	3
BUS1141	Introduction to Business.....	3
BUS2150	Legal Environment of Business	3
BUS2204	Principles of Management	3
MKTG1106	Professional Selling	3
BUS2700	Technology Research and Presentation	3
ENGL1101	College Writing.....	3
MGMT2225	Project Management.....	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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Business Administration Diploma - 33 credits Detroit Lakes, Fergus Falls, Moorhead, Online

Be prepared for a varied, exciting range of career options with a general Business diploma credential. Students will be provided with a fundamental knowledge of business functions, processes, and an understanding of business organizations in today's global economy. Coursework includes business concepts such as accounting, economics, management, marketing and sales. Skills related to the application of these concepts are developed through the study of computer applications, communication, critical thinking and decision-making. Through these skills, students will have a sound business education base for lifelong learning. This diploma seamlessly integrates into either of the Business AAS or Management and Marketing AAS degree programs.

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
MKTG1106	Professional Selling	3
MKTG2000	Integrated Marketing Communications	3
3 credits from the following		3
	BUS2209 Business Research	
	BUS2700 Technology Research and Presentation	
3 credits from the following		3
	ECON2210 Macroeconomics	
	ECON2222 Microeconomics	
	ENGL1101 College Writing	
3 credits COMM Electives		3

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 (MHBAlI). 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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 through a Pearson VUE Testing Center.

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
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
CSCI1110	Informatics	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		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 technical electives in the Computer Programming AAS.

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
CONM1101	Construction Documents and Codes	3
CONM1102	Site/Building Layout	2
CONM1104	Construction Management Principles	2
CONM1108	Principles of Estimating.....	4
CONM1124	Building Systems.....	3
CONM2204	Materials Testing.....	3
CONM2210	Construction Scheduling	3
CONM2212	Site Management	3
CONM2213	Safety Management	2
CONM2217	Computer Estimating and Bidding	3
CONM2222	Construction Management Internship.....	2
ENGL1101	College Writing	3
ENGL1215	Professional and Technical Writing	3
ENGT1118	Construction and Manufacturing Math.....	3
ENGT1126	Engineering Graphics	3
MCDD2220	Mechanical Engineering Drawing IV.....	3
3 credits from the following		3
BUS2150	Legal Environment of Business	
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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

PROGRAMS AND MAJORS

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
COSM2200	Manicuring/Pedicuring	1
COSM2100	Chemical Texture Services	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 ECON2222		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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.

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 Affiliations	6
DNAS1210	Dental Assisting Radiology Lab I	1
DNAS1212	Dental Assisting Radiology Lab II	1
DNAS1215	Dental Specialties	1
ENGL1101	College Writing.....	3
PSYC1200	General Psychology	3

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Design and Engineering Technology Associate of Applied Science (AAS) - 66 credits Moorhead

The Design and Engineering Technology 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
ENGT1118	Construction and Manufacturing Math.....	3
MCDD1104	Mechanical Engineering Drawing I.....	4
MCDD1106	Mechanical Engineering Drawing II.....	4
MCDD1114	Manufacturing Processes.....	2
MCDD1124	Mechanical Drafting Applications I.....	3
MCDD2112	Geometric Dimensioning and Tolerancing.....	2
MCDD2200	Advanced Modeling with SolidWorks.....	3
MCDD2204	Mechanical Engineering Drawing III.....	4
MCDD2210	Advanced Modeling with Inventor.....	3
MCDD2220	Mechanical Engineering Drawing IV.....	3
MCDD2230	3D Printing and Prototyping.....	2
MCDD2246	Tool Design.....	3
MCDD2252	Mechanical Drafting Applications II.....	4
MCDD2254	Computer Numerical Control.....	2
SOC1111	Introduction to Sociology.....	3
3 credits from the following.....		3
ECON2210 Macroeconomics		
ECON2222 Microeconomics		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Design and Engineering Technology Diploma - 60 credits Moorhead

The Design and Engineering Technology 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
MCDD2112	Geometric Dimensioning and Tolerancing.....	2
MCDD2200	Advanced Modeling with SolidWorks.....	3
MCDD2204	Mechanical Engineering Drawing III.....	4
MCDD2210	Advanced Modeling with Inventor.....	3
MCDD2220	Mechanical Engineering Drawing IV.....	3
MCDD2230	3D Printing and Prototyping.....	2
MCDD2252	Mechanical Drafting Applications II.....	4
MCDD2246	Tool Design.....	3
MCDD2254	Computer Numerical Control.....	2
9 credits MnTC Electives*.....		9

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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.

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
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
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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Diesel- 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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Diesel- 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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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		
3 credits from the following		3
BUS, GDTC, MGMT, MKTG, SOMM		
6 credits MnTC Electives*		6

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Early Childhood

Certificate - 18 credits

Fergus Falls

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Early Childhood Education Transfer Pathway Associate of Science (AS) - 60 credits Fergus Falls

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 Family.....	3

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 Lineworker 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 Lineworkers.....	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 MnTC Electives*		3
3 credits from the following		3
ELWT1122 Field Construction III		
ELWT1132 Electrical Line Worker Internship		

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
ELEC1116	Conduit/Tool Applications	2
ELEC1118	Electrical Services	3
ELEC1122	Introduction to Electrical Materials	1
ELEC1124	Introduction to Electrical Blueprint Reading	2
ELEC1130	Electrical Blueprints	3
ELEC2202	Heating/Cooling Controls	3
ELEC2205	Introduction to Commercial Wiring	3
ELEC2206	Introduction to Motor Control Applications	3
ELEC2208	Programmable Logic Controllers	2
ELEC2211	Electronic Motor Control	3
ELEC2212	Commercial Wiring	3
ELEC2214	Industrial Wiring	2
ELEC2216	Motor Control Application	3
ELEC2225	Transformers	2
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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
MATH1135	Calculus II	5
ENGR2230	Mechanics of Materials	3
CHEM1111	General Chemistry I	5
CHEM1112	General Chemistry II	5
ENGR2220	Engineering Mechanics II.....	3
MATH2231	Calculus III	4
ENGR2210	Engineering Mechanics I.....	3
MATH1134	Calculus I.....	5
MATH2259	Differential Equations.....	4
ENGL1101	College Writing.....	3
COMM1120	Introduction to Public Speaking	3
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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Entrepreneurial Certificate
Certificate - 15 credits
Moorhead, Online

This certificate provides students with the ability to continuously learn and adapt the business knowledge, skills and attitudes needed to succeed in business, whether as an entrepreneur starting and operating a small business or as an entrepreneur within an organization. Students learn to recognize market opportunities within an industry, plan a business initiative to develop their big idea, and evaluate its profit potential. This certificate is appropriate for those who wish to be self-employed.

Requirement	Title	Credits
ENTR1101	Entrepreneurship I: Finding Your Opportunity	3
ENTR1201	Entrepreneurship II: Starting your Business.....	3
ENTR1301	Entrepreneurship III: Running and Growing Your Business.....	3
6 credits from the following		6
ACCT2211 Financial Accounting I		
BUS1100 Business Computers		
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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
COSM1004	Cosmetic Chemistry and Makeup Applications	1
COSM1006	Spa Therapies.....	1
COSM1010	Eyelash Extensions.....	1
COSM1100	Salon Safety	1
COSM1109	Skin Analysis.....	1
COSM1157	Histology of the Skin	1
COSM1159	Facials and Hair Removal.....	1
COSM1179	Minnesota Cosmetology Laws and Rules	1
11 credits from the following		11
	COSM1200 Salon Practicum	
	COSM2800 Alexandria Body Sugaring	

Eyelash Extension Technician Certificate - 3 credits Wadena

This course will be for nail technicians and any person seeking a license to perform eyelash extensions. "Eyelash extensions" means the application, removal and trimming of threadlike natural or synthetic fibers to an eyelash and includes the cleansing of the eye area and lashes. Eyelash extensions do not include color agents, straightening agents, permanent wave solutions, bleaching agents, applications to the eyebrow or any other cosmetology service. Eyelash technician training consists of board-approved curriculum of 38 hours. There will be instruction in the following: structure, function, and disorders of the eye and orbital area; eyelash growth cycles; contraindications and allergic reactions; infection control; eye shapes and eyelash evaluation; product ingredients; health and safety; and laws and rules. There will also be instruction in the application of eyelash extensions, including client consultation, design, cleansing the eye area, applying eyelash extensions, and removing eyelash extensions.

Requirement	Title	Credits
COSM1010	Eyelash Extensions.....	1
COSM1100	Salon Safety	1
COSM1179	Minnesota Cosmetology Laws and Rules	1

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Gas Utility Construction and Service Certificate - 19 credits Online

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 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 Online

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 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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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	

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
GDTC2120	Adobe InDesign II.....	3
GDTC2205	Adobe Photoshop II	3
GDTC2245	Adobe Illustrator II	3

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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.

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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Health Sciences Broad Field Associate of Science (AS) - 60 credits Fergus Falls, Moorhead, Online

This AS degree provides students a broad base of general education coursework relevant to the field of health sciences. The degree is designed to transfer to all MnSCU system universities offering related baccalaureate programs through a statewide articulation agreement. Students are encouraged to consult with counselors/advisors for guidance and planning regarding the requirements of the various health sciences baccalaureate programs to facilitate the most efficient transition and transfer. Students who intend to pursue graduate level degrees should consider M State's Pre-Professional Health AS Degree.

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

Requirement	Title	Credits
BIOL1122	General Biology I.....	4
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
CHEM1111	General Chemistry I	5
ENGL1101	College Writing.....	3
HLTH1000	Introduction to Healthcare.....	3
MATH1114	College Algebra.....	4
MATH1207	Elementary Statistics	3
PHIL1201	Ethics.....	3
PSYC1200	General Psychology	3
PSYC2222	Lifespan Development	3
SOC1111	Introduction to Sociology.....	3
3 credits from the following		3
COMM1140 Interpersonal Communication		
COMM2200 Intercultural Communication		
Career or MnTC Electives.....		8

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 Area 3 Electives.....		6
3 credits MnTC Goal Area 4 Electives.....		3
3 credits MnTC Goal Area 5 Electives.....		3
9 credits MnTC Goal Area 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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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	
6 credits Technical Electives		6
3 credits MnTC Electives*		3

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
CPTR1108	CISCO 1	3
CPTR1122	System Maintenance	3
CPTR2001	Scripting for Automation.....	3
CPTR2224	Linux I.....	3
CPTR2245	Enterprise Network Technologies.....	3
CPTR1106	Microcomputer Databases	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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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.

Requirement	Title	Credits
ENGL1101 College Writing.....		3
One of the following courses.....		3
ENGL1205 Writing About Literature		
ENGL1210 Writing About Current Issues		
ENGL1215 Professional and Technical Writing		
One of the following courses.....		3
COMM1120 Introduction to Public Speaking		
COMM1130 Small Group Communication		
COMM1140 Interpersonal Communication		
<u>Goal Area 2</u> *courses must be from at least 2 different disciplines.....		6
<u>Goal Area 3</u> *at least 1 course must include a lab.....		6
<u>Goal Area 4</u>		4
<u>Goal Area 5</u> *courses must be from at least 2 different disciplines.....		9
<u>Goal Area 6</u> *courses must be from at least 3 different disciplines.....		9
<u>Goal Area 7</u>		3
<u>Goal Area 8</u>		3
<u>Goal Area 9</u>		3
<u>Goal Area 10</u>		3

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 1 Electives.....		3
3 credits MnTC Goal Area 3 Electives.....		3
3 credits MnTC Goal Area 4 Electives.....		3
9 credits MnTC Goal Area 6 Electives.....		9
3 credits MnTC Goal Area 8 Electives.....		3
9 credits MnTC or Technical Electives*		9

*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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
SOC1111	Introduction to Sociology.....	3
POLS1120	American National Government.....	3
PSYC1200	General Psychology	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 1 Electives.....		3
3 credits MnTC Goal Area 3 Electives.....		3
3 credits MnTC Goal Area 4 Electives.....		3
9 credits MnTC Goal Area 6 Electives.....		9
3 credits MnTC Goal Area 8 Electives.....		3
15 credits MnTC or Technical Electives*		15

*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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Limited Scope Radiography Diploma - 46 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.

Requirement	Title	Credits
BIOL2260	Human Anatomy and Physiology I.....	3
COMM1140	Interpersonal Communication.....	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
RADT1102	Fundamental Concepts of Radiologic Technology.....	2

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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.

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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 and 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
DMKT2210	Social Media Marketing	3
ENGL1101	College Writing	3
MKTG1106	Professional Selling	3
MKTG2000	Integrated Marketing Communications	3
MKTG2236	Small Business Management	3
3 credits from the following:		
COMM1120	Introduction to Public Speaking	3
COMM1130	Small Group Communication	3
COMM1140	Interpersonal Communication	3
3 credits from the following:		
ECON2210	Macroeconomics	3
ECON2222	Microeconomics	3
3 credits from the following:		
HRES1122	Human Resource Management	3
MKTG1120	Supervisory Leadership	3
3 credits from the following:		
MKTG2290	Management, Marketing and Sales Internship	3
MKTG2402	Management and Marketing Seminar	3
6 credits MnTC Electives*		6

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
HLTH1110	Introduction to Anatomy and Physiology	3
6 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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
ADMM2255	Evaluation & Mgmt Coding Practices	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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
HLTH1110	Introduction to Anatomy and Physiology	3
3 credits MnTC Electives		3
6 credits from the following		3
COMM1120	Introduction to Public Speaking	
COMM1130	Small Group Communication	
COMM1140	Interpersonal Communication	

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Medical Receptionist Diploma - 34 credits Online

This program prepares individuals to work in a medical office setting. Medical receptionists greet, arrange appointments for 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
HLTH1110	Introduction to Anatomy and Physiology	3
6 credits from the following		6
COMM1120 Introduction to Public Speaking		
COMM1130 Small Group Communication		
COMM1140 Interpersonal Communication		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
COSM1161	Nail Structure and Growth.....	1
COSM1179	Minnesota Cosmetology Laws and Rules	1
COSM1200	Salon Practicum	6
COSM2200	Manicuring/Pedicuring	1
COSM2400	Advanced Nail Techniques	1

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Payroll Specialist Diploma - 32 credits Moorhead, Online

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

Requirement	Title	Credits
ACCT1124	Spreadsheet Applications	3
ACCT1101	Payroll	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		
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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Phlebotomy Technician Certificate - 16 credits Fergus Falls, Moorhead

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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		

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Political Science 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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

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
PWST2017	Marine Drive Systems.....	3
PWST2016	Outboard Engine 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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

PowerSports Technology Certificate - 30 credits Moorhead

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
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
PWST2304	Motorcycles I.....	3
3 credits MnTC Electives		3

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

PowerSports Technology Diploma - 60 credits Moorhead

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

Practical Nursing Diploma - 40 credits Moorhead

The Practical Nursing program prepares students to practice within the scope of a practical nurse. Students are 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. Students receive supervised learning experiences in caring for individuals in a variety of healthcare settings, such as hospitals, long-term care facilities and physician clinics. 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 approved the Practical Nursing program at M State, along with national accreditation from the National League for Nursing Commission for Nursing Education Accreditation (NLN CNEA).

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 bachelor'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	
	PSYC2950 Introduction to Social Research	
3 credits from the following		3
	PSYC2220 Abnormal Psychology	
	PSYC2222 Lifespan Development	
	PSYC2224 Social Psychology	
3 credits MnTC Goal 3 Electives (One lab course/ One BIOL prefix required).....		10
3 credits MnTC Goal 5 Elective (other than a PSYC prefix).		3
9 credits MnTC Goal Area 6 Electives.....		9

PROGRAMS AND MAJORS

Credits must be taken from three different disciplines- One PHIL course 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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
PHYS1105	Fundamental Concepts in Physics	3
RADT1102	Fundamental Concepts of Radiologic Technology.....	2
RADT1112	Introduction to Radiologic Technology and Patient Care	4
RADT1116	Radiographic Procedures I	5
RADT1124	Radiographic Procedures II	4
RADT1133	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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 6 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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
- Complete MATH0095 or test into a higher level math course

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
PSYC222	Lifespan Development	3
SURT1210	Surgical Technology I	6
SURT1200	Introduction to Surgical Technology	3
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 3 of the 10 MnTC goal areas.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

PROGRAMS AND MAJORS

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 2023-2024

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ACCT1101	Payroll	3	3/0/0
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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.

ACCT1124	Spreadsheet Applications	3	3/0/0
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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

ACCT2211	Financial Accounting I	3	3/0/0
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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.

ACCT2218	QuickBooks	2	2/0/0
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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, BUS1100

ACCT2256	Income Tax-Business	3	3/0/0
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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

ACCT2618	Intermediate Accounting II	3	3/0/0
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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

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ACCT2640	Accounting Internship	1-4	
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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.

ADMM1110	Medical Documentation I	4	2/2/0
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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.

ADMM1150	Medical Billing/Insurance	4	3/1/0
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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 Medical Language Applications I OR HLTH1116 Medical Terminology

ADMM1160	Medical Documentation II	3	1/2/0
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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, ADMM1110

ADMM2104	Medical Language Applications II	3	2/1/0
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This course is a continuation of Medical Language Applications I and prepares nonclinical students to provide effective written or oral communication in encounters with patients, health care providers and other health care staff. Construction, definition, spelling, pronunciation, and proper written and verbal usage of medical terminology pertaining to pharmacology, surgical and anesthesia procedures, laboratory and pathology, oncology, psychiatry and psychology, and physical and occupational therapy are emphasized. Students will apply medical language knowledge to simulated real-life applications from a medical office environment. In-depth analysis and application of verbal and written communication is covered.

Prerequisites: ADMM1104

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ADMM2130	Medical Office Career Insight	2	2/0/0
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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: ADMM1122

ADMM2152	Advanced Coding	4	2/2/0
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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

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

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

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

Corequisites: HLTH1110

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ADMS1104	Skillbuilding	1	0/1/0
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This course emphasizes improved computer keyboarding speed and accuracy while strengthening basic keyboarding techniques.

Prerequisites: Placement by assessment

ADMS1112	Desktop Publishing	3	1/2/0
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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.

ADMS1120	Administrative Office Procedures	3	2/1/0
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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.

ADMS1130	Office Software Applications	3	2/1/0
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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.

ADMS1190	Keyboarding II	1	0/1/0
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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.

Corequisites: ADMS1100

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ADMS1400	Office Administration	4	3/1/0
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This course covers skills and procedures required for the administrative office professional within today'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.

ADMS2205	Advanced Word Processing	1	0/1/0
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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

ADMS2216	Business Communications II	3	2/1/0
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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: per instructor's approval

ADMT2236	Administrative Project Management	3	2/1/0
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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

AGRI1170	Introduction to Agribusiness	3	3/0/0
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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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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AGRI1300	Introduction to Precision Agriculture	3	3/0/0
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In this course, students study the theory and principles of precision agriculture equipment, become familiar with the Global Positioning System (GPS) and develop a working knowledge of variable rate systems. Students gain a general overview of current and emerging technologies in precision agriculture as they relate to farm operations and production agriculture.

AGRI2100	Agricultural Commodity Marketing	3	3/0/0
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This course acquaints students with an understanding of market forces and their relationship to price establishment of agricultural crops, organization of markets, marketing policy and price trends of agricultural commodities.

Prerequisites: BUS2206

AGRI2300	Farm Records and Business Analysis	3	3/0/0
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This course introduces the business of agriculture and computerized record keeping. This is an applied course of record keeping and financial statements. Students will utilize computerized records (cash and accrual accounting), manage inventories and generate financial documents. Topics include calculation of earnings, efficiency factors, total business and enterprise analysis.

Prerequisites: ACCT2211

AMST1102	Alignment and Suspension I	3	1/2/0
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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

AMST1110	Batteries, Starting and Charging Systems	2	1/1/0
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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, AMST1111

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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AMST1114	Basic Maintenance Service	1	1/0/0
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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.

AMST1126	Engines II	3	1/2/0
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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, AMST1122

AMST1136	Drivetrains II	3	1/2/0
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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.

AMST2206	Body Electrical and Mechanical I	3	1/2/0
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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, AMST1111

AMST2211	Exhaust Analysis and Fuel Systems	3	2/1/0
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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, AMST1111

AMST2218	Electronic Powertrain Control II	3	1/2/0
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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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Prerequisites: AMST1101, AMST1111, AMST2214

AMST2225	Brakes II	3	2/1/0
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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, AMST1105, AMST1111

AMST2237	Automatic Transmissions II	3	1/2/0
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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, AMST1111, AMST2233

ANTH1100	Introduction to Anthropology	3	3/0/0
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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
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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, ENGT1134

ARCH2218	Architectural Internship	3	0/0/3
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This course provides the student with an occupational experience in the architectural technology field. Each internship is an individualized experience.

Prerequisites: ARCH1126

ARCH2222	Architectural Drafting Service Learning	4	2/2/0
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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, ARCH1126

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ARCH2228	Architectural Internship	4	0/0/4
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This course provides the student with an occupational experience in the architectural design and construction field. Each internship is an individualized experience.

Prerequisites: CADD1000, ENGT1134

ARCH2236	Architectural Presentation	2	0/2/0
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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, ARCH1126

ARCH2244	Commercial Projects	4	1/3/0
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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, ARCH2240

ARCH2250	Project Administration	2	1/1/0
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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

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

ART1110	Introduction to Art	3	2/1/0
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Meets MnTC Goal Area 6F. This course provides an introduction to the elements and principals of visual arts and to the creative process. Students are encouraged to use a variety of media in drawing, painting and sculpture.

ART1117	Printmaking I	3	2/1/0
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Meets MnTC Goal Areas 2 and 6. Students will create original works in a variety of printmaking techniques with emphasis on relief and serigraphy.

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

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

ART1141	Ceramics I	3	2/1/0
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Meets MnTC Goal Area 6F. Students learn about pottery tools and their uses, construction methods such as coil and slabs, aspects of pottery form and design, formulation and application of glazes, and operation of a ceramic kiln. The course is designed for the novice.

ART2000	Intermediate Art Studio	3	2/1/0
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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.

ART2111	Drawing II	3	2/1/0
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Meets MnTC Goal Areas 2 and 6F. This course focuses on student use and understanding of a variety of drawing media such as pencil, pastel, pen and ink, and charcoal. Intermediate use of composition and color is emphasized.

Prerequisites: ART1111

ART2114	Photographic Art I	3	3/0/0
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Meets MnTC Goal Areas 2 and 6F. 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.

ART2116	Mixed Media I	3	2/1/0
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Meets MnTC Goal areas 2 and 6F. Multimedia art exploration is a problem-solving art studio experience involving the use of a variety of traditional and non-traditional art materials.

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Course#	Course Title	Cr	Lec/Lab/OJ
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ART2241	Advanced Ceramics	3	2/1/0
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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

ASL1100	Introduction to Deaf Studies	3	3/0/0
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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: Assessment into ENGL1101

ASL1102	American Sign Language and Deaf Culture II	3	3/0/0
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This is the second in a series of courses designed to develop the skills and knowledge needed to communicate in American Sign Language (ASL). ASL 1102 will focus on vocabulary development, fingerspelling, numbers and grammatical structure. This course includes further practice with both expressive and receptive ASL, along with additional information about the Deaf Community and Deaf Culture.

Prerequisites: ASL1101, Grade of B or better in ASL1101.

ASL1104	American Sign Language and Deaf Culture IV	3	3/0/0
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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: Grade of B or better in ASL1103

ASL1106	Classifiers and Non-Manual Markers	3	3/0/0
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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: Grade of B or better in ASL1102

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ASL1108	Conversational Sign Language	3	3/0/0
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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: Grade of B or better in ASL1103

ASL2000	Advanced Fingerspelling, Numbers and Classifiers	2	2/0/0
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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, Grade of B or better in ASL1115

BIOL1104	Biology of Human Concerns	3	2/1/0
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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.

BIOL1108	Environmental Science Issues Lab	1	0/1/0
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Meets MnTC Goal Areas 2, 3 and 10. This course includes laboratory work completed in conjunction with BIOL 1107 Environmental Science Issues. Laboratory experiences may include lab and field exercises, computer simulations and collection and analysis of data related to current environmental issues and their possible solutions. This optional lab must be taken concurrently with BIOL 1107.

BIOL1122	General Biology I	4	3/1/0
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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: Assessment into ENGL 1101 or college level writing equivalent.

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Course#	Course Title	Cr	Lec/Lab/OJ
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BIOL1152	Food Science	3	3/0/0
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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.

BIOL2010	General Ecology	4	3/1/0
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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, BIOL1123, Completion of MATH 1020 or placement into MATH 1114

BIOL2220	General Microbiology	4	3/1/0
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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

BIOL2260	Human Anatomy and Physiology I	3	3/0/0
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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: Assessment into ENGL 1101 or college level writing equivalent.

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BIOL2262	Human Anatomy and Physiology II	3	3/0/0
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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: Assessment into ENGL 1101 or college level writing equivalent., BIOL2260

BIOL2267	Medical Microbiology	3	3/0/0
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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: Assessment into ENGL 1101.

BIOL2970	Internship Experience	1-3	
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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

BLDG1110	Principles of Residential and Commercial Construction	3	1/2/0
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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

BLDG1120	Construction Estimating I	2	1/1/0
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This course covers the mathematical procedures used in material estimating and completing quantity takeoffs for building projects.

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BUS1120	Spreadsheet and Database Concepts	3	3/0/0
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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.

BUS1143	Office Procedures	3	3/0/0
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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.

BUS1300	Financial Statement Analysis	3	3/0/0
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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.

BUS2204	Principles of Management	3	3/0/0
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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.

BUS2209	Business Research	3	3/0/0
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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

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Course#	Course Title	Cr	Lec/Lab/OJ
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BUS2310	Hospitality Management	3	3/0/0
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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.

BUS2700	Technology Research and Presentation	3	2/1/0
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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, ENGL1101

CADD1100	Solid Modeling with AutoCAD	2	1/1/0
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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

CADD1114	Introduction to Solids and Parametric Modeling	4	2/2/0
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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, MCDD1102

CADD1210	Introduction to Autodesk Inventor	2	1/1/0
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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.

CADD1410	Introduction to Autodesk Inventor	3	2/1/0
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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

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CADD2214	Advanced Solids and Parametric Modeling	4	2/2/0
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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

CDEV1107	Introduction to Early Education	3	2/1/0
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This course explores career opportunities with children and investigates a variety of child development programs for children ages birth through 8. Students will examine job requirements, duties, regulations and personal characteristics of successful workers. In addition, this course will guide the student in obtaining skills needed to maintain a safe and healthy child development setting.

CDEV2229	Imaginative Learning	3	2/1/0
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This course provides an exploration of the home, center or school environment for children birth through 8. It includes an examination of both indoor and outdoor space in relation to arrangement, maintenance and evaluation. Students apply their knowledge in an actual work setting. The focus is on designing learning environments and developmentally appropriate practice in methods and materials for art, literacy, music, math, science, physical development, and social and multicultural studies.

Prerequisites: CDEV1105, CDEV1107

CDEV2238	Integrating Children with Special Needs	3	2/1/0
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This course examines the development of and provides hands-on experiences for children with special needs in an integrated child care or primary school-age setting. Students integrate knowledge of developmental needs, developmentally appropriate environments and effective teaching methods.

Prerequisites: CDEV2229

CDEV2242	Infant/Toddler Program	3	2/1/0
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This course provides an overview of infant/toddler learning experiences in either home or center-based settings. Students integrate knowledge of developmental needs, developmentally appropriate environments, and effective caregiving and teaching methods.

Prerequisites: CDEV1105, CDEV1107, CDEV2200, CDEV2229

CDEV2246	Foundations in Literacy	3	3/0/0
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This course is an overview of early language acquisition, how literacy is best developed and what activities child care providers can do to promote the foundation for literacy development.

Prerequisites: CDEV1105, CDEV1107, CDEV2200, CDEV2229

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CHEM1100	Fundamental Concepts of Chemistry	3	2/1/0
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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

CHEM1111	General Chemistry I	5	4/1/0
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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	4/1/0
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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, MATH1114

CHEM1115	Introduction to Organic and Biochemistry	4	3/1/0
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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

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CHEM2225	Organic Chemistry II	5	4/1/0
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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

CHIN1101	Introduction to Chinese	3	3/0/0
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Meets MnTC Goal Area 8. This course will introduce students to the Beijing (Mandarin) dialect of Chinese including basic grammar, the Pin Yin system of transliteration and reading and writing Chinese characters.

CIVL1119	Survey II: Land Surveys	3	1/2/0
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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

CIVL2209	Construction Inspection	3	2/1/0
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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: CIVL1102

CIVL2230	Civil Engineering Technology Internship	3	0/0/3
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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

CIVL2238	CADD III: Project Design	3	2/1/0
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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.

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Prerequisites: CIVL1138

CIVL2246	Introduction to Hydrology	3	3/0/0
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This course will include introduction to hydraulic principles, hydrology, pipe and open channel flow, watershed analysis and storm water regulations.

Prerequisites: CIVL2234, CIVL2240

COMM1120	Introduction to Public Speaking	3	3/0/0
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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: Assessment into ENGL 1101

COMM1140	Interpersonal Communication	3	3/0/0
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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: Assessment into ENGL 1101

COMM2260	Computer-Mediated Communication	3	3/0/0
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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

CONM1102	Site/Building Layout	2	1/1/0
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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.

CONM1108	Principles of Estimating	4	2/2/0
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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.

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Prerequisites: CONM1101

CONM2204	Materials Testing	3	1/2/0
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This course covers inspection techniques, methods of material measurement, documentation, material sampling and testing methods for soils and concrete.

CONM2208	Construction Bidding	2	1/1/0
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This course will explore standard construction contract documents and project estimating procedures and their use in building a competitive bid.

Prerequisites: CONM1108

CONM2212	Site Management	3	3/0/0
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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.

CONM2217	Computer Estimating and Bidding	3	2/1/0
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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.

Corequisites: CONM2210

COSM1000	Principles and Practices	3	3/0/0
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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.

COSM1003	License Preparation	1	1/0/0
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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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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COSM1005	Hair Reformation	1	1/0/0
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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.

COSM1007	Gel Nail Applications	1	1/0/0
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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.

COSM1100	Salon Safety	1	1/0/0
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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.

COSM1109	Skin Analysis	1	1/0/0
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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.

COSM1119	Haircutting	1	1/0/0
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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.

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

COSM1157	Histology of the Skin	1	1/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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COSM1161	Nail Structure and Growth	1	1/0/0
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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.

COSM1171	Principles of Hair Design	1	1/0/0
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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.

COSM1200	Salon Practicum	1-18	
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In this course, students will work in a licensed salon in order to meet the required 1,550 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.

COSM2100	Chemical Texture Services	1	1/0/0
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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.

COSM2300	Cosmetology Anatomy	1	1/0/0
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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.

COSM2500	Salon Business	1	1/0/0
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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.

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

CPTR1104	Introduction to Computer Technology	3	2/1/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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CPTR1108	CISCO 1	3	1/2/0
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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.

CPTR1115	COBOL Programming	4	3/1/0
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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.

CPTR1121	Information Technology Service Desk	3	2/1/0
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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.

CPTR1125	IT Essentials I	3	1/2/0
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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.

CPTR1130	IT Essentials II	3	1/2/0
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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

CPTR1148	Microcomputer Operating System	3	1/2/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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CPTR1178	Robotics	3	2/1/0
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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 programming environment. Along with reading current literature about robotics, this class provides the student the fundamentals of robotics.

CPTR2001	Scripting for Automation	3	2/1/0
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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

CPTR2200	CISCO 3	3	2/1/0
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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

CPTR2210	Database Report Generation	3	2/1/0
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This course is an introduction 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. Ethical and security concerns and challenges of database reporting are covered, along with best practices and business requirements used in database reporting.

CPTR2230	Structured Query Language	3	2/1/0
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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

CPTR2236	Network Security	3	2/1/0
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This course deals with the understanding of basic network security. Students learn how to manage systems to guard against various security threats.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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CPTR2240	Database Administration	3	2/1/0
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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.

CPTR2245	Enterprise Network Technologies	3	2/1/0
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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

CPTR2252	Microcomputer Systems Project	3	1/2/0
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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

CPTR2260	Advanced Structured Query Language	3	2/1/0
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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

CPTR2275	Data Analytics	3	2/1/0
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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.

CPTR2296	Topics in Computers	3	1/2/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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CRJU1102	Policing and Practices	3	3/0/0
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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.

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

CRJU1109	Law Enforcement Behavioral Science	3	3/0/0
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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.

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

CRJU2202	Criminal Procedures	3	3/0/0
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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.

CRJU2209	Criminal Investigations	3	3/0/0
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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.

CRJU2235	Criminal Justice Internship	3	0/0/3
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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CSCI1121	Computer Science I	4	4/0/0
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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.

CSEC1110	Fundamentals of IT Security	3	2/1/0
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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.

CSEC2210	Security Breaches and Countermeasures	3	2/1/0
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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

CSEC2228	Network Defense	3	2/1/0
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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
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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

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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CVRI1110	Cardiovascular Anatomy and Physiology	3	3/0/0
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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, BIOL2263, CVRI1100

CVRI1130	Cardiovascular Technology I	3	2/1/0
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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.

Corequisites: CVRI1105, CVRI1110, CVRI1120

CVRI2130	Cardiovascular Technology II	5	3/2/0
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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, CVRI1130

CVRI2146	Cardiovascular Electrocardiography	1	1/0/0
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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

CVRI2262	Cardiovascular Technology Practicum I	5	0/0/5
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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.

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Course#	Course Title	Cr	Lec/Lab/OJ
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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

CVRI2264	Cardiovascular Technology Practicum III	5	0/0/5
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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.

Corequisites: CVRI2262, CVRI2263

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

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

DCNH2242	Advanced Engines and Fuel Systems	6	2/4/0
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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, DSET1136

DENT1102	Dental Anatomy	2	2/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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DENT1104	Dental Health Care Providers II	1	1/0/0
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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.

DENT1122	Dental Ethics and Jurisprudence	1	1/0/0
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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.

DIAT1102	Anatomy and Physiology of the Urinary System	2	1/1/0
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This course focuses on urinary system anatomy and physiology. Topics include normal renal function and renal pathophysiology, with an emphasis on the consequences of untreated renal conditions.

DIAT1115	Principles of Dialysis Lab	3	0/3/0
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This lab course provides the student with experience in routine lab collection techniques; medication administration; principles of aseptic technique; preparation, cannulation and use of different dialysis access sites; use of central venous catheters; and patient monitoring and discharge. Students will be introduced to dialysis delivery systems and dialysate, and practice implementation of state and federal regulations in a simulation setting.

Corequisites: DIAT1105

DMKT2200	Introduction to Digital Marketing	3	3/0/0
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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.

DMKT2300	Content Marketing	3	3/0/0
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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

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Course#	Course Title	Cr	Lec/Lab/OJ
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DMKT2320	Search Engine Marketing	3	3/0/0
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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

DMKT2400	Digital Marketing Analytics	3	3/0/0
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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

DNAS1103	Clinical Assisting I	6	3/3/0
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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.

DNAS1106	Biodental Science	3	3/0/0
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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

DNAS1114	Dental Practice Management	2	2/0/0
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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.

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DNAS1144	Dental Assisting Clinical Affiliations	6	0/0/6
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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.

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

DNHY1104	Dental Anatomy Lab	1	0/1/0
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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.

DNHY1108	Oral Histology and Embryology	2	2/0/0
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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.

DNHY1110	Principles I	2	2/0/0
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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.

DNHY1113	Radiology Lab I	1	0/1/0
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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

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DNHY1118	Oral Pathology	2	2/0/0
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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: Accepted into the dental hygiene program and successful completion of Principles I, II, III; Head and Neck Anatomy; and Oral Histology and Embryology

DNHY1123	Dental Hygiene Practice II	5	0/5/0
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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

DNHY1130	Dental Hygiene Principles III	1	1/0/0
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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.

Corequisites: DNHY1132

DNHY1136	Dental Pharmacology	2	2/0/0
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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.

DNHY2213	Dental Hygiene Practice IV	6	0/6/0
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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.

Corequisites: DNHY2240

DNHY2220	Dental Hygiene Principle V	1	1/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Prerequisites: DNHY2210

DNHY2226	Community Dental Hygiene	4	3/1/0
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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.

DNHY2240	Clinical Affiliation I	1	0/0/1
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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

DSET1100	Diesel Equipment Fundamentals	2	1/1/0
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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.

DSET1106	Fuel Systems	2	1/1/0
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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.

DSET1112	Hydraulics I	4	2/2/0
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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.

DSET1116	Fall Supervised Occupational Experience	3	0/0/3
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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.

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Course#	Course Title	Cr	Lec/Lab/OJ
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DSET1130	Trans Elec/Start/Charge	4	2/2/0
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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.

DSET1136	Introduction to Diesel Engines	2	0/2/0
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This course introduces students to the four-cycle diesel engine. Coursework includes disassembly, inspection, measurement, assembly and adjustment of diesel engines and their components.

DSET1144	Electrical Troubleshooting	3	1/2/0
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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

DSET2204	Advanced Electrical and Emission Systems	3	1/2/0
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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, DSET1130

DSET2210	Mobile Hydraulics	4	1/3/0
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This course covers the hydraulic components used in farm and heavy equipment and trucks. This will include hydrostatic transmission, electric over hydraulic control valves and electronic control components. It will also include troubleshooting of live units with proper testing equipment used in up-to-date service centers.

Prerequisites: DSET1100, DSET1112

DSET2216	Advanced Air Brake Systems	2	1.5/0.5/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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DSET2238	Transmissions & Drive Systems	4	1/3/0
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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

DSET2242	Advanced Engines and Fuel Systems	6	2/4/0
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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, DSET1136

DSET2251	Advanced Hydraulics	2	1.5/0.5/0
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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.

DTRK2214	Suspension and Alignment	3	1/2/0
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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: TRNS1102

DTRK2240	Supervised Occupational Experience II	4	0/0/4
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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.

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

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ECE1109	Health, Wellness and Nutrition	3	3/0/0
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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.

ECE1113	Behavior Guidance	3	2/1/0
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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, ECE1107, ECE1109

ECE2101	Observation and Assessment	3	2/1/0
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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, ECE1113, ECE1115

ECE2105	Internship	3	0/0/3
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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, ECE2103

ECHO1100	Adult Echocardiography I	3	3/0/0
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This course will cover the anatomy of the cardiovascular system. Students will learn the cardiac cycle, including event timing, heart and vascular pressure, cardiac chamber quantification, and electrophysiology.

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Also included in this course is an introduction to the two-dimensional ultrasound appearance of cardiac anatomy, including abnormalities detected by adult transthoracic echocardiography.

ECHO1110	Adult Echocardiography II	3	3/0/0
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This course includes an in-depth review of the pathophysiology of heart disease and the role of ultrasound diagnosis and treatment. Topics include measurements of cardiac chamber size, calculations of valve area, hemodynamics, estimation of regurgitation, evaluation of native valve disease, evaluation of pericardial disease, prosthetic valves, aortic disease, cardiomyopathies and evaluation of cardiac tumors.

Prerequisites: ECHO1100, ECHO1105

ECHO1120	Ultrasound Physics and Instrumentation I	3	3/0/0
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Students will apply the principles of ultrasound, sound propagation, pulsed-echo instrumentation, image formation, transducers and system operation to the interpretation of sonographic information and image methodology. Integrating these theories and abstract principles with their practice clinical applications will be emphasized.

Corequisites: ECHO1100, ECHO1105

ECHO2100	Adult Echocardiography III	3	3/0/0
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This course includes an in-depth review of the pathophysiology of heart disease, including congenital heart defects. The role of ultrasound enhancement agents and exercise echocardiography is discussed. Quantitative echocardiography is addressed, including regurgitation assessment, 3D imaging and transesophageal echocardiography.

Prerequisites: ECHO1110, ECHO1115, ECHO1125

ECHO2200	Adult Echocardiography Clinical I	7	0/0/7
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This course provides a supervised clinical practicum that prepares students to develop cognitive, psychomotor and affective learning domains for adult transthoracic echocardiography. Students demonstrate increasing proficiency in the required echocardiography imaging modalities that will allow them to achieve clinical competency.

Corequisites: ECHO2100, ECHO2110

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ECON1150	Essentials of Economics	3	3/0/0
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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.

ECON2222	Microeconomics	3	3/0/0
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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
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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.

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

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Course#	Course Title	Cr	Lec/Lab/OJ
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EDUC1113	Career and Life Planning	2	2/0/0
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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.

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

ELEC1107	Introduction to Residential Wiring	3	1/2/0
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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.

ELEC1110	Electric Motors and Generators	4	2/2/0
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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

ELEC1114	National Electrical Code	2	2/0/0
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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

ELEC1116	Conduit/Tool Applications	2	0/2/0
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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

ELEC1122	Introduction to Electrical Materials	1	0/1/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
ELEC1130	Electrical Blueprints	3	2/1/0
<p>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.</p> <p>Prerequisites: ELEC1124</p>			
ELEC1170	Predictive Maintenance Technology	2	1/1/0
<p>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.</p>			
ELEC2202	Heating/Cooling Controls	3	1/2/0
<p>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.</p> <p>Prerequisites: ELEC1107</p>			
ELEC2206	Introduction to Motor Control Applications	3	2/1/0
<p>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.</p> <p>Prerequisites: ELEC1108, ELEC1110</p>			
ELEC2211	Electronic Motor Control	3	2/1/0
<p>This course provides application of basic theory and operation to electronic motor control including semi-conductors, rectifiers, regulators and amplifiers.</p> <p>Prerequisites: ELEC1108</p>			

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ELEC2214	Industrial Wiring	2	1/1/0
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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

ELEC2217	Building Automation I	2	0/2/0
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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.

ELEC2220	Electrician Internship	3	0/0/3
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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.

ELEC2225	Transformers	2	0/2/0
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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

ELEC2230	Electrical Building Information Modeling	2	1/1/0
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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

ELEC2238	Low Voltage Wiring	2	1/1/0
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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.

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ELEC2244	National Electrical Code Changes	1	1/0/0
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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

ELEC2248	Code Applications	2	1/1/0
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This course applies the principles of the National Electrical Code to job-specific situations.

Prerequisites: ELEC1104, ELEC1114

ELL0050	English Language Learner Foundations	4	3/1/0
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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.

ELL0060	English Language Learner Reading	3	3/0/0
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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.

ELL0075	American English Pronunciation	2	2/0/0
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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, 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.

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

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Course#	Course Title	Cr	Lec/Lab/OJ
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ELWT1100	Introduction to Lineworker Theory	4	2/2/0
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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.

ELWT1104	Electrical Structure Installation	5	2/3/0
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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.

ELWT1108	Construction of Overhead Structures	3	0/3/0
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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.

ELWT1112	Transformers	2	0/2/0
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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.

Corequisites: ELWT1110

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

ELWT1120	Field Construction II	3	0/3/0
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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.

ELWT1130	Electrical Line Worker Internship	2	0/0/2
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This course will concentrate on the student receiving apprentice line work skills under the supervision of an appropriate industry representative.

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Prerequisites: Instructor approval

ELWT1134	Hydraulics for Lineworkers	2	0/2/0
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This course provides knowledge and safe use of hydraulic and pneumatic tools used in the electrical lineworker industry.

EMS1200	Emergency Medical Technician Fundamentals	2	2/0/0
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This course prepares students for the work of providing care in the emergency medical field as an emergency medical technician (EMT). It will enable the student to assess, identify, treat and manage a variety of prehospital traumatic and medical emergencies. The student will learn to perform various aspects of emergency medical care and ambulance operations under the scope of practice set forth by the U.S. Department of Transportation.

EMS1300	Emergency Medical Technician Practicum	1	0/1/0
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This course introduces the emergency medical technician (EMT) student to emergency medical services (EMS) operations and patient care. During this course, students will have the opportunity to work under the direction of a preceptor with various health care industry entities to assist in the care of hospital and prehospital/ambulance patients.

ENDT1150	Electroencephalography Practicum	3	0/0/3
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In this course, students will apply the knowledge and skills of the electroencephalogram (EEG) in a clinical setting. Students will provide care for patients, apply electrodes and obtain EEG recordings.

Prerequisites: American Heart Association BLS CPR, BIOL1170, Clear National and Department of Human Services Background study, ENDT1100, MATH1100, MIS1100, Up-to-date immunizations according to clinical affiliation agreements

ENDT1250	Polysomnography Practicum I	4	0/0/4
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In this course, students will care for patients undergoing sleep studies in clinical settings. Students will be expected to participate in experiences in the evening and overnight to complete course competencies. Students will prepare patients, initiate sleep studies, perform patient and instrument calibration, and administer different sleep study tests.

Prerequisites: American Heart Association BLS CPR, Clear National and Department of Human Services Background Studies., ENDT1150, ENDT1200, Up to date immunizations according to the clinical affiliation agreements.

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ENDT1400	Advanced Polysomnography	2	2/0/0
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In this course students will build on previously learned polysomnography knowledge and skills. The course will explore advanced concepts of oxygen administration, positive airway pressure administration and titration, managing emergencies and special populations.

Prerequisites: ENDT1150, ENDT1200

ENDT1600	Neurodiagnostic Practicum	4	0/0/4
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In this course, students will care for patients undergoing evoked potentials (EP), nerve conduction studies (NCS), and long-term monitoring (LTM).

Prerequisites: American Heart Association BLS CPR, Clear national and Department of Human Services background studies, Current immunizations according to clinical affiliation agreements, ENDT1250, ENDT1400

ENDT1800	Polysomnography Practicum II	4	0/0/4
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This course builds on the knowledge and skills gained in the Electroneurodiagnostic Technology program. Students will care for patients undergoing sleep studies, which may require the student to attend the course overnight.

Prerequisites: Clear National and Department of Human Service background studies., Current American Heart Association BLS CPR, ENDT1250, ENDT1400, Up-to-date immunizations according to clinical affiliation agreements.

ENGL0091	English Foundations	3	3/0/0
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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: Course placement is determined by assessment

ENGL0098	Accelerated English	3	3/0/0
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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: Course placement is determined by assessment or completion of ENGL 0091 with a grade of C or higher.

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ENGL1205	Writing About Literature	3	3/0/0
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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

ENGL1215	Professional and Technical Writing	3	3/0/0
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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: ENGL 1101 College Writing

ENGL2228	A Well Examined Life: Reading and Writing Memoir	3	3/0/0
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Meets MnTC Goal Areas 6F and 7. This course focuses on the writing of personal memoir as well as an in-depth study of the literary genre of memoir; it may also include creative essay writing. It is a workshop designed to offer students practice in the composition of memoir and other narrative modes of writing, as well as a study of the memoir as literature. This course places emphasis on the creation of fine arts as well as the formal, critical analysis of them.

Prerequisites: ENGL1101

ENGL2234	Introduction to Literature: Short Stories	3	3/0/0
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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: ENGL0050

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

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COURSE DESCRIPTIONS

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Prerequisites: ENGL1101

ENGL2238	Literature, Illness and the Human Condition	3	3/0/0
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This course meets MnTC Goal Areas 6 and 9. Students will read fiction and nonfiction literary texts as a means for understanding issues related to health, illness and the human condition. Through discussions, writings and projects, students will analyze the readings in order to learn about the literary genres, explore the range of responses to the issues (including their own) and identify and reflect about ways people exercise their roles as responsible members of their communities and citizens of the world.

Prerequisites: ENGL1101

ENGL2302	American Ethnic Literature	3	3/0/0
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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

ENGL2314	Introduction to Shakespeare	3	3/0/0
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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

ENGL2322	Banned Literature	3	3/0/0
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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

ENGL2324	Travel Literature	3	3/0/0
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This course meets Goal Areas 2, 6 and 10. The course is an in-depth study of travel literature. It focuses primarily on modern travel literature, but some readings of early explorers will establish context for 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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Prerequisites: ENGL1101

ENGL2372	Children's Literature	3	3/0/0
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Meets MnTC Goal Areas 2, 6 and 7. This course introduces students to children's literature. Students read and respond to diverse, traditional and contemporary texts. Emphasis is 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

ENGR1100	Project Management	1	1/0/0
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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.

ENGR2220	Engineering Mechanics II	3	3/0/0
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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, MATH1135

ENGR2970	Internship Experience	1-3	
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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

ENGT1118	Construction and Manufacturing Math	3	3/0/0
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This course covers the application of common geometric and trigonometric calculations related to the construction and manufacturing industries.

Prerequisites: MATH0055

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ENGT1134	Office Systems and Equipment	3	1/2/0
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This course covers the application of Windows software systems in coordination with AutoCAD software as well as general office equipment set-up and use.

ENST2002	Energy Safety Principles	1	1/0/0
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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.

ENST2223	GPS Mapping	2	1/1/0
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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.

ENTR1101	Entrepreneurship I: Finding Your Opportunity	3	3/0/0
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This course is designed for those who have a current business or aspire to create business opportunities. Students assess their skills, attitudes and behaviors related to entrepreneurial and innovative mindsets. Concepts and exercises focus on practical and repeatable processes and applications that identify unmet customer needs to generate ideas that become an innovation of value. Students create and present (pitch) business ideas. This course contains content and information on entrepreneurial mindset and entrepreneurial thinking.

ENTR1301	Entrepreneurship III: Running and Growing Your Business	3	3/0/0
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In this course, students who are operating a business or have a solid business model learn how to build a firm foundation for running and growing their business. Students develop a detailed business plan as well as present and pitch a business plan to entrepreneurial professionals. The focus of the course is on the financial, marketing and operational functions within a business needed for sustained growth and success.

Prerequisites: ENTR1101, ENTR1201

ENTR2200	Entrepreneurial Field Studies	3	0/0/3
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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ENTR2222	Business Plan Development	3	2/1/0
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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.

ESTH1801	Advanced Skin Treatments	1	1/0/0
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In this course students learn about advanced skin care techniques including lymph drainage, chemical peels, microdermabrasion and spa body treatments.

ESTH1804	Advanced Skin Care Techniques	1	1/0/0
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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.

FIRE1110	Firefighter I	1	1/0/0
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This course covers the objectives of the Minnesota Fire Service Certification Board for certification as a Firefighter I. The MFSCB objectives are based on National Fire Protection Association 1001: Standard for Fire Fighter Professional Qualifications. This will prepare the student to function at or above the minimum level of training for entry into a fire protection career field.

Corequisites: FIRE1111

FIRE1114	Firefighter II	2	2/0/0
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This course covers the objectives of the Minnesota Fire Service Certification Board for certification as a Firefighter II. The MFSCB objectives are based on National Fire Protection Association 1001: Standard for Fire Fighter Professional Qualifications. This will prepare the student to function at or above the minimum level of training for entry into a fire protection career field.

Corequisites: FIRE1115

FIRE1130	Technical Rescue	3	1/2/0
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This course will cover the basic technical rescue techniques required from National Fire Protection Association (NFPA) 1670, Standard on Operations and Training for Technical Search and Rescue Incidents.

Prerequisites: FIRE1100, FIRE1106, FIRE1108

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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FIRE1150	HazMat Operational	3	2/1/0
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This course is designed to teach the necessary skills to protect yourself, your fellow responder and the public from exposure in a hazardous materials incident. The course meets the requirements of the OSHA (Occupational Safety and Health Administration) 1910.120 for the First Responder Operation level. The student will learn how to recognize and identify the presence of hazardous materials, the proper protective clothing to use, how to decontaminate properly, how to establish an Incident Command System and the proper standard operating procedures to maintain safety at the incident scene. The course follows the NFPA (National Fire Protection Association) Standard 472 requirements for the First Responder Operational level.

FIRE1180	Building Construction for Fire Protection	3	3/0/0
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This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, pre-planning fire operations and operating at emergencies.

FIRE2030	Fire Instructor I	2	2/0/0
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This course introduces students to the various objectives of the National Fire Protection Association (NFPA) 1041 Fire Service Instructor Professional Qualifications 2009 Edition for state certification for Fire Instructor I. This will prepare the student to function at the minimum level of training for a fire service instructor.

FIRE2050	Fire Prevention	3	3/0/0
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This course provides fundamental knowledge relating to the field of fire prevention. Topics include history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation.

FIRE2080	Fire Service Leadership and Management	3	3/0/0
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This course will explore the skills necessary to function as a supervisor within a tight-knit, family-like setting. Topics will include motivating employees; group dynamics; managing change; organizational behavior; organizational culture; performance evaluations; leadership theories; group cohesiveness; generational considerations; and personal leadership styles.

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FYE1101	First Year Experience	3	3/0/0
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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.

GAS1001	Underground Utility Locating	2	0/2/0
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This course provides the skills and procedures necessary to locate and accurately mark underground utilities including gas, electrical, water and cable.

GAS1003	Gas Utility Equipment Training	5	1/4/0
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This is an Introductory course that prepares students for basic field utility work. The course includes safety procedures, equipment operations and maintenance.

GAS2001	Forklift Certification	1	0/1/0
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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.

GAS2003	Gasless Leak Detection	3	1/2/0
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This course will provide hands-on training for responding to gas emergencies and conducting hazardous leak investigations.

GDTC1100	Macintosh Production Processes	3	2/1/0
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This course covers general processes, workflow methods and utilization of the Macintosh Operating System features in a graphic design or production environment.

GDTC1113	Design and Layout I	3	2/1/0
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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

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GDTC1120	Adobe InDesign I	3	2/1/0
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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

GDTC1126	Digital Photo / Video	3	1/2/0
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In this course students will develop basic photographic and video production skills and knowledge using a digital camera for a variety of assignments.

GDTC1150	Process Printing Theory	3	3/0/0
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In this course, students will gain an understanding of the foundational theory of the printing process and be introduced to printing terminology.

GDTC2205	Adobe Photoshop II	3	2/1/0
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This course covers digital image creation, manipulation and preparation for output using a variety of advanced functionalities of Adobe PhotoShop.

Prerequisites: GDTC1105

GDTC2224	Interactive Design II	3	2/1/0
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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

GDTC2245	Adobe Illustrator II	3	2/1/0
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This course covers the use of Adobe Illustrator to create and manipulate electronic illustrations, logos and artwork.

Prerequisites: GDTC1135

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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GDTC2250	Design Campaigns	3	2/1/0
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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, GDTC2212, GDTC2278

GDTC2276	Graphic Design Internship	3	0/0/3
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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, GDTC2212

GEOG1110	World Regional Geography	3	3/0/0
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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.

GLST1100	Introduction to Global Studies	3	3/0/0
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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.

GOLF1100	Rules of Golf	1	1/0/0
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This course reviews the rules of golf in detail. Students develop a clear understanding of how to navigate the rule book by studying "The Rules of Golf" and "The Decisions on the Rules of Golf." Emphasis is placed on practical hands-on application of the rules and decisions on the golf course. Proper course set-up and marking a golf course for an official USGA event are also discussed. The course prepares students to take the USGA Rules Exam.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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GOLF1200	Introduction to Golf Fundamentals and Methods	3	2/1/0
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This course discusses the fundamentals of golf necessary to play at the beginning recreational level. It includes discussion of rules, etiquette, equipment and terminology. The course will be a combination of classroom lecture and golf course experience.

HCCC1001	Nursing Assistant Skill Set	2	0/2/0
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This laboratory and clinical course is to be taken concurrently with the HCCC1000 Healthcare Core Curriculum course for students interested in taking the nursing assistant certification examination. This course provides students the laboratory and clinical hours required for the nursing assistant curriculum. The course may not be taken independently of the HCCC1000 Healthcare Core Curriculum course.

Corequisites: HCCC1000

HEAT2220	Oil Heating	2	1/1/0
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This course covers the use of oil as a means used to heat various media including air and water.

Prerequisites: CONE1102, PLBG1128

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

HIST1202	American History since 1877	3	3/0/0
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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.

HIST1600	History of Baseball	3	3/0/0
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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.

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COURSE DESCRIPTIONS

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HIST2220	Minnesota and Northern Plains History	3	3/0/0
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Meets MnTC Goal Areas 5 and 10. This survey course explores the cultural, social, political and economic development of Minnesota and the northern Great Plains. Topics will include the significance of geography and natural resources, relations between Native American and European populations, and key events in the economic and political development of the region. Emphasis will be placed on the interaction between human development and the natural environment.

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

HITM1152	Health Information Systems	3	1/2/0
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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

HITM1155	Medicolegal Aspects	3	2/1/0
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This course focuses on the application of legal principles, policies, regulations and standards for the control and use of health information.

Prerequisites: HITM1151

HITM1165	Information Systems in Health	3	2/1/0
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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, HITM1151

HITM2202	Computer Applications in Healthcare	3	2/1/0
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This course develops the health information technology student's knowledge of computer theory and application in the areas of system collection, storage and retrieval.

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HITM2211	Basic Pharmacology for Coders	2	2/0/0
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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

HITM2216	Introduction to Procedure Coding	3	1/2/0
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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, HLTH1116

HITM2230	Medical Science for Health Information Professionals	3	3/0/0
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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, HLTH1116

HITM2238	Advanced Coding CPT	2	1/1/0
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This course is a continuation of the in-depth study of the Physician's Current Procedural Terminology (CPT) coding system.

Prerequisites: HITM2216

HITM2252	Quality Management & Statistics	3	2/1/0
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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

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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HITM2256	Management Practice in Health Information Management	3	3/0/0
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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, MATH0095

HITM2264	Revenue Cycle Management	3	2/1/0
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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, HITM1220

HITM2272	Professional Practice Experience Coding	2	0/0/2
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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, HITM2282

HITM2280	Registered Health Information Technology Exam Review	1	1/0/0
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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: Permission of the instructor

HITM2283	Intermediate Diagnosis Coding	3	1/2/0
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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, HITM1220

HITM2286	Advanced Medical Coding	3	1/2/0
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This course provides advanced cases for students to code utilizing various classification systems, with added emphasis on evaluating and auditing code assignment.

Prerequisites: HITM2218, HITM2283

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HITM2310	Health Information Professional Practice	2	0/2/0
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This course provides students with professional practice experience within the field of health information under the supervision of a qualified health information professional.

Prerequisites: Pre-requisite: Instructor Approval

HLTH1000	Introduction to Healthcare	3	3/0/0
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This course provides a high-level, experiential overview of the basic aspects of various healthcare-related fields of study. Topics include communication, awareness and sensitivity, successful behaviors in a healthcare setting, healthcare ethics, safety and standard precautions, legal issues in healthcare, diversity in a healthcare setting, handling patient records, and career exploration.

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

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

HLTH1122	CPR-First Aid	1	0.5/0.5/0
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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.

HLTH2215	EMT Basic	6	4/2/0
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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
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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.

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HRES1130	Benefits Administration	3	3/0/0
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This course covers basic knowledge and information about the various types of benefits that are typically offered by employers for their employees.

HRES2204	Policy Administration	3	3/0/0
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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.

HRES2224	Employee/Labor Relations	3	3/0/0
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This course covers basic information about the history and current role of labor unions, current labor laws and the rights of employees.

HRES2252	Human Resource Systems	2	1/1/0
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This capstone course reviews and assesses the principles covered in the Human Resource program through simulated activities related to program outcomes.

Prerequisites: Advisor Approval

HUM1101	Introduction to the Humanities	3	3/0/0
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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.

HUM1110	Native American Culture	3	3/0/0
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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.

HUM1132	Women in the Humanities	3	3/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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HUM1201	Religion and the American Experience	3	3/0/0
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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.

HUM2230	World Cinema	3	3/0/0
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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.

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

HUM2295	Field Experience: The East	3	3/0/0
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Meets MnTC Goal Areas 6 and 8. Meets MnTC Goal Areas 6 and 8. A travel abroad experience taken to encourage studies in the humanities involving visits to sites that are often discussed in the traditional classroom. The course includes scheduled academic activities in preparation for the trip. The students continue their studies in countries in the East, Middle East and Eastern Europe as determined by the instructor.

HVAC1102	Duct Fitting Construction	3	1/2/0
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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.

HVAC1104	Heating, Ventilating and Air Conditioning Electrical Controls	3	1/2/0
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This course covers the wiring of typical heating and cooling circuits, as well as the installation of heating and air conditioning systems.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Prerequisites: HVAC1103

HVAC1224	Gas and Oil Heating	3	1/2/0
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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

HVAC2214	Hot Water Heating	2	2/0/0
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This course covers both hot water baseboard and in-floor heating, with emphasis on calculations involved in hydronic heating.

Prerequisites: HVAC1128

HVAC2290	Heating, Ventilating, and Air Conditioning Internship	1	0/0/1
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This course will add to the student's electrical knowledge regarding circuits and schematics.

ILS2100	Integrative Learning Seminar II	2	2/0/0
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Meets MnTC Goal Area 2. This course provides a cohesive, integrative learning experience for the liberal arts and sciences student. The student will integrate skills and knowledge developed and acquired throughout his or her course of study in the disciplines. The course requires the student to embark on a comprehensive inter-disciplinary academic quest designed to demonstrate research, oral and written communication, and critical thinking skills.

Prerequisites: Completion of 40 credits, ILS1100

IMMA1112	Mechanical Blueprint Reading	2	2/0/0
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This course will teach the fundamentals of blueprint reading and will include the interpretation of geometric construction, multi-view projection, dimensioning, auxiliary and sectional views. The course will also include the identification of drafting symbols and conventional methods of presentation.

INTE1100	Industry Internship Experience	3	0/0/3
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This is a three-credit internship experience designed to acquaint students with an industry environment. This experience is designed to integrate the coursework taken and contribute to the student's personal and/or professional career goals. The internship is a training and mentoring period in actual service or employment.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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IPP1112	Beginning American Sign Language to English	3	3/0/0
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This course focuses on the process of interpreting, provides practice of necessary skills and procedures and applies aptitude and theory to the translation process. This course focuses on lexical development, syntactical language comparisons, voice production techniques, interpreting process analysis and diagnostic assessment. The course content centers on techniques for sign-to-voice interpreting.

Prerequisites: ASL1114, Grade of B or better in ASL1114

IPP2112	Advanced American Sign Language to English	3	3/0/0
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This course provides additional practice in specific skill areas related to sign-to-voice interpreting. This course focuses on advanced lexical development, syntactical language comparisons, voice production techniques, interpreting process analysis and diagnostic assessment. The course content is at an intermediate to advanced level of speed and complexity along with voice production techniques for simultaneous sign-to-voice interpreting for increasingly complex language exchanges.

Prerequisites: Grade of B or better in IPP1112, IPP1112

IPP2114	Educational Interpreting	2	2/0/0
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This course introduces the role and responsibilities of an interpreter in a mainstream educational environment. This course focuses on increasing the awareness of current techniques, issues and ethics in mainstreaming education practices.

Prerequisites: Grade of B or better in IPP1111, IPP1111

IPP2214	Intro to Ethics and Decision-Making for Interpreters	3	3/0/0
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The interpreting profession requires interpreters to respond to a wide range of difficult situations in an ethical manner. This course introduces ethical constructs within the field of interpreting and focuses on ethical dilemmas that require interpreters to use decision-making processes in a variety of settings. Students learn strategies for developing multiple approaches to ethical scenarios along with guiding principles and values of the interpreting field.

Prerequisites: IPP1111

IPP2217	Interpreting Internship	6	0/0/6
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This course is a supervised interpreting opportunity in an educational, community, service agency or other setting. This course includes completion of documentation, assignments for portfolio, problem solving, site orientation, student performance evaluations, observation of certified interpreters, collaboration with certified interpreters, professional job expectations and actual interpreting experience. This internship abides by the National Association of the Deaf (NAD)-Registry of Interpreter for the Deaf (RID) Code of Professional Conduct.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Corequisites: ASL2100, grade of B or better in ASL2100

LEAD1001	The Emerging Leader	1	1/0/0
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The emerging leader course allows students to understand leadership concepts, strategies and skills in a workplace setting that aligns with their career interests. Students practice workplace skills and self-reflection in preparation for a leadership role in a community or workplace. This course is designed to encourage community leadership and involvement and to help students see their leadership potential. LEAD 1001 is the classroom course. Students must also register for LEAD 1002, in which students choose mentors and spend 45 hours in a business or nonprofit environment.

Corequisites: LEAD1002

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

Corequisites: LSR1120, LSR1140, LSR1160

LSR1140	Radiation Protection	3	3/0/0
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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.

Corequisites: LSR1100, LSR1120, LSR1160

LSR1220	Image Production II	3	2/1/0
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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.

Corequisites: LSR1230, LSR1240, LSR1260, LSR1280

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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LSR1240	Radiobiology	2	2/0/0
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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.

Corequisites: LSR1220, LSR1230, LSR1260, LSR1280

LSR1280	Radiographic Clinical I	4	0/0/4
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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).

Corequisites: LSR1220, LSR1230, LSR1240, LSR1260

MATH0055	Foundational Mathematics	2	2/0/0
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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.

MATH0095	Elementary Algebra II	2	2/0/0
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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: Math 0085 or appropriate placement test score

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

Corequisites: MATH1100

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MATH1020	Intermediate Algebra	3	3/0/0
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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: placement by assessment

MATH1101	Mathematical Reasoning	4	4/0/0
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Meets MnTC Goal Areas 2 and 4. This course will introduce you to mathematical approaches to question asking, understanding, problem solving and presentation. Students will apply mathematical principles to varied disciplines including an exploration of a variety of social and global issues. Students will experience mathematics as a creative and evolving discipline. Practice in these areas may include problems involving sequences, methods of counting, probability, logic, statistics, finance, general problem solving and other topics. This course is not intended to prepare students for any subsequent course. It provides an alternative pathway to completing a college-level liberal arts mathematics course and is not intended for science, technology, engineering or math (STEM) students. Prerequisites: A grade of C or better in MATH 0095 or appropriate score on the math placement exam.

Prerequisites: Completion of MATH 0095 with a grade of C or higher OR placement into college-level Math.

MATH1114	College Algebra	4	4/0/0
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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.

MATH1116	College Trigonometry	3	3/0/0
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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

MATH1122	Applied Calculus	3	3/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Prerequisites: MATH1114

MATH1135	Calculus II	5	5/0/0
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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

MATH1213	Introduction to Statistics	4	4/0/0
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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: MATH1118

MATH2257	Linear Algebra	3	3/0/0
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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

MCDD1104	Mechanical Engineering Drawing I	4	1/3/0
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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.

MCDD1114	Manufacturing Processes	2	2/0/0
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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
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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, CADD1410, MCDD1106

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MCDD2112	Geometric Dimensioning and Tolerancing	2	2/0/0
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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.

Corequisites: MCDD1106

MCDD2200	Advanced Modeling with SolidWorks	3	2/1/0
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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, MCDD1106

MCDD2206	Mechanical Engineering Drawing IV	2	1/1/0
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This course introduces the student to multiple specialized computer programs to create working drawings for manufacturing and construction.

Prerequisites: CADD1102

MCDD2220	Mechanical Engineering Drawing IV	3	2/1/0
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This course introduces the student to multiple specialized computer programs to create working drawings for manufacturing and construction.

Prerequisites: CADD1000

MCDD2246	Tool Design	3	2/1/0
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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.

Corequisites: MCDD2200, MCDD2210

MCDD2252	Mechanical Drafting Applications II	4	1/3/0
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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, MCDD2210

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MCDD2260	Mechanical Drafting Internship	3	0/0/3
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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, MCDD1106

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

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

MEDA1230	Introduction to Laboratory Skills for Medical Assistants	1	0/1/0
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This course will develop basic laboratory skills. Emphasis will be placed on lab safety, proper use of personal protective equipment, collection of patient blood specimens, order of the draw and processing for testing. Various methods of collection will be taught and practiced. Students will be expected to participate both as a phlebotomist and as a patient.

MEDA1250	Laboratory Skills	3	1/2/0
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This course is designed to introduce the student to clinical laboratory. Basic aspects of laboratory safety, use and maintenance of laboratory equipment, quality controls, urinalysis, hematology, serology, and chemistry and microbiology will be covered in theory and simulated labs.

MEDA1280	Disease Conditions and Nutrition	2	2/0/0
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This course covers common disease conditions affecting individual body systems including signs, symptoms, etiology of disease, diagnostic measures and treatment options. Nutrition and how the body uses nutrients, as well as the relationship between diet, health and disease, also will be discussed.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
MEDA1310	Medical Law and Ethics	2	2/0/0
<p>This course will cover legal and ethical issues as they relate to the medical field. The topics that will be discussed include the importance of legal knowledge to medical office personnel, standard of care, Health Insurance Portability and Accountability Act (HIPAA), negligence, malpractice, informed consent, advance healthcare directives, palliative care, stages of grief and bioethical issues as they relate to the medical field.</p>			
MEDA1602	Medical Assisting Capstone	1	1/0/0
<p>This course is taken concurrently with the Medical Assisting Externship. Students will prepare for a certification exam and discuss practicum experiences.</p> <p>Corequisites: MEDA1601</p>			
METC1112	Manufacturing Processes	4	2/2/0
<p>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.</p>			
METC2208	Basic Electricity and Electronics	3	2/1/0
<p>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.</p>			
MKTG1106	Professional Selling	3	3/0/0
<p>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.</p>			
MKTG1114	Customer Experience	3	3/0/0
<p>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.</p>			

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MKTG1200	Introduction to Social Media	3	3/0/0
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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

MKTG2204	Advanced Professional Selling	3	2/1/0
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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

MKTG2218	Retail Management	3	3/0/0
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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.

MKTG2230	Marketing Research	3	2/1/0
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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.

MKTG2234	Computer Marketing Applications	3	2/1/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MKTG2290	Management, Marketing and Sales Internship	3	0/0/3
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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: Program Faculty Consent.

MKTG2402	Management and Marketing Seminar	3	3/0/0
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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, which may include mentorships with business experts, networking events, conferences, workshops or webinars related to business.

Corequisites: MKTG2236

MLT1110	Phlebotomy Skills	2	1/1/0
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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.

MLT1115	Basic Laboratory Techniques	2	1/1/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MLT1125	Immunohematology Lab	1	0/1/0
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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.

MLT1216	Hematology	2	2/0/0
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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.

MLT1227	Biological Fluids	1	1/0/0
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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.

MLT2131	Diagnostic Chemistry	3	3/0/0
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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.

MLT2151	Introduction to Molecular Diagnostics	1	1/0/0
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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

MLT2223	Clinical Urinalysis and Body Fluids	2	0/2/0
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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: MLT2350

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MLT2227	Clinical Chemistry and Immunology	3	0/3/0
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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: MLT2350

MLT2232	Clinical Hematology and Coagulation	3	0/3/0
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This is a clinical experience course related to the performance of hematology and coagulation tests under the supervision of laboratory professionals at an affiliate laboratory. This course provides further investigation and study of the methods and techniques related to hematology and coagulation tests.

Prerequisites: MLT2350

MLT2267	Diagnostic Microbiology Lab	1	0/1/0
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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.

MLT2317	Immunology Lab	1	0/1/0
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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.

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

MUSC1114	Beginning Class Piano	2	2/0/0
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Meets MnTC Goal Area 6F. Group piano lessons are designed for students with no piano experience. The course includes an emphasis on solo and ensemble playing as well as improvisation, technique and theory.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MUSC1116	World Music	3	3/0/0
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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.

MUSC1118	Rock and Pop Music	3	3/0/0
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Meets MnTC Goal Area 6. This survey of rock and pop music for all students provides a comprehensive history of pop music in the United States from its origins leading up to Elvis Presley to the Beatles to the current sounds of today. Emphasis is placed on the music itself through analysis and critique and covers all styles of rock and pop music such as pop, R&B, country western, soul, Motown, folk, folk rock, heavy metal, rap and hip hop and beyond.

MUSC1119	Intro to Hip-Hop	3	3/0/0
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Meets MnTC Goal Areas 6 and 7. This survey course for the general college student introduces the elements, structural designs, culture and historical styles of hip-hop music. Students explore how the music is made and learn about the origins of hip-hop culture.

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

MUSC1123	Sight Singing and Ear Training I	1	1/0/0
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Meets MnTC Goal Area 6F. This course is designed to improve skills in two areas: 1) to recognize and notate tonal melodies and rhythmic patterns, and 2) to reproduce "at sight" what is notated. It must be taken concurrently with MUSC 1121.

MUSC1131	Civic Orchestra	1	1/0/0
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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.

MUSC1141	Concert Choir	1	1/0/0
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Meets MnTC Goal Area 6F. The M State choir is a non-auditioned group that meets four times per week on a regularly scheduled basis. The group will study and prepare music from various musical periods and geographic regions and performs a minimum of one concert each semester. The group will also participate in campus life venues as they arise, the MCC Fine Arts Festival and occasional area tours.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MUSC1150	History of Jazz	3	3/0/0
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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.

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

MUSC1164	Concert Band	1	1/0/0
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Meets MnTC Goal Area 6F. The M State Concert Band is an instrumental group that meets three times per week on a regularly scheduled basis. The group will study and prepare music from a wide range of composers and styles and performs a minimum of one concert each semester. This ensemble will participate in campus life venues, festivals and occasional area tours. Small ensemble performances will also be included in this experience. May be repeated for credit.

MUSC1181	Private Instrumental Lessons	1	1/0/0
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Meets MnTC Goal Area 6F. Individual woodwind, brass, percussion, string and guitar lessons are offered, subject to instructor availability. Students should contact the music department to arrange instruction. There is an additional fee. May be repeated for credit.

MUSC1191	Individual Piano Lessons	1	1/0/0
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Meets MnTC Goal Area 6F. Students should contact the music department to arrange individual piano lessons. There is an additional fee. May be repeated for credit.

MUSC2223	Sight Singing and Ear Training III	1	1/0/0
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Meets MnTC Goal Area 6F. This course is designed to improve skills in two areas: 1) to recognize and notate tonal melodies and rhythmic patterns, and 2) to reproduce "at sight" what is notated. Must be taken concurrently with MUSC 2231.

Prerequisites: MUSC1124

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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MUSC2231	Advanced Theory and Musicianship III	3	3/0/0
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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, MUSC1124

MUSC2251	Individual Voice Lessons	2	2/0/0
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Meets MnTC Goal Area 6F. 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.

MUSC2285	Advanced Music Composition	2	2/0/0
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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

NURS1400	Introduction to Professional Nursing	2	2/0/0
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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 national background check, Current, clear Minnesota Department of Health criminal background check, Experience as a nursing assistant as guided by the generic ADN application packet, Must be eligible to take English 1101 and Math 1114, Up-to-date immunizations and health form

NURS1415	Nursing Clinical I	2	0/2/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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Prerequisites: BIOL2260, BIOL2261, BIOL2267, BIOL2268, Current American Heart Association Basic Life Support, Current, clear national background check, Current, clear Minnesota Department of Health criminal background check, ENGL1101, Experience as a nursing assistant as guided by the generic ADN application packet, NURS1400, NURS1406, PSYC2222, Up-to-date immunizations and health form

NURS1426	Reproductive Health	2	2/0/0
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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, BIOL2261, BIOL2267, BIOL2268, Current American Heart Association Basic Life Support, Current, clear national background check, Current, clear Minnesota Department of Health criminal background check, ENGL1101, Experience as a nursing assistant as guided by the generic ADN application packet, NURS1400, NURS1406, PSYC2222, Up-to-date immunizations and health form

NURS2426	Reproductive Disorders	2	2/0/0
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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: BIOL2260, BIOL2261, BIOL2262, BIOL2263, BIOL2267, BIOL2268, CHEM1100, Current American Heart Association Basic Life Support, Current, clear national background check, Current, clear Minnesota Department of Health criminal background check, ENGL1101, LPN, NURS2410, PSYC2222, Up-to-date immunizations and health form

NURS2438	Restorative Nursing I	4	4/0/0
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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.

Prerequisites: BIOL2260, BIOL2261, BIOL2262, BIOL2263, BIOL2267, BIOL2268, CHEM1100, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, ENGL1101, LPN, NURS2410, PSYC2222, Up-to-date immunizations and health form

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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NURS2448	Restorative Nursing II	3	3/0/0
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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, Current American Heart Association Basic Life Support, Current, clear national background check, Current, clear Minnesota Department of Health criminal background check, Experience as a nursing assistant as guided by the generic ADN application packet if generic student OR LPN if advanced standing student, NURS2426, NURS2437, NURS2438, NURS2455, Up-to-date immunizations and health form

NURS2464	Nursing Leadership	1	1/0/0
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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: Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the generic ADN application packet if generic student OR LPN if advanced standing student, NURS2437, Up-to-date immunizations and health form

OPT1100	Introduction to Fiber Optics	3	2/1/0
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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.

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

Corequisites: ENGL1101, PARA1101

PARA1105	Criminal Law for Paralegals	3	3/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PARA1112	Legal Ethics for the Paralegal	3	3/0/0
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This course covers the attorney-client privilege as it relates to paralegals, unauthorized practice of law, regulation of paralegals, ethical codes and rules.

PARA2204	Real Property	3	3/0/0
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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.

PARA2212	Family Law	3	3/0/0
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This course will explore and research family law concepts of marriage, divorce, annulment, child custody, property settlements and adoption.

PDEV1100	College Success Seminar	2	2/0/0
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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.

PDEV1102	Contemporary Career Search	1	0/1/0
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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.

PDEV1113	Career Life Planning	2	2/0/0
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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.

PE1130	Beginning Golf	1	0/1/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PE1190	Varsity Football	1	0/1/0
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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.

PE1193	Varsity Baseball	1	0/1/0
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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.

PE1197	Varsity Volleyball	1	0/1/0
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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.

PE1200	Varsity Clay Target Competition	1	0/1/0
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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.

PE2111	Sports Facilities Management	3	3/0/0
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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.

PE2114	Applied Coaching: Volleyball	1	1/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PE2145	Advanced Strength Training	1	0/1/0
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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

PE2241	Principles of Coaching	3	3/0/0
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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.

PE2999	Athletic Leadership	1	0/1/0
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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: This course requires the approval of the instructor prior to enrollment.

PHIL1200	Applied and Professional Ethics	3	3/0/0
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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.

PHIL1211	Introduction to Philosophy	3	3/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PHIL2224	Philosophy of Religion	3	3/0/0
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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.

PHIL2230	Existentialism	3	3/0/0
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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.

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

PHRM1100	Personal and Professional Responsibilities of the Pharmacy Technician 4	4/0/0
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The student will identify personal and professional responsibilities of the pharmacy technician, including ethical behavior and professional attire. Verbal and non-verbal communication skills are emphasized, as the technician student learns about interacting with a diverse patient population. Additionally, students will explore time and stress management, as well as interpersonal skills necessary for negotiation, conflict resolution and teamwork. Critical thinking will be encouraged as the student creatively solves problems within the pharmacy work environment.

Prerequisites: Admission into the Pharmacy Technology Program

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PHRM1110	Medication Processing, Handling, and Safety I	2	2/0/0
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The student will identify the various routes of medication administration and dosage forms and their corresponding abbreviations. Pharmacokinetic and pharmacodynamic concepts will be explored, including absorption, distribution, metabolism, elimination and bioavailability. Students will demonstrate how to use drug information references, developing an understanding of the type of information found in each resource. Medication processes within the community pharmacy setting will be reviewed. Community pharmacy topics will include the role of the technician, filling and dispensing prescriptions, billing, payment, insurance, inventory management and storage.

Prerequisites: Admission into the Pharmacy Technology Program.

PHRM1120	Pharmaceutical Calculations	3	3/0/0
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The pharmacy technician student will learn to interpret medication labels, prescriptions and orders. Conversions between various systems of measurement as well as both basic math and more advanced pharmaceutical calculations will be used to calculate doses. Both retail and institutional pharmacy calculations will be covered, including those necessary for extemporaneous (non-sterile) and sterile compounding. The technician student will also learn basic business math calculations to enhance retail practice knowledge.

Prerequisites: Admission into the Pharmacy Technology Program

PHRM2002	Pharmacy Principles and Practices II	5	2/3/0
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This course covers intravenous drug admixture, TPN compounding, critical care intravenous admixture and unit dose medication dispensing to nursing units. Emphasis is placed upon medication storage and stability, diabetic supplies, and chemotherapy storage and admixture.

Prerequisites: PHRM1001, PHRM2001

PHRM2010	Experiential / Hospital	3	0/0/3
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This supervised instructional experience in the clinical setting introduces the student to tasks performed by the pharmacy technologist.

Prerequisites: PHRM2002, PHRM2004

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PHRM2100	Pharmacotherapy	4	4/0/0
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This course provides a systematic review of pharmacotherapy. The student will describe the major components, locations and functions of each body system: nervous; endocrine; musculoskeletal; cardiovascular; respiratory; gastrointestinal; renal and urological; reproductive; immune; eyes, ears, nose and throat; dermatological; and hematological. The student will recognize medications used to treat the conditions associated with each body system and be able to identify each drug by both trade and generic names. Immunizations, over-the-counter (OTC) medications, and complementary and alternative (CAM) medicine will also be addressed.

Prerequisites: Admission into the Pharmacy Technology Program., Completion of PHRM 1101, PHRM 1120, ENGL 1101, PHRM 1100, PHRM 1111, PHRM 1110 with a grade of C or better.

PHRM2111	Medication Processing, Handling and Safety Lab II	3	0/3/0
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Institutional (hospital) pharmacy practice procedures will be simulated, including medication reconciliation, crash cart charging and refilling, floor checks, unit dosing and filling automated drug storage systems, and preparing oral syringes. Both non-sterile (extemporaneous) and sterile compounding procedures will be completed.

Prerequisites: Admission to the Pharmacy Technology Program, Completion of PHRM 1110, PHRM 1100, PHRM 1120, ENGL 1101, PHRM 1101, and PHRM 1111 with a grade of C or better.

PHYS1105	Fundamental Concepts in Physics	3	3/0/0
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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

PHYS1107	Physics of Music	3	3/0/0
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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.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PHYS1120	Introduction to Astronomy	3	3/0/0
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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

PHYS1402	College Physics II	4	3/1/0
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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: MATH1115

PHYS1412	University Physics II	5	3/2/0
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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

PLBG1101	Piping and Job Safety	2	2/0/0
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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.

PLBG1115	Faucets and Fixtures	2	2/0/0
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This course covers various faucets and fixtures used in plumbing, including residential and commercial fixtures, their installation and application.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PLBG1123	Plumbing Code I	3	3/0/0
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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.

PLBG1131	Grade and Elevation	2	2/0/0
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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

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

PLBG1139	Backflow Basics	2	2/0/0
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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

PLBG1145	Plumbing Lab II	2	0/2/0
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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

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

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Prerequisites: Acceptance into the Practical Nursing Program AND experience as a nursing assistant as guided by the PN application packet AND current American Heart Association Basic Life Support AND current, clear Minnesota Department of Health criminal background chec

PNSG1514	Clinical I Practical Nurse Foundations	4	0/4/0
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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, Current American Heart Association Basic Life Support, Current, clear Minnesota Department of Health criminal background check, Current, clear national background check, Experience as a nursing assistant as guided by the PN application packet, Up-to-date immunizations and health form

PNSG1520	Nursing Care of Women, Newborns and Children	2	2/0/0
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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, BIOL2261, Current American Heart Association Basic Life Support, Current, clear national background check, Current, clear Minnesota Department of Health criminal background check, Experience as a nursing assistant as guided by the PN application packet, PNSG1509, PNSG1512, PNSG1514, PSYC2222, Up-to-date immunizations and health form

PNSG1524	Practical Nursing Mental Health	2	2/0/0
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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, BIOL2261, Current American Heart Association Basic Life Support, Current, clear national background check, Current, clear Minnesota Department of Health criminal background check, Experience as a nursing assistant as guided by the PN application packet, PNSG1509, PNSG1512, PNSG1514, PSYC2222, Up-to-date immunizations and health form

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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POLS1120	American National Government	3	3/0/0
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Meets MnTC Goal Areas 5 and 9. This course provides an analysis of the organization, institutions and functions of the United States government.

POLS2204	Comparative Government	3	3/0/0
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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.

POLS2950	Introduction to Social Research	3	3/0/0
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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: Completion of six (6) credits in SOC, PSYC, or POLS, ENGL1101, MATH1020

PSYC1200	General Psychology	3	3/0/0
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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.

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

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Course#	Course Title	Cr	Lec/Lab/OJ
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PSYC1500	Positive Psychology	3	3/0/0
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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.

PSYC2222	Lifespan Development	3	3/0/0
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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.

PSYC2226	Behavior and Environmental Management	3	3/0/0
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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.

PSYC2233	Stg Working With Individuals With Autism Spectrum Disorder	4	4/0/0
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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.

PSYC2300	Internship Experience	1-3	N/A
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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

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Course#	Course Title	Cr	Lec/Lab/OJ
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PSYC2950	Introduction to Social Research	3	3/0/0
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Meets MnTC Goals 2 and 5. This course introduces methods and concepts used in the research process in the social sciences and related fields. Topics covered include the application of the scientific method to social and behavioral research, definitions and measurements of variables, research design, experiential methods and survey techniques. The use of literature reviews and the importance of critically evaluating research will be emphasized. Common descriptive and inferential statistics used in social science disciplines will also be introduced. This course is identical to POLS 2950 and SOC 2950 and is cross-listed with both of those courses. Students may choose to enroll in the course with the prefix most appropriate to their transfer and career goals.

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

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

PWST1015	Marine Engine Installation and Set Up	3	2/1/0
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This course will cover marine engine and drive systems: fundamentals, engine removal, engine installation and basic system testing.

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

PWST1080	Snowmobile Engines	3	1/2/0
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This course covers snowmobile engine designs, component identification and engine service procedures, as well as snowmobile fuel systems and service.

PWST1302	Snowmobile I	5	2/3/0
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This course covers snowmobile engine designs, component identification and engine service procedures. This course also covers snowmobile fuel systems and service.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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PWST2013	Power Hydraulics	3	1/2/0
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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.

PWST2017	Marine Drive Systems	3	1/2/0
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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.

PWST2206	Chainsaws and Generators	3	1/2/0
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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.

PWST2304	Motorcycles I	3	1/2/0
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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.

PWST2312	Advanced Motorcycle Systems	3	1/2/0
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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.

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

Corequisites: RADT1116, RADT1124

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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RADT1124	Radiographic Procedures II	4	2/2/0
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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.

Corequisites: RADT1112, RADT1116

RADT1140	Radiographic Imaging	4	2/2/0
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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.

Corequisites: RADT1132, RADT1146

RADT1180	Radiographic Clinical I	5	0/0/5
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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.

Corequisites: RADT1190

RADT1270	Radiographic Procedures Bridge	4	2/2/0
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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.

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Course#	Course Title	Cr	Lec/Lab/OJ
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RADT2101	Radiographic Clinical III	4-5	
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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.

Corequisites: RADT2110, RADT2224

RADT2120	Radiographic Clinical V	5	0/0/5
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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.

Corequisites: RADT2130, RADT2280

RADT2224	Imaging Equipment	4	2/2/0
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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.

Corequisites: RADT2101, RADT2110

RADT2280	Radiologic Technology Registry Review	2	2/0/0
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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.

Corequisites: RADT2120, RADT2130

REFR1112	Refrigeration, Air Conditioning and Heating Lab	3	0/3/0
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This course covers the operation and service procedures of domestic refrigeration and an introduction to residential heating and air conditioning and commercial refrigeration equipment.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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REFR2204	Commercial Refrigeration and Air Conditioning Lab	3	0/3/0
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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 HVAC/R diploma.

REFR2208	Commercial Electrical Lab	3	0/3/0
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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 HVAC/R diploma.

REFR2212	Advanced Refrigeration Lab	3	0/3/0
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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 HVAC/R diploma.

REFR2215	Advanced Electrical Applications	3	0/3/0
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This course covers the application of electrical principles used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized.

Prerequisites: Completion of HVAC/R diploma.

REFR2217	Commercial Grocery Store Refrigeration	3	3/0/0
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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 HVAC/R diploma.

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COURSE DESCRIPTIONS

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SOC1113	Social Problems	3	3/0/0
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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.

SOC2030	Community and Environmental Sociology	3	3/0/0
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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.

SOC2213	Sociology of the Family	3	3/0/0
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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.

SOC2216	Sociology of Race and Ethnicity	3	3/0/0
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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.

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Course#	Course Title	Cr	Lec/Lab/OJ
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SOC2220	Food, Culture and Society	3	3/0/0
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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.

SOC2710	Epidemics and Society	3	3/0/0
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This course meets MnTC Goal Areas 5 and 8. This course is intended to be a history of epidemics and their effects on western societies. It is a general education course for students interested in the history of epidemic diseases and concern for our preparedness as a society to meet new threats. The course begins with a brief history of medicine and the various interpretations of disease. It then focuses on plague pandemics and concludes with current epidemics and newly emerging and reemerging diseases. Epidemics and pandemics of focus include: Plague, Smallpox, Yellow Fever, Typhus, Cholera, Tuberculosis, Malaria, Polio, HIV/AIDS and hemorrhagic fevers.

SOMM1400	Social Media Visual Methods	3	2/1/0
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In this course, students will learn introductory-level skills that will prepare them to create visual content relevant for today's most widespread social media platforms. Various visual methods and media will be taught, such as static graphic design layout, still photography and videography. Throughout this course, students will be instructed to create visual content that will focus on technical proficiency, core design principles, brand consistency, user experience and user engagement strategies.

Prerequisites: MKTG1116, MKTG1200

SOMM2300	Social Media Campaigns	3	2/1/0
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In this course, students will apply their accumulated knowledge and skills to produce integrated social media campaigns. Campaign projects will involve activities that are designed to imitate industry practices and processes, allowing students to experiment with the tools they'll use on the job. Students will independently complete research and planning, produce original content and analyze the results of their campaign following its completion.

Prerequisites: MKTG1116, MKTG1200

SPAN1112	Beginning Spanish II	4	4/0/0
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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

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SPAN2212	Intermediate Spanish II	4	4/0/0
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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

SUPL1110	Budget and Financial Management	3	3/0/0
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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.

SURT1200	Introduction to Surgical Technology	3	3/0/0
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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.

SURT1215	Surgical Pharmacology	3	2/1/0
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This course introduces basic surgical pharmacology. Topics include drug classification, therapeutic effects, side effects, interactions and dosage calculations.

Corequisites: SURT1220

SURT1225	Surgical Pathophysiology	3	3/0/0
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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.

Corequisites: SURT1215, SURT1220

SURT1250	Surgical Clinical I	6	0/0/6
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This course allows the student to practice the role of the surgical technologist under supervision in an active surgical setting.

Corequisites: SURT1230

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SW2250	Introduction to Social Work/Social Welfare	3	3/0/0
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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.

THPY1110	Massage Techniques and Ethics	3	2/1/0
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This course provides students with an in-depth knowledge of massage techniques. Emphasis will be on the application of the basic massage strokes 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.

THPY1123	Integrative Massage	2	1/1/0
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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.

THPY1135	Deep Tissue Massage	2	1/1/0
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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

THPY1146	Certification Preparation	2	2/0/0
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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

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THPY1151	Business Development	3	2/1/0
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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.

THPY2102	Lymphatic and Hospice Massage	1	0/1/0
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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

THTR1101	Introduction to Theatre	3	3/0/0
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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.

THTR1115	Digital Theatre Production Practicum	3	0/3/0
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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.

THTR1125	Theatre Technical Practicum	2	0/2/0
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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.

MINNESOTA STATE COMMUNITY AND TECHNICAL COLLEGE

COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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THTR1130	Stage Make-up	3	2/1/0
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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.

THTR2120	Script Analysis: Understanding the Play	3	3/0/0
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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.

THTR2130	Design for the Stage	3	3/0/0
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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

TRNS1112	Heating Ventilation A/C	3	1/2/0
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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: TRNS1102

WEBD1010	HTML	3	1/2/0
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In this hands-on course, students will learn the basics of creating Web pages using up-to-date techniques with hypertext markup language (HTML) and cascading stylesheets (CSS). Students will learn to create standards-based Web pages that are cross-browser compliant and make their websites available on the Web by uploading pages to a Web server.

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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WEBD1030	Multimedia	3	1/2/0
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This course will examine a variety of multimedia tools used to create and deliver multimedia content for Web and mobile applications. Students will learn how to incorporate text, graphics, animation, sound and video into Web applications while adhering to Web standards. Timeline-based creation of animation, video and sound will be emphasized. Several platforms, software packages, hardware devices, browsers and Web services will be discussed.

Corequisites: WEBD1010

WEBD1110	Cascading Style Sheets	3	1/2/0
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This course focuses on the use of cascading style sheets (CSS) in the creation of Web pages. Students will create and utilize CSS to provide sophisticated page layout and design for Web pages and websites. The course emphasizes standards-based design with CSS and testing sites for maximum browser compatibility.

Prerequisites: WEBD1010

WEBD1130	Electronic Commerce	3	1/2/0
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This course introduces emerging online technologies and trends and their influence on the electronic commerce marketplace. Students will learn various revenue models and how to market on the Web. The course introduces online auctions and various legal and ethical issues. Students will learn about important security issues such as spam and phishing. Students will learn how to plan for electronic commerce and develop an online marketing plan.

WEBD1150	PHP and MySQL	3	1/2/0
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This course introduces server-side development with PHP and relational database concepts with MySQL. Students will learn how these technologies work together to develop dynamic, database-driven websites. Basic PHP syntax and usage, SQL queries, database connections and server-side security issues will be examined.

Prerequisites: WEBD1040

WEBD2010	Content Management Systems	3	1/2/0
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This course will introduce students to powerful Web-based content management systems (CMS) used to simplify the editing of content on websites through a wide variety of plugins and themes. Students will explore how to build dynamic websites using CMS, starting with installing the CMS and working all the way through customizing the CMS with themes, plugins and application programming interfaces (APIs).

Prerequisites: WEBD1110, WEBD1140

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COURSE DESCRIPTIONS

Course#	Course Title	Cr	Lec/Lab/OJ
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WEBD2030	Search Engine Optimization	3	1/2/0
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In this course, students will learn the components needed to effectively create and employ search engine optimization (SEO). The importance of file and site structure, proper meta tagging, hyperlinking and correctly composed content will be addressed. Students also will understand how to properly use analytics engines, targeted advertisements and various SEO tools to maximize their search engine results, as well as monitor and improve them over time.

Prerequisites: WEBD1010, WEBD1130

WEBD2100	Web Projects II	3	1/2/0
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Students will utilize the knowledge gained in previous classes to create Web applications with client-side and server-side technologies. The focus of this course is a top-down approach whereby students are assigned a project, assess the needs of the project and develop a project plan. Students then identify what it will take to complete that Web project. Students will participate in group-based development activities, learn rapid application development project management techniques and implement technologies as needed to create a working system.

Prerequisites: WEBD2000

WEBD2120	Mobile Applications	3	1/2/0
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This course teaches application development for mobile operating systems and the Web. Focus will be on the creation of Web and platform-specific mobile applications. User experience design, user interface design, data access and Internet connectivity will be employed to create effective mobile applications.

Prerequisites: WEBD2020

WMST1130	Introduction to Women's Studies	3	3/0/0
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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.



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