



UNIVERSITY OF MINNESOTA | CROOKSTON

Driven to Discover<sup>SM</sup>

invent yourself

**The University of Minnesota, Crookston is located in the northwest corner of the state.**

**For more information, contact:**

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170 Owen Hall  
University of Minnesota  
2900 University Avenue  
Crookston, MN 56716-5001**

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**Telephone: 218-281-8569  
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**FAX: 218-281-8575**

**TTY: 218-281-8565**

## **2007–2008 Academic Calendar**

### **Fall Semester 2007**

August 28	Fall semester classes begin
September 3	Labor Day holiday
October 12	In-Service Day (no classes)
November 22–23	Thanksgiving holiday
December 14	Last day of instruction
December 17–20	Final examinations
December 20	End of fall semester

### **Spring Semester 2008**

January 7	Spring semester classes begin
January 21	Martin Luther King, Jr. holiday
March 17–21	Spring break
March 21	Floating holiday
April 25	Last day of instruction
April 28	Study Day
April 29–May 2	Final examinations
May 2	End of spring semester
May 3	Commencement

### **May Session 2008**

May 5	May session begins
May 23	May session ends

### **Summer Session 2008**

June 2	Summer session begins
July 4	Independence Day holiday
July 25	Summer session ends

## **2008–2009 Academic Calendar**

### **Fall Semester 2008**

August 26	Fall semester classes begin
September 1	Labor Day holiday
October 10	In-Service Day (no classes)
November 27–28	Thanksgiving holiday
December 12	Last day of instruction
December 15–18	Final examinations
December 18	End of fall semester

### **Spring Semester 2009**

January 12	Spring semester classes begin
January 19	Martin Luther King, Jr. holiday
March 16–20	Spring break
April 10	Floating holiday
May 1	Last day of instruction
May 4	Study Day
May 5–8	Final examinations
May 8	End of spring semester
May 9	Commencement

### **May Session 2009**

May 11	May session begins
May 25	Memorial Day holiday
May 29	May session ends

### **Summer Session 2009**

June 8	Summer session begins
July 3	Independence Day holiday
July 31	Summer session ends

# Crookston Catalog

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**University of Minnesota  
Mission Statement**

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world.

The University's mission, carried out on multiple campuses and throughout the state, is threefold:

**Research and Discovery**—Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the state, the nation, and the world.

**Teaching and Learning**—Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

**Outreach and Public Service**—Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity, and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism, and other forms of prejudice and intolerance; that assists individuals, institutions, and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for, and empowers the individuals within its community.

## Discover Your Dreams!

As chancellor of the University of Minnesota, Crookston, I invite you to discover as much as you can about the people and programs our campus has to offer. We take pride in providing a quality, technology-enhanced education with personal attention. Faculty members teach in the classroom and laboratory and are involved with the many clubs and organizations on campus. Academic programs emphasize applied, career-oriented learning that combines theory, practice, and experimentation. Successfully completing course requirements, whether on campus or online, will result in a degree from the University of Minnesota, one of the most prestigious public universities in the United States.

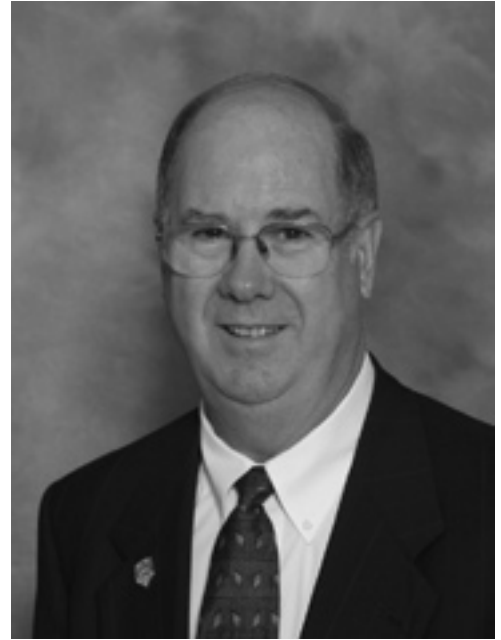
The University of Minnesota, Crookston, campus is known for its attractive physical facilities. A new Student Center, which opened in September 2005, and Centennial Hall, an apartment style residence hall that opened in 2006, are the latest additions to campus. Both provide comfortable, modern places for students to gather and experience college life.

The University of Minnesota, Crookston, was the first four-year university to provide laptop computers for students and faculty. That continues today and is integrated into the curriculum throughout the campus. Students graduate with technology skills that bring added value to employers.

High-quality faculty members provide leadership for academic programs that prepare graduates to use creative and critical thinking in addressing issues and solving problems. The curriculum emphasizes an appreciation for lifelong learning.

In today's global society, an understanding of different cultures and international issues is increasingly important. Initiatives are underway to provide an experience that will enhance those opportunities and perspectives, and we are emphasizing and expanding options for study abroad.

Please visit us online at [www.UMCrookston.edu](http://www.UMCrookston.edu) or call us at 1-800-862-6466 if you have questions. We are happy to talk with you anytime as you discover your passion and place at the University of Minnesota, Crookston.



Choosing a college is an important decision. Faculty and staff here are dedicated to providing a quality education with an emphasis on student learning, enhanced by a rich technology environment. You can "invent yourself" and experience college life with great faculty, great facilities, and Division II athletics on a small campus where you are known by name. You'll leave with great friends, a great education, and a degree from the University of Minnesota, where we are Driven to Discover.

Sincerely,

Charles H. Casey  
Chancellor

## Campus Mission

(Adopted by the Board of Regents, May 2007)

The University of Minnesota, Crookston (UMC), is integral to the University's statewide land grant mission. The Crookston campus provides its unique contribution through applied, career-oriented learning programs that combine theory, practice, and experimentation in a technologically rich environment. UMC connects its teaching, research, and outreach to serve the public good.

**Core Values:**

- Integrity: Practicing honesty, fairness, and respect
- Excellence: Supporting quality teaching, research, and service
- Diversity: Respecting differences in ideas and community
- Innovation: Promoting discovery through creative and critical thinking
- Learner Centered: Promoting growth and leadership

**Vision:**

(Strategic Positioning Report November 2006)

The University of Minnesota, Crookston, is unique in the region, providing access to world-renowned teaching and research and serving as a regional hub for:

- undergraduate education leading to a University of Minnesota diploma;
- technology applications in higher education;
- innovation, entrepreneurship, and regional sustainability;
- leadership development; and
- global and diverse cultural experience.

## Accreditation

UMC's associate and bachelor's degree programs are accredited by the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools. We received our most recent accreditation in 2006 and our next comprehensive evaluation is scheduled for 2016. Visit the HLC Web site at [www.ncahigherlearningcommission.org/](http://www.ncahigherlearningcommission.org/) or contact them at 312-263-0456 or Suite 2400, 30 North LaSalle Street, Chicago, IL 60602. The dietetic technician program is accredited by the Commission on Accreditation of Dietetic Education (CADE) of the American Dietetic Association (ADA) and is scheduled for the next comprehensive review in 2010.

## The Community

Crookston, Minnesota, is a warm and friendly community with some 8,000 people located in the heart of the Red River Valley, one of the richest and most diversified agricultural regions in the United States. The Crookston community, with its historic downtown, lies on the banks of the Red Lake River. The location provides opportunities for hunting, fishing, cross-country skiing, bird watching, and other outdoor activities. The community has abundant recreational facilities, including a regulation 9-hole golf course, a 12-lane bowling alley, a movie theater, two indoor skating arenas, an indoor community swimming pool, an outdoor athletic complex with multiple softball diamonds and tennis courts and a campsite in a city park.

Crookston offers health care facilities including a modern community hospital, an expanded medical clinic, a mental health center, a chemical dependency treatment facility, and several dental clinics. Located a short 24 miles from Crookston are Grand Forks, North Dakota, and East Grand Forks, Minnesota, which have a combined metro population of more than 95,000 and offer a myriad of entertainment, shopping, and other services, including the University of North Dakota and the Grand Forks International Airport.

When Crookston was incorporated, it was named for Colonel William Crooks, chief engineer of the railroad. The early economic foundation of the area was based on fur and lumber trade but quickly changed to agriculture.

The community and campus are located in an area sometimes referred to as the Aspen parkland, where prairie and forest meet. This feature allows broad exposure to several distinct ecosystem types and agricultural land uses. The Nature Conservancy's Glacial Ridge Project is located 15 miles east of Crookston. This project, the largest of its kind in North America, will protect and restore up to 35,756 acres of wetland and prairie habitat.

Crookston lies within the basin of the Red River of the North, and while the area is primarily a riverland region, unique lakes such as Red Lake and Lake of the Woods are within driving distance. Located 150 miles to the north is the city of Winnipeg, Manitoba, Canada, a vibrant cultural center.

The community has prospered from the development of large agricultural products processing plants and manufacturing industries. Among its outstanding industrial enterprises are the largest plant for edible sunflower seed processing in the United States and one of the largest plants for sugar beet processing in the world. Other industries include a fiberglass and injection molding plant, a metal fabrication plant, and a city bus manufacturer.

## Facilities

The 237-acre campus is located on the northern edge of the City of Crookston. The attractive grounds include flower gardens bordering a spacious mall and a natural history area containing virgin prairie land. The college has many well-equipped, special purpose laboratories to support its instructional programs, and classrooms have overhead projection systems. Internet access is available at every student seat, and much of the campus now enjoys wireless connectivity. Instruction is supported by computer and two-way, audio-video, interactive television connections to other higher education institutions and high schools.

Facilities built within the last decade include a recently completed residential hall (2006), which houses 33 apartments. Each has two bedrooms that share a common kitchen and living room area. They are air-conditioned and have full-size refrigerators, microwaves, and dishwashers. All apartments are fully furnished and have wired and wireless Internet access. Other new and/or updated buildings include the Student Center (completed in 2005), home to the UMC Bookstore, spacious student lounges, and Bede Ballroom; the Kiehle Building (renovated in 2003), which houses a 520-seat auditorium, perfect for stage performances; an indoor animal science arena and equine stable; an outdoor recreational and athletic complex; a horticulture complex, with four crop production greenhouses; an environmental science facility; and an early childhood center.

The Crookston campus offers significant expertise in research, community outreach, and regional economic development by housing a variety of partner organizations and agencies:

- The Northwest Research and Outreach Center acquires, interprets, and disseminates research knowledge for agricultural and other constituencies.
- University of Minnesota Extension Service, Crookston Regional Center delivers high-quality, relevant educational programs to citizens and communities.
- The Agricultural Utilization Research Institute, a public non-profit corporation, develops new uses and new markets for agricultural products.
- Valley Technology Park, operated in partnership with the City of Crookston, is a small business incubation facility.
- The Retired Senior Volunteer Program matches the skills and experiences of volunteer retirees to community needs.
- Northwest Regional Sustainable Development Partnership connects regional and University resources to develop a sustainable future for the region.

## Policies

**Catalog Use**—The information in this catalog, produced by University Relations, and other University catalogs, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

This catalog is available in electronic format online and may be accessed at [www.catalogs.umn.edu](http://www.catalogs.umn.edu).

**Equal Opportunity**—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Inquiries regarding compliance may be directed to the Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455 (612-624-9547; [eoaa@umn.edu](mailto:eoaa@umn.edu); [www.eoaffact.umn.edu](http://www.eoaffact.umn.edu)).

This publication/material is available in alternative formats upon request. Contact the Office of the Registrar, 9 Hill Hall (218-281-8547).

To request disability accommodations, contact the Office for Students With Disabilities (218-281-8565).

**Access to Student Educational Records**—In accordance with regents policy on access to student records, information about a student generally may not be released to a third party without the student's permission. (Exceptions under the law include state and federal educational and financial aid institutions.)

Some student information—name, address, electronic (e-mail) address, telephone number, dates of enrollment and enrollment status (full time, part time, not enrolled, withdrawn, and date of withdrawal), college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information. To do so, they must notify the records office on their campus.

Students have the right to review their educational records and to challenge the contents of those records. The regents policy is available for review on the Web at [http://onestop.umn.edu/onestop/Grades\\_Transcripts/RecordsPolicy.html](http://onestop.umn.edu/onestop/Grades_Transcripts/RecordsPolicy.html), at 200 Fraser Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the One Stop Student Services Center, (612-624-1111; toll-free from outside the Twin Cities metropolitan area at 1-800-400-8636; or 612-626-0701, TTY for hearing-impaired students only).

Students are responsible for updating their personal information, which can be done online through the "Personal Information" link at <http://onestop.umn.edu/onestop>.

**Immunization**—Students born after 1956 who take more than one University class are required under Minnesota law to submit an Immunization Record. This form, which is sent along with the official University admission letter, must be filled out and returned to the UMC Student Health Service within 45 days after the beginning of the first term of enrollment in order for students to continue registering for classes at the University. Complete instructions accompany the form.

**Extracurricular Events**—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted. Any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

**Student Right-to-Know Act**—Students may receive, on request, information about campus security and graduation and retention rates at UMC. This information is available from the Office of Admissions, 170 Owen Annex.

**Smoke Free Campus Policy**—Smoking is prohibited in all UMC facilities except for designated private residence hall rooms. Smoking is permitted outdoors but not within 25 feet of any building entrance. Smokers who choose to smoke outside are asked to properly dispose of smoking materials.

**E-mail: The University's Official Means of Communication**—University assigned student e-mail accounts shall be the University's official means of communication with all students. Students are responsible for all information sent to them via the University assigned e-mail account. If a student chooses to forward the University e-mail account, she or he is still responsible for all information, including attachments, that is sent to the University e-mail account.

## Admission

### Admission Requirements

Enrolling an academically qualified, diverse student body is essential to UMC's mission. The academic and social environment of the campus is greatly enhanced by a diverse student body, and students are better prepared to thrive in a multicultural world.

### Freshmen

Students are considered freshmen if they are still high school students or if they have earned fewer than 24 college semester credits. Students who have not been granted a standard high school diploma must pass the GED test before they are admitted as a regular student. Minnesota residents aged 19 or older can take the test at the UMC Career and Counseling Services office. This office is also an ACT Assessment residual testing site for students who were unable to test on a national test date.

Admission decisions are based on an overall assessment of the following factors.

### Automatic Acceptance

- Successful completion of a high school or college preparatory program
- Grade point average (minimum 2.00 GPA)
- ACT or SAT scores (minimum 21 ACT or 980 SAT)
- Strength of the student's curriculum through high school graduation, including courses that exceed the core subject requirements and any advanced courses (honors, AP, IB, college level)

### Additional Review Factors

Students who fail to meet minimum requirements of GPA and ACT or SAT scores will be referred to the Admissions Committee for an admission decision, where the following factors also will be considered.

- Evidence of exceptional achievement, aptitude, or personal accomplishment not reflected in the academic records or standardized test scores
- A pattern of steady improvement in academic performance
- Participation in extracurricular college preparatory programs (MEP, PSEO, Talent Search, Upward Bound, Admission Possible, and others)

## Transfer Students

Students are considered transfer students if they have 24 or more college semester credits. If they are high school students and are enrolled in PSEO, College in the Schools, or have earned AP credit, they are still considered freshmen.

## Primary Review Factors

- College GPA (minimum 2.00 GPA)
- Transfer students with fewer than 24 earned college credits will need to submit an official high school transcript, ACT or SAT scores, and official transcript(s) from previous college(s).
- Transfer students with 24 or more semester credits will need to submit only official transcript(s) from previous college(s).

## Conditional Admission

Students who do not meet the requirements for regular admission may still qualify for UMC's Conditional Admission program. Conditional Admission is designed to give entering students the best chance to succeed at college. In addition to the regular enrollment process, Conditionally Admitted students must:

1. Register for a maximum of 13 credits their first semester.
2. Be automatically placed in GNED 1000.\*
3. Meet with their academic advisor and complete the Academic Action Plan (AAP).
4. Meet with staff of the Academic Assistance Center (AAC) in Owen Hall 270 for additional guidance and preparation.
5. Sign up for a tutor for at least one class.
6. Return the AAP and all related paperwork to the Academic Assistance Center.

*\*Students with an ACT score 20 or less will be automatically placed in GNED 1000.*

The Academic Assistance Center will provide a list of students who have not attended Conditional Admit tutoring sessions to the registrar. Any of these students who are suspended shall not be eligible for automatic readmittance if academically suspended.

## Admission Procedures

To be considered for admission, applicants must:

1. Submit a completed UMC admission application;
2. Submit a nonrefundable \$30 [updated 11/19/07] common application fee;
3. Request that appropriate official transcripts be sent directly to the UMC Admissions Office—
  - a. Freshman: official high school transcript or General Education Diploma (GED) scores;
  - b. Transfer students with fewer than 24 semester credits attempted: official high school transcript and official transcript(s) from previous college(s);

- c. Transfer students with 24 or more semester credits attempted: official transcript(s) from previous college(s);
4. Submit ACT test scores if a freshman or transfer student with fewer than 24 semester credits attempted. UMC's college code is 2129.

Admission decisions are not made until applications are complete (application, all required official transcripts and scores, and application fee submitted).

## Out-of-State Students

Under reciprocity agreements, residents of North Dakota, South Dakota, Wisconsin, and Manitoba who attend UMC may pay a specially designated tuition rate. Reciprocity application forms are available online at [www.mheso.state.mn.us](http://www.mheso.state.mn.us) or from the appropriate office listed below.

**North Dakota Residents**—Reciprocity Program, North Dakota Board of Higher Education, 10th Floor, State Capitol Building, Bismarck, ND 58501

**South Dakota Residents**—Reciprocity Program, South Dakota Board of Regents, Box 41, Brookings, SD 57007

**Wisconsin Residents**—Reciprocity Program, Wisconsin Higher Education Aids Board, 137 East Wilson Street, Madison, WI 53707 (Wisconsin reciprocity does not cover online courses; resident tuition rates will apply.)

**Manitoba Residents**—Office of Admissions, University of Minnesota, 170 Owen Hall, Crookston, MN 56716

## International Students

To be admitted, international students must have completed studies equivalent to those required to graduate from high school in the United States.

To apply for admission, prospective international students must submit:

1. An application for admission. Please apply using either the PDF application for mailing ([www.admissions.umcrookston.edu/documents/InternationalStudentApplication.pdf](http://www.admissions.umcrookston.edu/documents/InternationalStudentApplication.pdf)) or the online application ([www.admissions.umcrookston.edu/Requirements/applyonline.htm](http://www.admissions.umcrookston.edu/Requirements/applyonline.htm)).
2. A declaration and certification of finances ([www.admissions.umcrookston.edu/documents/Declaration\\_of\\_Finances\\_International.pdf](http://www.admissions.umcrookston.edu/documents/Declaration_of_Finances_International.pdf))
3. A \$30 [updated 11/19/07] nonrefundable application fee in U.S. currency
4. Official transcripts of high school or equivalent education in the original language and in English translation unless transferring from a college or university
5. Official college transcripts in the original language and in English translation.

A course-by-course evaluation of non-English postsecondary credentials is required for students transferring from a college or university outside of the United States. The transcript evaluation form may be obtained from the World Educational Services at [www.wes.org/application/](http://www.wes.org/application/). The form must be submitted with official transcripts/academic records from all post-secondary schools attended, along with word-for-word English translations.

There will be a cost for the service charged by the World Education Service. The WES evaluation converts educational credentials from any country in the world into their U.S. equivalents. It describes each certificate, diploma or degree that you have earned and states its academic equivalency in the United States.

6. Native English language speaking students are not required to submit TOEFL scores but are required to submit ACT, SAT, or other standardized college entrance admission test scores.
7. English proficiency test scores if you are from a non-English speaking nation. The University of Minnesota, Crookston, requires all non-native English-speaking students to demonstrate sufficient command of the English language necessary to succeed in college level classes taught in English. This proficiency must be demonstrated by results of the Test for English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Michigan English Language Assessment Battery (MELAB).

Test	Minimum Score
TOEFL computer based	190*
TOEFL paper based	520*
TOEFL Internet based	68*
IELTS	6.0
MELAB	75

### English as Second Language

The UMC English as a Second Language (ESL) program [www.cal.umcrookston.edu/ESL/index.htm](http://www.cal.umcrookston.edu/ESL/index.htm) is recommended if your English proficiency test scores are below admission standards. UMC offers degree and nondegree admission to academically qualified students. Non-native English speaking admissions are as follows:

TOEFL Score	IBT Score	Computer-based Score	Admission Status	Course Requirements
520	68	190	Degree	No limitations
490 to 519	58 to 67	167 to 189	Degree	One ESL advanced course
450 to 489	45 to 57	133 to 166	Nondegree (ESL)	May take one non-ESL course
400 to 449	32 to 44	97 to 132	Nondegree (ESL)	Only ESL courses

Upon successful completion of ESL and recommendation of the ESL faculty, students may apply to the Office of Admissions to change from nondegree to degree seeking program status. Refer to page 14 for additional information.

For more information about the English proficiency tests, please contact the testing agencies:

#### TOEFL

[www.ets.org/toefl](http://www.ets.org/toefl)  
 Educational Testing Service  
 P.O. Box 899  
 Princeton, NJ 08541-6151

Inside the U.S. and Canada: 1-877-863-3546  
 Outside the U.S. and Canada: 1-609-771-7100

#### IELTS

[www.ceii.org](http://www.ceii.org)  
 100 East Corson St., Suite 200  
 Pasadena, CA 91103  
 626-564-2954

#### MELAB

[www.lsa.umich.edu/eli/melab.htm](http://www.lsa.umich.edu/eli/melab.htm)  
 English Language Institute  
 MELAB Office, TCF Building  
 University of Michigan  
 401 E. Liberty, Suite 350  
 Ann Arbor, MI 48104-2298  
 1-866-696-3522

**Advanced Standing**—Students from postsecondary institutions or those with appropriate military schooling may transfer to UMC and receive advanced standing credit. To obtain an application for admission, contact the Office of Admissions, 170 Owen Hall, 2900 University Avenue, University of Minnesota, Crookston, MN 56716 (218-281-8569).

Applicants who have completed any college study, satisfactorily or unsatisfactorily, must request that an official transcript from every school attended be sent directly to the Office of Admissions. Students may not register until all transcripts are received and admission is granted.

Individuals who have completed studies at vocational institutes, technical colleges, nonaccredited private institutions, or military schools may transfer credits, within their academic discipline, to UMC. Students should contact the transfer specialist, Office of Admissions, 170 Owen Hall, 2900 University Avenue, University of Minnesota, Crookston, MN 56716 (218-281-8566) for questions about credit transfer.

#### Post Secondary Enrollment Options Act (PSEO)—

To participate in the on-campus or online PSEO program, students must be a junior or senior in a Minnesota public, private, charter, or home school and have a minimum cumulative high school GPA of 3.00. Each applicant is reviewed individually based upon a number of criteria, including high school GPA,

class rank (when available), college aptitude test scores (when available), high school counselor/principal recommendation, and other factors that demonstrate a student's maturity and academic preparedness for college coursework. Students may not enroll in remedial, developmental, or other courses that are not college level. Students must earn a minimum UMC

GPA of 2.00 to continue their enrollment at UMC. Students interested in the program should contact the Office of Admissions, University of Minnesota, Crookston, MN 56716 (218-281-8569).

#### College in the High School Program (CIHS)—

Students must have achieved junior status in their high school and have a minimum cumulative high school GPA of 3.00 in order to be admitted and registered to earn UMC course credit in the CIHS Program. School districts must be approved by UMC in order to participate. Students should contact their high school principal to verify UMC approval to participate. CIHS students must maintain a minimum



UMC GPA of 2.00 each term to continue enrollment at UMC. Students interested in the program should contact the Center for Adult Learning, University of Minnesota, Crookston, MN 56716 (218-281-8677).

**Nondegree Students**—Persons who have graduated from a recognized high school, or have the educational equivalent and demonstrate ability to succeed in college-level work, but who are not interested in seeking a degree, may attend the University as “non-degree” students. Admission criteria are more flexible than for degree-seeking students; all other campus policies, including maintaining satisfactory academic progress apply. Each case is considered on its own merits. Dependent on academic qualifications, some nondegree students may be admitted on academic probation. Nondegree students must pay their account balance in full by the first billing due date or their classes will be canceled. Nondegree students are not eligible for student financial aid and are not candidates for degrees, although they may later seek degree candidacy. For information about changing classification from nondegree to degree candidate, or to obtain a form to apply for nondegree student status, contact the Office of Admissions, University of Minnesota, Crookston, MN 56716 (218-281-8569).

**Senior Citizen Education Program (SCEP)**—Minnesota residents age 62 or older may enroll in University of Minnesota classes when space is available after all tuition-paying students have been accommodated, provided they have completed specified prerequisites. Those taking a course without credit pay no fees unless materials or other special charges are required. Those taking a course for credit pay \$10 per credit as well as any special fees. For more information, contact the Office of the Registrar, University of Minnesota, Crookston, MN 56716 (218-281-8548).

## Planning to Transfer?

### Transferring to UMC

- Coursework for transfer must be comparable to courses offered by the University and be appropriate and applicable to the specific degree program entered at UMC.
- Transcripts for students are evaluated on a course-by-course basis.
- Individuals with baccalaureate degrees wishing to complete a program at UMC will be required to meet the college residency requirement (see Graduation Requirements) and all major field requirements of that program.
- UMC will post to the permanent record the total number of credits completed at another institution. This means that (1) only courses in which a grade of D or better has been earned will fulfill specific course requirements in liberal education and the major field; (2) all courses not used to fulfill liberal education and major field requirements will be considered electives; and (3) a transfer student's GPA will be calculated using only courses completed at UMC.
- Students who do not agree with UMC's transfer decision may appeal to their department head. Dissatisfaction with this appeal decision may be submitted to the Vice Chancellor for Academic Affairs. Appeal forms are available at the Academic Affairs Office, 302 Selvig Hall.

Minnesota's public colleges and universities are working to make transfer easier. Students can help if they PLAN AHEAD, ASK QUESTIONS, and USE [www.minnesotacas.org](http://www.minnesotacas.org). Students can also call 218-281-8569 to ask about our transfer agreements.

### Understanding How Transfer of Credit Works

- The receiving college or university decides what credits transfer and whether those credits meet its degree requirements. The accreditation of both the sending and receiving institution can affect the transfer of the credits students earn.
- Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level. “Like” transfers to “like.”
- Not everything that transfers will help students graduate. Baccalaureate degree programs usually count credits in three categories: liberal education, major/minor courses and prerequisites, and electives. The key question is, “Will your credits fulfill requirements of the degree or program you choose?”
- Students who change their career goal or major might not be able to complete all degree requirements with the usual number of graduation credits.

### Applying for Transfer Admission

- Application for admission is always the first step in transferring. Students should fill out the application as early as they can prior to the deadline. Enclose the application fee.
- Applicants should request that official transcripts be sent from every institution they have attended. They might be required to provide a high school transcript or GED test scores as well.
- Students should recheck to be certain that all the necessary paperwork they have requested has been supplied to the college or university. Most colleges make no decisions until all required documents are in the student's file.
- Students who have heard nothing from their intended college of transfer after one month should call to check on the status of their application.
- Students who have been notified that they have been accepted for admission will have their transcribed credits evaluated for transfer. A written evaluation should show which courses transfer and which do not. How individual courses specifically meet degree requirements may not be decided until the student arrives for orientation or has chosen a major.
- Students who have questions about their evaluation should call the Office of Admissions and ask to speak with a credit evaluator. Ask why judgments were made about specific courses to clear up concerns and to understand the evaluator's decisions. Students who are not satisfied can appeal. See “Rights as a Transfer Student.”

### Estimated semester expenses for 2007–2008

(based on 13 or more credits)

Board and room	\$2,846.00
Tuition	\$3,224.00
Student services fee	186.50
Technology fee	500.00
Books and supplies	400.00
University fee	500.00
<b>Cost per semester</b>	<b>\$7,656.50</b>

### Rights as a Transfer Student

Transfer students have the right to:

- a clear, understandable statement of an institution's transfer policy.
- a fair credit review and an explanation of why credits were or were not accepted.
- a copy of the formal appeal process.
- at the student's request, a review of their eligibility for financial aid or scholarships.

Usual appeal steps are:

1. The student fills out an appeal form. Supplemental information students provide to reviewers—a syllabus, course description, or reading list—can help.
2. The department or committee reviews the appeal and supplemental information.
3. The student receives, in writing, the outcome of the appeal.
4. If unsatisfied, the student may appeal the decision to UMC Vice Chancellor for Academic Affairs.

*For help with transfer questions or problems, see the campus transfer specialist.*

### Change of College or Status Within the University

Students who wish to change from one college, school, or campus of the University of Minnesota to another must meet the requirements of the unit to which they are transferring. Application for transfer should be made at the registrar's office on the campus where students are currently or were last registered. Students should apply as far in advance of the date of transfer as possible.

## Academic Advisement and Registration

### New Student Orientation

New students register for classes during Academic Advisement and Registration. Students admitted for the fall term are invited to attend a one-day session held in the spring and in the summer; students admitted for the spring term attend a one-day session before the term begins. At Academic Advisement and Registration, students become acquainted with the campus, discuss academic plans with faculty, select courses, and register.

The New Student Orientation program for the fall term begins three days before the first day of class. Students move into the resident halls, meet classmates, meet faculty advisers, attend success seminars, and receive their notebook computer.

## Expenses for 2007–2008

**Tuition**—Tuition for the 2007–2008 academic year is \$248 per credit with tuition banding starting at 13 credits. There is no charge for additional credits. The average credit load is 15 credits per term. Residents of North Dakota, South Dakota, Wisconsin, and Manitoba may apply for reciprocity privileges and pay a tuition rate equal or comparable to the resident rate. Residents of other states and Canadian provinces are assessed the in-state/resident rate.

**Student Services Fee**—\$186.50 (for students taking 6 or more credits per term). Refer to a current *Class Schedule* for a description of this fee.

**Orientation Fee**—\$75 (required of all degree-seeking students enrolled for the first time and taking 6 or more credits).

**Transcript Fee**—\$5 for each official transcript; \$10 for rush service.

**Technology Access Fee**—Students registered for 6 or more credits pay a technology access fee of \$500 per term; students registered for 0.5–5.5 credits pay \$100 per term. This fee provides access to computers, laser printers, the Internet, and online library card catalogs. Students who carry 6 or more credits are issued a computer for the semester. Those who carry fewer than 6 credits but who choose to receive a computer full time are assessed the \$500 fee. A required course CA 1010—Introduction to Computer Technology teaches students how to use their notebook computer and understand its many applications.

**Course Fees**—Course fees are charges in addition to the instructional fee (tuition) and other specific fees (e.g., student service fee, technology). These fees are assessed to all students enrolled in a specific course. They help defray additional costs of certain courses, such as the purchase of materials retained or consumed by students, individual lessons, distance education, and the provision of services or products purchased and provided to students. A list of the specific courses and their respective fees can be found at [http://onestop.UMC.rookston.edu/tuition\\_billing/tuition/coursefees.htm](http://onestop.UMC.rookston.edu/tuition_billing/tuition/coursefees.htm).

**Special Fees**—Certain physical education and laboratory courses may be charged a towel and equipment or a science laboratory breakage fees.

**University Fee**—The University fee helps cover infrastructure and administrative support costs in a wide variety of areas. It is not dedicated to any one particular need or office. It is assessed to all students and is prorated as follows: \$50 per credit for students taking 1–9 credits; \$500 for students taking 10 credits or more.

**Estimated Costs**—The approximate cost for a Minnesota resident living on campus during the 2007–08 academic year is \$15,313. This figure includes tuition, Meal Plan A, room, fees, books, and supplies. Personal expenses, such as clothing, entertainment, and travel, are not included in this amount. Students should allow from \$800 to \$1,500 for these costs.

**Late Fees**—Students who register during the first week of class must pay a late registration fee of \$10. For students registering after the first week of class, the late registration fee rises to \$20. If a student does not pay the total tuition and fees owed by the first due date of each semester, a \$10 installment fee is assessed. If the total amount owed is not paid by the second due date of each semester, a second installment

fee of \$10 is assessed. Students will also be charged a late fee of \$25 if they pay less than the minimum payment due (33 percent by the first billing statement due date, 50 percent by the second billing, and 100 percent by the third billing). The maximum amount of installment fees charged during a semester is \$20. Late fees accrue monthly.

**UM Pay**—UM Pay, the University’s electronic billing and payment system, is the official means of generating tuition bills to all enrolled students. (The University will no longer send paper bills.) UM Pay allows students to view and pay their bills online with direct debit from their bank checking or savings account, credit card payment (not VISA), or to set up authorized payers (such as parents) to pay on their behalf. Students can download copies of their bill and view a history of electronic billings and payments. Students are notified by e-mail when their bill is ready to view online. They can then use their University-assigned Internet ID and password to log in to UM Pay.

## Financial Aid

UMC’s financial aid program provides assistance to students who would otherwise be unable to afford a college education. Financial aid is available for both full- and part-time study.

### Application

Students can apply for financial aid before being admitted to UMC, however, student aid will not be packaged and a Financial Aid Award Notification (FAAN) will not be produced until the student has been admitted. Students must submit a completed Free Application for Federal Student Aid (FAFSA) to be considered for aid. UMC’s deadline for priority consideration for the academic year (August–May) is the preceding March 31. Students are encouraged to apply before the priority date, because many funds are distributed on a first-come, first-served basis. Applications received after the priority date will be considered for any remaining funds.

Students should submit their FAFSA at least six weeks before the start of the term they plan to begin their studies. Students who submit their applications after the dates listed in the shaded box below probably will experience delays in receiving aid for which they are eligible. Students should not assume that aid will be granted until they have been notified by the Office of Financial Aid.

### Mail FAFSA by this date to be considered for:

Term starting	All available aid (priority consideration)	Any remaining funds
Fall semester	March 31*	July 15
Spring semester	March 31*	October 15
Summer session	March 31*	April 15

\*Of the preceding academic year (September–May)

### Eligibility

Financial aid is intended to supplement, not replace, family resources. Families should think of themselves as the primary source of college funds. UMC, government agencies, and other funding programs expect students to contribute as much as possible. Factors used in evaluating eligibility include parents’ annual income, family assets, family expenses, student’s income and assets, family size, and the number of family members attending college. A higher financial contribution usually is expected from a family with a higher income. If special circumstances occur, such as divorce, death, or loss of job, and these are not reflected on the FAFSA, students should contact the Office of Financial Aid if they wish to file a special circumstances appeal.

A student’s financial need is the difference between UMC’s estimated cost of attendance and the amount the federal government expects the student and her or his family to contribute to her or his education. This expected family contribution (EFC) is calculated based on information submitted on the FAFSA. A subsequent process called “verification” may be required to complete your application.

The financial aid students receive is determined by financial need and eligibility criteria for various scholarships, grants, loans, and college work-study programs. Often, more than one source of funds is awarded to a student.

Each year new federal and state legislation impacts financial aid eligibility. Financial aid is not guaranteed from one year to the next. Students must apply each year and should not assume that they will be eligible for the same amount of aid awarded to them in previous years.

### Scholarships

UMC is proud to award nearly \$1 million in merit and specialty scholarships. Merit scholarships are awarded at the time of admission based on a combination of the student’s ACT score and cumulative GPA (high school GPA for new high students and college GPA for transfer students). Merit scholarships are renewable for a second year with a UMC GPA of 3.25 or higher at the end of spring term.

There are a number of specialty scholarships awarded from UMC based on special interest, background, or abilities. A separate online specialty scholarship application is required to be considered for these scholarships. The online application can be accessed from early January through February 15 on UMC’s Web site. Committees from on and off campus select recipients of these specialty scholarships. They are not automatically renewable and students must submit an online application annually for consideration.

Athletic scholarships are determined at the discretion of the Athletic Department and its staff. Students must be enrolled full time (12 credits) to be eligible for all scholarships. Special consideration may be given to a student who is in his or her final semester prior to graduation.

Students must report scholarships received from outside entities (civic organizations, churches, etc.) to the financial aid office. Contact the Office of Financial Aid for assistance on any questions regarding scholarships.

### UMC financial aid sources include

- UMC Founders Free Tuition Program
- Minnesota State Grant Program
- Federal Pell Grant Program
- Federal Supplemental Educational Opportunity Grants (FSEOG)\*
- University grants/UMC grant\*
- UMC scholarships\*
- Federal and Minnesota State Work-Study Program\*
- Federal Perkins Loan Program\*
- Federal Ford/Stafford Direct Loan Program
- Federal Unsubsidized Ford/Stafford Direct Loan Program
- Federal PLUS (Parent) Direct Loan Program
- Federal Academic Competitiveness Grant
- Federal SMART Grant
- Minnesota SELF (Student Education Loan Fund)
- Federal veterans benefits
- Minnesota National Guard Tuition Reimbursement Program
- Educational Assistance for War Orphans and Veterans
- Reciprocity programs with North Dakota, South Dakota, Wisconsin, Manitoba
- Job Training & Partnership Act (JTPA)
- Minnesota Non-AFDC Childcare Program\*
- Midwest Farmworker Employment & Training
- Division of Rehabilitation Services
- Minnesota Indian Scholarship Program
- Bureau of Indian Affairs

\*Limited funds available. Apply by March 31 priority consideration date.

### Satisfactory Academic Progress for Financial Aid Eligibility

To remain eligible to receive financial aid, students must make progress toward earning their degree and maintain at least a C average (2.00 cumulative GPA) in their selected curricula. Generally, students on academic probation are considered to be making satisfactory academic progress. Students placed on academic probation are automatically placed on financial aid probation. Suspended students, readmitted under the terms of academic contract, are NOT considered to be making satisfactory academic progress and are not eligible for financial aid. However, students may petition and appeal their financial aid suspension status if there are extenuating circumstances that affected their academic progress. (Details of the Academic Progress Policy can be found on pages 24–25).

In addition to the Academic Progress Policy, students receiving financial aid must also meet the following five conditions:

1. Students must be registered for courses and cannot be suspended or dismissed.
2. a. Students in baccalaureate degree programs remain eligible for financial aid up to a maximum of 180 attempted semester credits or until they have earned a B.S. degree.  
b. Students in associate degree programs remain eligible for financial aid up to a maximum of 135 attempted semester credits or until they have earned an A.S. or A.A.S. degree.
3. Students must successfully pass two-thirds of the credits they attempt as measured at the end of each review period.
4. Students must have a cumulative GPA of at least 2.00 at the end of the second academic year (four terms) of study (or 60 credits for transfer students).
5. Suspended students who have been readmitted under the terms of the academic contract shall not be considered to be making satisfactory academic progress and will be placed on financial aid suspension.

Students who do not meet these requirements because of extenuating circumstances may submit a petition appealing the decision to the Office of Student Financial Aid, 170 Owen Hall.



### Direct Deposit for Financial Aid Refund Checks

Financial aid refund checks can be directly deposited into a specified bank checking or savings account. To apply for this service, download and complete the “Direct Deposit Authorization for Student Account Refunds” form located online at [www.umcrockston.edu/people/finaid/Forms/Non-year%20Based/DirectDepositAuth.pdf](http://www.umcrockston.edu/people/finaid/Forms/Non-year%20Based/DirectDepositAuth.pdf).

Completed forms should be returned to the Business Affairs Office at 121 Selvig Hall. After financial aid is applied to the student’s account, they must stop at the Business Affairs Office and request the refund to be directly deposited. Refunds are generally deposited in the student’s account 48 hours after the request.

### Student Affairs

The offices and departments that make up Student Affairs emphasize the uniqueness and worth of each individual and advocate services and methods that help each person develop his or her full potential. The campus environment promotes academic freedom and individual responsibility, with a diversity of persons and experiences. It also promotes participation in the University community with the goal of furthering student learning and development. Student Affairs contributes toward students’ educational development by providing programs and services that

- promote students’ increased self-understanding and personal development;
- improve students’ understanding of their role and their responsibilities to others, to society, and to themselves;
- assist students in overcoming barriers that may prevent them from completing their education;
- integrate students’ classroom and non-classroom living and learning experiences within the University community;
- promote student understanding of, and appreciation for, a variety of human differences; and
- promote student understanding of the appropriate balance between the needs of students and the needs of the broader University community.

#### Student Affairs

- represents students’ interests and needs to the administration and other relevant University policy-making bodies;
- provides efficient administrative services needed for student admission, orientation, and financial assistance;
- provides a variety of on-campus living and dining options to facilitate student attendance at the University;
- provides health care and wellness education and promotes healthy living by students;
- provides services and programs for students with special needs;
- provides counseling for students with intellectual, emotional, interpersonal, moral, social, and vocational development concerns;
- provides for the social, athletic, and recreational needs of students;

- provides security services to maintain a safe and secure living and learning environment;
- provides educationally relevant, non-classroom developmental, service, and leadership opportunities;
- assists students and student organizations to interact more effectively with the University community;
- provides a diversity of social opportunities and cultural experiences for all student groups; and
- assists students in clarifying career goals, exploring options for further study, and securing employment.

## Academic Assistance Center/ Student Support Services

UMC has two programs to help students achieve and maintain good grades—the Academic Assistance Center (AAC) and Student Support Services (SSS). Both programs are located in Owen Hall 270 and are available to students at no charge.

The Academic Assistance Center is open to all UMC students and offers the following services:

- Peer tutoring
- Group tutoring
- Study groups
- Supplemental instruction

Student Support Services is a federally funded program that offers eligible students all of the services listed above plus the following:

- Scholarship and grant aid
- Goal setting
- Social/cultural events
- Career exploration
- Graduate/professional school preparation
- Workshops
- Leadership development
- Personalized assistance from program advisors

To get an AAC tutor or to find out how to qualify for the many benefits of SSS, call 218-281-8552 or 8553, or visit [www.crk.umn.edu/people/services/academasst/index.htm](http://www.crk.umn.edu/people/services/academasst/index.htm) or [www.crk.umn.edu/people/services/sss/index.htm](http://www.crk.umn.edu/people/services/sss/index.htm).

## Bookstore

The UMC Bookstore carries textbooks and supplies for all classes offered at UMC. In addition, the Bookstore carries a wide variety of general and reference books, UMC fashions and insignia gifts, and everything you need for graduation. The Bookstore is located on the first floor of the Student Center. Regular hours are 8 a.m. to 4:30 p.m. Monday through Friday. The Bookstore hosts extended hours for special campus events. For more information, visit the Bookstore online at [www.crookstonbookstore.com](http://www.crookstonbookstore.com).

## Career and Counseling Services

Career and Counseling Services (C&CS) offers career services; counseling; alcohol, tobacco, and other drugs (ATOD) programs; disability; and diversity and multicultural services to all students and the University community.

**Career Services**—UMC Career Services helps students develop, evaluate, and implement career plans. It provides career development and placement services to all University community members. Specialized services include:

- Full-time and part-time employment listings
- Internship seminar class
- Career and job fairs
- Temporary and seasonal job listings
- Résumé books
- Job-search strategy workshops and meetings
- Interview practice sessions
- Job fair information
- GED testing
- ACT residual testing
- CLEP testing
- Career interest, skills, and personality inventories
- Career and occupational exploration workshops
- Individual and group counseling for career planning
- Follow-up studies of previous graduates
- International job market information
- Computer assisted career planning programs
- CSO Interfase Network and personal Web sites

Career Services resources and information are provided to help students and alumni find career related employment.

Counseling and Career Services hours are Monday through Friday, 8 a.m. to 5:30 p.m. For more information, stop by the Student Center or call 218-281-8586 or 218-281-8585 for an appointment. UMC's Counseling and Career Services Web site can be found at [www.ccs.umcrookston.edu/](http://www.ccs.umcrookston.edu/).

**Counseling Services**—UMC Offers professional counseling services for students with personal, social, mental, educational, and career development concerns. Consulting, outreach, evaluation, and research programs are also available.

Services include:

- Individual counseling
- Group counseling
- Advocacy for student needs
- Crisis intervention
- Programs, seminars, and workshops
- Evaluation and referral resources

Counseling complements the academic life of students by helping them gain personal insights and more clearly defined plans for the future.

**Alcohol, Tobacco, and Other Drugs (ATOD) Program**—This program provides UMC students with education and prevention programs that promote learning and development. The programs are intrusive, coherent, based on theories and knowledge of

learning and human development, and are responsive to special needs of individuals. ATOD services include:

- Individual counseling
- Group counseling
- Crisis intervention
- Education and prevention classes, programs, seminars, and workshops
- Referral sources
- Alcohol and drug evaluations

For more information, contact the ATOD office, University of Minnesota Crookston, Student Center, Crookston, MN 56716 (218-281-8586 or -8585; [www.ccs.umnecrookston.edu/ATOD/index.htm](http://www.ccs.umnecrookston.edu/ATOD/index.htm)).

**Disability Services**—UMC's Disability Services Office promotes and ensures program and physical access for students with documented disabilities. It also helps UMC personnel meet their obligations under state and federal statutes and provides the following services upon request for enrolled and prospective students with documented disabilities:

- Information about disability services at UMC
- Referral
- Individual orientation
- Counseling
- Career development assistance
- Academic accommodations
- Advocacy
- Faculty and staff consultation
- Educational programming related to disability issues

Students who require sign language interpreting services are encouraged to contact the Disability Services Office regarding the availability of those services in the region well in advance of the anticipated date of enrollment.

For more information, contact the Disability Services Office, University of Minnesota, Crookston, 270 Owen Hall, Crookston, MN 56716 (218-281-8587; Minnesota Relay Service, 1-800-657-3529; or [www.ccs.umnecrookston.edu/disability/index.htm](http://www.ccs.umnecrookston.edu/disability/index.htm)).

**Diversity and Multicultural Affairs Program**—UMC's Diversity and Multicultural Affairs Program enhances and improves the educational opportunities of pre-college and college students by providing academic, cultural, financial, and social services to students, faculty, and staff.

This program is dedicated to working with the UMC community to help meet the special concerns of culturally and socially diverse students by creating an environment that nurtures, supports, provides leadership, fosters the development of community outreach and education, and promotes academic excellence through supplemental instruction, advisement, education, and mentoring.

Services and programs include:

- Diversity training
- Discussion groups
- Lectures
- Videos
- Panels
- Issues of human differences and oppression
- Leadership

- Multiculturalism
- Community building
- Valuing diversity
- Intercultural communication
- Workshops and retreats
- BLAST Club
- Cultural events
- GLBT services

For more information, contact the Diversity and Multicultural Affairs Office, Student Center (218-281-8583, -8586, or -8585) or visit its Web site at [www.ccs.umnecrookston.edu/diversity/index.htm](http://www.ccs.umnecrookston.edu/diversity/index.htm).

## Center for Adult Learning

UMC's Center for Adult Learning (CAL) provides learning opportunities for people and communities of practice, transcending geography, utilizing technology, and empowering personal and professional growth. Services include, but are not limited to, online degrees, concurrent enrollment via College in the High School and Post Secondary Enrollment Options Online, English as a Second Language, and nondegree, for-credit workshops. CAL specializes in educational products and systems that serve public needs over many geographic areas and emphasize lifelong learning.

CAL prides itself on high quality educational services for nontraditional or continuing students, community organizations, and the workforce. UMC offers diverse adult learning activities to serve the needs of individuals, groups, organizations, and communities of northwest Minnesota and beyond. CAL does this through online courses, conferences and other educational program offerings. Outreach services provided by the Center are targeted to meet the needs of working professionals, organizations, businesses, industries, young adults, displaced workers, and senior citizens.

In addition to the online degrees, CAL develops and delivers online courseware and training to meet the needs of adult learners and an expanding workforce.

Online courses provide students opportunities to complete courses without attending classes on campus. They offer interactivity with the instructor and other students, convenience of location and time of day, and independent learning for motivated students. Online courses may be applied to UMC degrees or transferred to other institutions. The flexibility of online courses allows professionals working rotating shifts to pursue an advanced degree.

Extended campus courses are available through partnerships with technical colleges and industry. Partnerships and locations include business partners and technical colleges in the region and throughout the state of Minnesota. These courses lead to the bachelor's degrees which are available entirely online at [www.umnecrookston.edu/online](http://www.umnecrookston.edu/online).

CAL also supports certificate programs that may be applied to future degrees. These include:

- **Manufacturing Management Certificate** (credit) for manufacturing and production employees seeking to advance to management and supervisory positions within the industry.

- **Hotel, Restaurant, and Institutional Management Certificate** (credit or noncredit) for employees, supervisors, and managers who would like to advance within the industry. Individuals may elect to complete one focused course to enhance their job skills or complete the full certificate program.

For more information, contact the Center for Adult Learning (218-281-8679; [www.umcrookston.edu/cal](http://www.umcrookston.edu/cal)).

## Cooperative Campus Ministry

UMC offers a unique opportunity to its students in the form of an ecumenical campus ministry, which welcomes people of all faiths. It affirms beliefs and values while focusing on faith—in God and in one's self and one's future. Cooperative Campus Ministry provides opportunities for spiritual growth, fellowship, and community service. Everyone is invited to strengthen relationships and broaden their horizons.

Cooperative Campus Ministry is located in the Student Center and meets every Tuesday night. The ministry and its coordinator are governed by a board of representatives from contributing denominations.

## Office of Development and Alumni Relations

The mission of the UMC Office of Development and Alumni Relations is to build lifelong connections and relationships that provide a margin of excellence for the University of Minnesota, Crookston.

The Office of Development and Alumni Relations provides this margin of excellence by coordinating the fundraising activities for UMC. These involve major gifts to the University, annual fund drives, and special projects. The Office works in conjunction with the University of Minnesota Foundation to manage the gifts received by the University. The Foundation is a separate nonprofit organization that raises money and manages private gifts for the University of Minnesota system. Money raised for UMC provides funds for scholarships and other projects at UMC. Donors are recognized annually in *The Donor Report*.

If you would like to receive a copy of *The Donor Report*, or make a gift to the University of Minnesota, Crookston, contact the UMC Office of Development and Alumni Relations, University of Minnesota, Crookston, 115 Kiehle, 2900 University Avenue, Crookston, MN 56716; or 218-281-8439.

To stay in touch with our alumni, donors, and friends, the Office of Development and Alumni Relations produces alumni publications, coordinates special on-campus events, including homecoming, recognition events, and reunions. The office also makes it easy for Alumni to stay connected through *The Torch*, the UMC alumni newsletter; *The Aggie*, the Northwest School of Agriculture (1906–68) newsletter; or the Alumni Relations Web site at [www.umcrookston.edu/people/UMC/index.htm](http://www.umcrookston.edu/people/UMC/index.htm).

Membership in the UMC Alumni Association is automatically granted to all graduates. Students who have satisfactorily completed 30 semester hours of college work are also welcome as associate members.

For more information, contact the Office of Development and Alumni Relations at 218-281-8434 or 218-281-8439.

## Dining Services

Dining Services provides the campus community with dining flexibility and convenience. It prepares a variety of nutritious and tasty foods for the campus community and off-campus visitors from the first day of class each term through lunch on the last regularly scheduled day of final examinations. It also provides special event and catering services. Dining Services utilizes the U Card as the meal plan card and debit card for cash purchases. Students, as well as faculty and staff, are welcome to purchase one of the flexible meal plans available. The Eagle's Nest Convenience Store is located on the first floor of Sahlstrom Conference Center and features a large selection of snack items. Breakfast is available in Brown Dining Room from 7:30 to 9 a.m., Monday–Friday. Located on the second floor, Brown Dining Room offers a variety of main entrees and a full salad bar during the week, as well as theme dinners, special events, and steak nights throughout the term. Service hours for Brown Dining Room are 10:30 a.m. to 1:30 p.m. for lunch and 4:15 p.m. to 6:30 p.m. for dinner, Monday–Friday; and 11:30 a.m. to 12:30 p.m. for brunch, and 4:30 to 5:30 p.m. for dinner on weekends.

## Diversity and Multicultural Affairs

The Office of Diversity and Multicultural Affairs helps students of diverse cultural, ethnic, racial, and linguistic backgrounds adjust to the college environment. Its programs provide students with advocacy services, general counseling, and advising in personal, academic, and extracurricular activities. The office also serves the UMC community by providing opportunities for understanding and appreciating diversity. Students are introduced and encouraged to take advantage of several international education exchanges and activities offered by UMC. The office is located in the Student Center. Appointments can be made in person or by calling 218-281-8583.

## Early Childhood Development Center

The Early Childhood Development Center is a comprehensive childcare facility offering early childhood programs for children of UMC students, staff, and faculty, as well as the community at large. The center provides early education experiences for infants, toddlers, and preschool children. The primary purpose of the center is to give UMC students majoring in early childhood education an opportunity to observe and participate in a teacher-training laboratory. The center maintains a safe and healthy learning environment, provides a supportive social-emotional atmosphere, and helps children learn through self-directed processes and problem solving.

## English as a Second Language

The University of Minnesota, Crookston, English as Second Language program (ESL) is a pre-collegiate English program, which provides English language instruction, and related support services to foreign students who are both qualified for and have a desire to pursue undergraduate study at UMC.

The ESL program prepares foreign students to compete successfully with their American peers in college classrooms by providing multi-skill language instruction and close cooperation with the UMC academic and student support offices. In addition, it increases campus diversity and cultural experiences for all students.

The multilevel, non-credit program in English as a Second Language is designed for those who wish to read, speak, hear, and write English for professional, personal, or academic purposes. Offered in semester sessions with minimum of 20 or more hours of instruction each week, ESL students can choose from three levels of instruction: beginning, intermediate, and advanced. Each level usually takes a semester (16 weeks) to complete. Summer sessions take 8 weeks.

The University of Minnesota, Crookston, offers nondegree-seeking admission to academically qualified candidates for the ESL program. UMC's English requirement for admission as a degree-seeking student must be fulfilled by the TOEFL exam (65 Internet, 190 Computer, or 520 Paper) or successful completion of UMC advanced ESL courses.

**Application for Admission**—Application to the ESL Center is open to all who are at least 17 years of age, have completed high school, have adequate funds to pay fees, and are motivated to attend all classes, do all homework, and follow U.S., University of Minnesota, and program policies and rules. For more information, refer to page 6 or contact ESL in the Center for Adult Learning (218-281-8679; [esl@umcrookston.edu](mailto:esl@umcrookston.edu); [www.cal.umcrookston.edu/esl](http://www.cal.umcrookston.edu/esl)).

## Health Service

The Student Health Service offers medical care to all students. The clinic is operated by a registered nurse who assesses and treats minor illnesses, refers students to appropriate agencies when warranted, and provides educational programming for understanding and preventing illness. A physician is on campus most Wednesday afternoons and evaluates students at no charge.

Students referred for medical care are responsible for costs. Transportation to an off-campus health care agency is the student's responsibility. There are no restrictions on the number of visits a student may make to the Student Health Service. Over-the-counter medications are also available at no charge.

All students are required to complete a health history form and immunization record, which are filed at the Student Health Service office.

**Student Health Insurance**—Students enrolled in six or more credits are required to carry hospitalization insurance. Students who enroll for six or more credits and do not have hospitalization insurance will automatically be enrolled in a University-sponsored plan when they register. Students who already have insurance through their parents, employer, or spouse will need to provide documentation of coverage during registration to avoid being charged for the University-sponsored plan. Verification must include insurance company name, member ID number, and insurance company telephone number.

Students are encouraged to visit the Student Health Service, located in the Student Center. Hours are from 8:30 a.m. to 4 p.m., Monday through Friday when classes are in session. Students can make appointments by calling 218-281-8512.

## International Programs

UMC's International Program Office is committed to international students and to providing global connections for all students and faculty. It is important for students to have exposure to international cultures, international students, and experience in foreign countries. International students bring world understandings to both the curriculum and student life. The office coordinates admission of international students, collaborative bachelor of science degree programs with International Universities, and programming focusing on internationalizing the curriculum and strengthening student diversity experiences. The International Program Office is located on second floor of the Student Center (218-281-8339).





## Online Degrees

The Crookston campus is the University of Minnesota's first campus to deliver a bachelor's degree entirely online. The Center for Adult Learning (CAL), in collaboration with the campus' academic departments, supports the University's online degrees with student support services while ensuring a successful academic online experience.

UMC has accredited online degrees that are career oriented, creating opportunities for people and communities of practice, transcending geography, utilizing technology, and empowering personal and professional growth. Online courses and degree programs are offered on a semester-based system (fall, spring, summer); students can start when it's convenient. New semesters start every 16 weeks, except during summer semester, which is a condensed 8-week semester. Students can apply online or with a paper application at any time. Completing degree requirements is convenient because there is no need to travel to the University. Since UMC delivers all of the degree instruction to the student online, UMC students can live anywhere in the world and still earn a quality University of Minnesota degree.

The Higher Learning Commission (HLC) has accredited the University of Minnesota, Crookston, to deliver the following online degrees:

1. **Bachelor of Applied Health (B.A.H.).** The B.A.H. degree provides a convenient and flexible alternative for working adults and part-time students who have relevant work experience and are interested in completing a four-year degree in the health care industry.
2. **Bachelor of Manufacturing Management (B.M.M.).** The B.M.M. degree is designed to overlay a two-year technical college degree with management-related coursework, providing opportunities for working adults to advance to management and supervisory positions.
3. **Bachelor of Science in Business (B.S.B.).** The B.S.B. degree is designed to prepare graduates for management positions in business firms, institutions, small businesses, and other organizations. It provides a well-rounded education in business operations, preparing individuals for a variety of management positions in business and government.

### Transfer to UMC Online

University of Minnesota, Crookston, online programs are designed to be as flexible as possible to enable students to start and/or complete a bachelor's degree entirely online. Previous college credit may be transferred into the program and counted towards degree completion. Students who have previously earned an associate's degree from an accredited institution will receive 60 credits upon transfer.

### Request Information

To learn more about online degrees and courses at the University of Minnesota, Crookston, please contact the Center for Adult Learning (218-281-8679; cal@umcrookston.edu; www.umcrookston.edu /online).

## Residential Life/Security Services

Two residence halls and two apartment complexes provide coeducational on-campus housing for nearly 500 students. All rooms are furnished. Residence halls also have recreational, laundry, and kitchen facilities.

To maximize the positive, developmental experience of living in campus housing, residents are responsible, through hall councils and committees, for formulating and implementing policies, standards, and activities.

Students who plan to live on campus should return the housing application that is mailed to them in March.

For more information, contact the Office of Residential Life/Security Services, 1110 Centennial Hall (218-281-8531).

**Security Services**—The Office of Residential Life/Security Services is responsible for law enforcement and security on campus. The department professional staff consists of a director and officers. Officers are on duty primarily during the evening hours.

It is University policy to encourage the reporting of all crimes committed on campus and to assist victims of those crimes. Information regarding UMC crime statistics is available at the Office of Residential Life/Security Services, 1110 Centennial Hall (218-281-8530). **In an emergency, dial 911 or 9-911 (on campus).**

The department emphasizes crime prevention by minimizing crime opportunities and encouraging students and employees to be responsible for their own and others' safety.

## Retired and Senior Volunteer Program (RSVP)

RSVP is a volunteer placement program for persons age 55 and older. RSVP offers men and women exciting opportunities for personal development and satisfaction by volunteering their time, energy, and creativity while serving their communities. RSVP also offers its volunteers benefits such as supplemental insurance coverage, mileage and meal reimbursements, and an annual recognition event. By providing seniors with a variety of community-defined, community-supported volunteer projects, it allows them to make choices that match their time, skills, and interests with the knowledge that the opportunities they choose will be meaningful to them and their community.

## Service Learning

Courses throughout UMC's five academic departments incorporate hands on, real world experiences through service-learning projects. For example, students might design a Web site for a nonprofit agency, assist senior citizens with their taxes, design landscape plans for residential and commercial properties, teach first graders music lessons, or perform an analysis of a farm operation and make recommendations. Project lengths range from a few hours to several semesters. The UMC Mentoring and Caring program, similar to a Big

Brother/Big Sister Program, is also based out of the Office of Service Learning. In addition, Habitat for Humanity, America Reads, and the VolunTEAM, Crookston's volunteer clearinghouse, are all part of this dynamic office. For more information on service learning, volunteer opportunities, and UMC civic engagement/outreach in the region, contact UMC's Office of Service Learning at 218-281-8526 or stop by 247 Student Center.

## Sports

**Intramural and Recreational Sports**—The Intramural Program offers a diversified range of activities to meet the needs and interests of a large percentage of students, both men and women. Intramural sports are a great way to participate in a sport without the pressure of joining a varsity team. Activities include basketball, bowling, dodge ball, flag football, hockeyball, pool, racquetball, soccer, softball, table tennis, tennis, and volleyball, along with many others.

**Intercollegiate Athletics**—The Intercollegiate Athletic Program is an integral part of the student experience at UMC. The fine winning tradition established by UMC teams has provided a focal point for student interest, enthusiasm, and school spirit. UMC participates in women's sports (basketball, golf, tennis, soccer, softball, equestrian, volleyball) and men's sports (baseball, basketball, football, golf, hockey). UMC is a member of NCAA Division II and competes in the Northern Sun Intercollegiate Conference.

**UMC Fitness Center**—The newly remodeled and modern UMC Fitness Center, with many of the latest conditioning machines, is one of the best-equipped centers in the area. The center is available at no charge to students enrolled for 6 or more credits. It is also available to faculty, staff, and the community for a membership fee. The Fitness Center is located in the Sports Center.



## Study Abroad

UMC offers an outstanding array of international study programs that enable students to earn academic credit while they study overseas. Learning experiences may last from three weeks to one year in duration. Credits earned are integrated into the curriculum and count toward graduation. The student's learning experience may include study, work, internship, or volunteer and service learning abroad, with the choice to study in more than 200 locations throughout the world. Enrollment is open to all students. Those who are interested in study abroad are encouraged to visit with their academic advisers. Applications for international programs are available in the Study Abroad Office on the second floor of the Student Center. Contact the Study Abroad Office for more information (218-281-8339 or 1-800-232-6466, ext. 8339).

## Student Activities

Students may participate in a wide range of cocurricular activities. Weekly activities include the popular W.O.W. (What's on Wednesday) program, which features hypnotists, comedians, and musicians. There is also a monthly daytime concert series and the traditional Homecoming and Spring celebrations. The student programming board, S.P.A.C.E. (Student Programming and Activities for Campus Entertainment), plans many of these events. The campus also hosts a programming series, Regal After Hours, which provides students an assortment of activities to be involved with during the weekends. The campus Concerts and Lectures Committee also sponsors events that appeal to the cultural interests of students, including music and drama programs, which are presented regularly by the college for campus and public audiences. Thirty-five organizations are officially recognized by the Crookston Student Association, the campus' student government. For more information, contact Student Activities, Student Center, University of Minnesota, Crookston (218-281-8507; FAX 218-281-8588).

## Student Center

UMC's Student Center is a beautiful addition to the Crookston campus and provides space for student services, including student activities, student government, diversity and multicultural affairs, health services, outdoor recreational equipment rental, the post office, the service learning office, and Cooperative Campus Ministry. The student center includes areas such as the Northern Lights Lounge, which features a game room and TV room. The Prairie Lounge serves as a commuter student gathering spot with an outdoor patio. The second floor includes a leadership room and the Bede Ballroom, which offers a great venue for dances and formal or informal programs. The Minnesota room features the fireplace from the original Bede Student Center. The bookstore features a casual reading area for students, faculty, staff, and campus visitors.

## Student Conduct Code

UMC seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. UMC seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community. UMC is dedicated to responsible stewardship of its resources and to protecting campus property and resources from theft, damage, destruction, or misuse. UMC is supported and guided by state and federal law while also setting its own standards of conduct for our academic community. UMC is dedicated to the rational and orderly resolution of conflict. The Student Conduct Code (Code) applies to all students and student organizations of the University of Minnesota, Crookston (UMC). The Code shall apply to student conduct that occurs on University premises or at University-sponsored activities. At the discretion of the Chancellor or delegate, the Code also shall apply to off-campus student conduct when the conduct, as alleged, adversely affects a substantial University interest and either constitutes a criminal offense or present a danger or threat to the health and safety of the student and others. The complete text of the Code is located on UMC's Web site at [www1.umn.edu/regents/policies/academic/Student\\_Conduct\\_Code.pdf](http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.pdf). Printed copies are available from the Info Desk in the Student Center. All students at UMC are responsible for knowing and complying with these standards. Failure to comply may result in disciplinary action up to and including suspension or expulsion.

## University Relations

The Office of University Relations coordinates activities associated with media relations, public relations, and institutional marketing. Its mission is to build understanding and pride in the University of Minnesota. University relations staff work collaboratively with the Office of Development and Alumni Relations, Admissions, Media Services, Publications and Design, and Athletics to promote a positive image of the campus community and its students, alumni, faculty and staff.

The office provides marketing, branding, and communication strategies that promote a focused, consistent and positive image among internal and external stakeholders and the general public by building connections and enhancing the perception of the education, research and outreach the University of Minnesota, Crookston, provides.

Public relations develops news releases, feature articles, and other publicity that highlights academic programs and departments, campus activities, and events, as well as the achievements of UMC students, faculty, and staff. It also hosts news conferences and distributes UMC news locally, regionally and nationally.

A weekly radio broadcast, *UMC Insight*, airs on local and regional stations and highlights people, programs and events on campus. University Relations is also responsible for the bi-weekly Campus E-update, the Today page, and posting events on the Web; oversees the publication of the Campus Connection; and assists the Alumni Relations and Development Department with publication of the *Torch* and *Aggie* alumni magazines.

The UMC photography office records the dynamic people and programs on campus through photographs and also maintains a photo library documenting people and events in campus history.

Our goals are to protect and manage the University's reputation and image, develop and implement marketing campaigns to communicate key messages about the value of UMC, provide leadership for university and community events, develop promotional partnerships, and share current research data.

## University Sexual Assault Victims' Rights Policy

Students who are victims of a criminal sexual assault on UMC property, may file a criminal charge with the Crookston Police Department by calling 911. For assistance in notifying the proper law enforcement and campus authorities, call the Office of Residential Life/Security Services, 218-281-8531, 8 a.m. to 4:30 p.m., Monday through Friday; or 218-289-0604, after office hours and on weekends. The local Community Violence Intervention Center, 877-625-8092, can also provide assistance. Students also have the right to assistance from the State of Minnesota Crime Victim Reparations Board and the Office of the Crime Victim Ombudsman.

After receiving a complaint, the University will investigate and respond to it. Students may participate in any University disciplinary proceeding concerning the complaint and may have a support person present. Students have the right to be notified about the outcome of any University disciplinary proceeding concerning the complaint, subject to the limitations of the Minnesota Government Data Practices Act.

The University will follow the direction of law enforcement authorities in obtaining, securing, and maintaining evidence relating to any sexual assault incident. University authorities will also assist in preserving materials that are relevant to a University disciplinary proceeding.

At the student's request, the University will assist, as is reasonable and feasible (in cooperation with law enforcement authorities), in shielding them from the alleged assailant. This may include providing alternative work, academic, or living arrangements if these options are available and feasible.

## Veterans Benefits

The courses offered by UMC have been approved for veterans and their dependents eligible for educational benefits under Chapters 30, 31, 32, and 35 of the Veterans Readjustment Act of 1977. Under the new GI Bill, Chapter 106 (educational assistance program), reserve and National Guard personnel may be eligible for educational benefits. Students should contact the Office of the Registrar or their local Veterans Administration office to obtain applications and determine eligibility and entitlement.

At the Office of the Registrar, 9 Hill Hall, students can get help with any problems they may have with the Veterans Administration (e.g., getting their check, filling out forms) and find out about the services available to veterans on campus.

Veterans may receive credit for appropriate military training. The transfer specialist determines the number of credits acceptable for transfer.

Veterans or veterans' dependents receiving educational benefits must conform to the following regulations to maintain their eligibility:

- Register for at least 12 credits per term to receive full-time benefits, 9–11 credits for three-quarter-time benefits, 6–8 credits for half-time benefits, 4–5 credits for less than half-time benefits. (The Veterans Administration pays tuition for only 1–3 credits, which must apply toward a degree.)
- Maintain satisfactory academic progress toward graduation.
- Report any changes in course load (cancellations, additions) to the Office of the Registrar (and repay benefits, retroactive to the start of the term, for any course dropped 30 days or more after the start of a term, or for any course not completed if the cancellation or incomplete changes their enrollment status: half-time, three-quarter-time, or full-time).

## Web Access

Students can check their records and obtain a wide variety of other information and services on the Web by visiting <http://onestop.umcrockston.edu/>. These online services include the following

- **Grades/Unofficial Transcripts**—all courses on a student's record
- **APAS**—Academic Progress Audit System reports
- **Registration**—eligibility, queue information, self-registration, course availability, *Class Schedule*, and address change
- **Financial Aid**—financial aid status, eFAAN (electronic Financial Aid Award Notice), FAFSA (Free Application for Federal Student Aid), cost estimates, scholarships, grants, work-study, loans, aid alternatives, and academic progress requirements
- **Student Account**—account balance and transaction information, payments received and financial aid disbursements on “Student Account,” and view and pay tuition bills online on “UM Pay”

Students who have forgotten their Internet IDs/passwords, or who last registered after fall 1992 and whose Internet IDs have expired, should contact the Computer Help Desk (218-281-8000) for help resetting passwords or reactivating accounts. Students who last registered before fall 1992 are not able to access these online services.

## Registration

Registration is the student's responsibility. After registering for specific courses for the term and paying fees, the student has a contract with UMC whereby the University agrees to make certain instruction and facilities available and the student agrees to fulfill certain course requirements. Errors, late registration, failure to observe established procedures, or excessive changes in registration not only cause an imposition on others, but also are costly and time-consuming for the individual and the University.

Information about registration procedures may be obtained from the Office of the Registrar. Registration dates are listed in the academic calendar section of the *Class Schedule*. Students should make sure they have completed specified prerequisites before registering for a course.

**Upper Division Courses**—Students must have completed 30 or more semester hours (credits) to take upper division (3xxx, 4xxx or 5xxx) courses.

**Course Numbering**—Courses have four-digit numbers. The first number designates the course level.

**0xxx**—courses that do not carry credits toward any University degree.

**1xxx**—courses primarily for undergraduate students in their first year of study.

**2xxx**—courses primarily for undergraduate students in their second year of study.

**3xxx**—courses primarily for undergraduate students in their third year of study.

**4xxx**—courses primarily for undergraduate students in their fourth year of study.

**5xxx**—courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

**Faculty Advisers**—In choosing courses each term, every degree-seeking student is eligible for assistance from an assigned faculty adviser. The adviser guides the student in program planning, course selection, and progress toward graduation. Adviser changes must be approved by the student's department.

**Credit Load**—The normal course load for each term is 15 to 18 credits. To graduate with a bachelor's degree in four years, students must average 15 credits per semester. Dropping below that average may increase the time a student must spend in school. A credit requires an average of three hours each week in lecture, laboratory, recitation, and/or preparation. Students must register for a minimum of 12 credits in order to maintain full-time status (full-time status is defined as 15 credits for Minnesota State Grant eligibility).

**Credit Overload**—Students planning to register for more than 19 credits during the fall or spring semester, or 9 credits during the summer term, must secure permission from the Academic Standards and Policy Committee. Petition forms to request approval of an overload of credits are available in the Office of the Registrar. To carry more than 19 credits, students should have a minimum 3.00 cumulative GPA.

**Prerequisites**—To enroll in some courses, students must either complete or enroll concurrently in certain other courses, or possess some particular qualifications or class standing. If no prerequisites are listed, there are none, except for the class standing requirement indicated by the course number. Students attempting to register in courses for which the prerequisites have not been met must obtain permission from the appropriate instructor and/or department. Instructors have the option of dropping students who do not have the appropriate prerequisites; however, they are not required to do so. Students who wish to remain in a course in which their registration has been canceled because they do not possess the required prerequisites should contact the department offering the course as soon as possible.

**Mandatory Placement**—UMC requires ACT scores for all entering students with fewer than 24 semester credit hours. To facilitate student success, ACT scores are used to determine appropriate, mandatory placement in specific courses according to the chart below. Students may contact the instructor to make arrangements for a placement test if they believe the required course placement is not appropriate. Students must earn a “C-” or above in any mandatory class before registering for a class at a higher level in that subject area.

### ACT Assessment Scores

Course Placement	English	Math	Reading
GNEC 1000 <sup>1</sup>	20 or less	20 or less	20 or less
COMP 1000 <sup>2</sup>	16 or less		16 or less
COMP 1011 <sup>2</sup>	16 or less		16 or less
Math 0981		14 or less	16 or less
Math 0991		15–17	
Math 0992		18 or 19	

<sup>1</sup>GNEC 1000 placement if any two of the three scores are 20 or less.

<sup>2</sup>Concurrent enrollment

**Student Classification**—Student classification is determined by credits completed successfully: freshman, 0–29 credits; sophomore, 30–59 credits; junior, 60–89 credits; senior, 90 or more credits. Freshmen and sophomores are classified as lower division students, juniors and seniors as upper division students.

**Changes**—Changes in registration (cancel/add) procedures are detailed in the *Class Schedule*. Students may not add courses to their schedule after the second week of classes. Withdrawal in the ninth or later week of classes (fourth or later in summer session) requires approval of the college and may not be granted solely because a student is failing the course; there must be extenuating, non-academic circumstances justifying late withdrawal.

Students are held responsible for the requirements of a course in which they have registered until they officially cancel the course.

**One Time Drop Policy**—Each student may, once during his or her undergraduate enrollment, withdraw from a course without college approval, and receive a “W,” at any time up to and including the last day of class for that course. This process cannot be completed online. The required form must be completed and returned to the Office of the Registrar.

**Holds**—Students with a hold on their record may not register or, in many cases, obtain transcripts until that hold is cleared with the office imposing the hold. A hold may be imposed for financial indebtedness to the University (e.g., for unpaid tuition, fees, or library fines) or for disciplinary or scholastic reasons. Students are usually notified of an existing or impending hold by the department or office authorizing the hold. Notice of any hold, including the name of the department or office and where it may be cleared, is available online at [http://onestop.umcrookston.edu/registration/clear\\_holds.htm](http://onestop.umcrookston.edu/registration/clear_holds.htm).

To remove a hold, students must first pay the debt owed, correct the scholastic deficiency, or be cleared by the department that initiated the hold.

When a student clears any hold, the unit imposing the hold will electronically remove the hold from the student’s record. (In some cases students may be given a paper release that must be taken to the Office of the Registrar.) Units may, on occasion, issue a temporary hold release. This release allows students to either receive one transcript or register during the term in progress.

If, in order to register, a student pays a Student Accounts Receivable hold for a previous term with a personal check and that check is returned because of insufficient funds, the Business Office will send the student a notice. The student’s current registration may be canceled for failure to respond to this notice and pay the debt.

**Auditing**—On occasion a student may audit a course (i.e., register without credit) with the approval of her or his adviser or the course instructor. An auditor must officially register for the course and pay the same tuition charged for regular enrollment. The auditor is not required to complete assigned coursework or take examinations and is not awarded a grade or credit for the course. Audited courses are not eligible for financial aid.

**Priority Registration**—Priority registration allows a student with a documented disability to register at the beginning of the registration queue. Requests for priority registration may be made by the student or the student’s academic adviser to the Office for Students With Disabilities. For more information, contact the office at 218-281-8587. TDD users may call 218-281-8565 or use the Minnesota Relay Service at 1-800-657-3529.

## Multi-U Enrollment

(Attendance at another University of Minnesota campus)

A consortium agreement exists among the four campuses of the University of Minnesota for purposes of allowing students to attend another campus. Under this agreement, students are allowed to attend another campus without losing their status or jeopardizing their eligibility for financial aid assistance on their home campus. Multi-institutional students fall into two categories:

1. Students who are registered on two campuses for one term. For example, a student is registered at UMC (the home campus) but wants to take a distance learning course from a another University of Minnesota campus (host campus).
2. Students who want to register at another University of Minnesota campus (host campus) instead of at UMC. For example, students who want to take courses not offered at UMC (home campus).

Financial aid recipients should make sure that the course(s) they plan to take at another campus are eligible for financial aid. Financial aid programs administered by UMC's Financial Aid Office cannot be applied to any extended-term courses.

UMC students who are interested in applying to another University of Minnesota campus as a Multi-U student should contact the Office of the Registrar at 218-281-8547 to request an application. Students are expected to complete the application one month before the start of the term.

***NOTE:** This policy does NOT apply to students required to complete courses offered at another University of Minnesota campus as part of the degree requirements (e.g., Agricultural Education, and Equine Industries)*

## Class Attendance

After enrolling in a course, students become accountable for all the course requirements. Students who miss a class due to illness or other reasons beyond their control may request the instructor's assistance in making up the coursework missed. Any problem associated with absence from class is to be resolved between the individual student and the instructor. Attendance policies are established by the individual instructor and published in the course syllabus. A more complete policy statement on class attendance is included in the Campus Policies section of the UMC Web site at [www.umcrookston.edu/info/policies/attendance.htm](http://www.umcrookston.edu/info/policies/attendance.htm).

*Students must attend the first class meeting of every course in which they are registered unless they have obtained the instructor's approval for their absence before the first meeting.* Instructors have the option of dropping students who are not in attendance on the first day of class; however, they are not required to do so. Students who wish to remain in a course in which they were absent the first day without prior approval should contact their instructor as soon as possible. Instructors have the right to deny admission if the course is full.

The days, hours, and locations of classes are specified in the *Class Schedule*, which is published just before the registration period each term.

The college operates on a two-semester academic year with a three-week May session and an eight-week summer term. Students may enroll during any term and attend continuously or intermittently.

## Request for Readmission

Students previously registered at UMC who are absent for one term or more (summer excluded) are classified as returning students. They must complete the Application for Readmission (available at the Office of the Registrar or online at [www.webhome.umcrookston.edu/~nelson/RegistrarForms.htm](http://www.webhome.umcrookston.edu/~nelson/RegistrarForms.htm)) one month before the start of the term in which they wish to return. Returning students who have attended other postsecondary institutions must submit official transcripts from each previously attended institution.

## Final Examinations

Examination week is part of the regular academic semester and must be taken into account by students when planning any other activities or work outside of school hours. The final examination schedule is printed in the *Class Schedule*. Students are expected to know the hours for their final examinations and attend them when scheduled. Only when a conflict between examination times or a schedule of three or more examinations in one day occurs may students seek adjustment of their examination schedule. Under these circumstances, students should contact the appropriate department head.

A student who is unable to take an examination due to verified illness or absence or other legitimate reason is entitled to a make-up examination as soon as possible at a time mutually acceptable to the student and the instructor, and in accordance with any special conditions that may be announced by the instructor at the beginning of the term. It is the student's responsibility to notify the instructor, as far in advance as possible, of a scheduled event requiring his or her participation and absence from class.

## Uniform Grading and Transcript Policy

The complete University Senate grading policy can be found online at [www.umn.edu/usenate/usenate/policies.html](http://www.umn.edu/usenate/usenate/policies.html). For more information about transcripts, visit [http://onestop.umcrookston.edu/registration/grades/grades\\_report.htm](http://onestop.umcrookston.edu/registration/grades/grades_report.htm).

1. This policy has been in effect since fall 1997 for the Crookston, Morris, and Twin Cities campuses, replacing all previous grading policies. It may not be applied retroactively to any grades or symbols awarded before that time.
2. The University has two grading systems, A-B-C-D-F (with pluses and minuses) and S-N. Students may receive grades only from the grading system under which they have registered for a course. Each campus, college, and department determines to what extent and under what conditions each grading system is used, may specify what courses or proportion of courses must be on one system or the other, and may limit a course to either system.
3. When both grading systems are available, students must choose one when registering for a course.
4. Instructors must clearly define for a class, at one of its earliest meetings, the performance necessary to earn each grade or symbol.
5. The University's official transcript, the chronological record of the student's enrollment and academic performance, is released by the University only at the student's request or in accord with state or federal statutes; mailed copies have the University's official seal printed on them. Students may obtain an unofficial transcript at [http://onestop.umcrookston.edu/registration/grades/grades\\_report.htm](http://onestop.umcrookston.edu/registration/grades/grades_report.htm).
6. The University calculates a grade point average (GPA) for each student, both at the end of each grading period and cumulatively. GPA is calculated as the ratio of grade points earned divided by the number of credits earned with grades of A-F (including pluses and minuses). Transcripts report the periodic and cumulative GPA for each term.
7. A student may repeat a course once. Both grades for the course appear on the transcript, but the course credits may not be counted more than once toward degree and program requirements. Only the last enrollment for the course counts in the student's grade point average.
8. Students may petition the college scholastic committee or other appropriate body about this policy up to one calendar year after a grade was assigned.
9. The grades listed at the right (with grade points as indicated) and symbols are used on transcripts.

**Satisfactory-No credit (S-N) System**—UMC policy states that a student may elect to be graded on the satisfactory-no credit (S-N) system when enrolling in any course that is outside of liberal education or major program requirements.

### Grading Policy

A ..... 4.000.....	Represents achievement that is outstanding relative to the level necessary to meet course requirements.
A- .... 3.667	
B+ ... 3.333	
B ..... 3.000.....	Represents achievement that is significantly above the level necessary to meet course requirements.
B- .... 2.667	
C+ ... 2.333	
C ..... 2.000.....	Represents achievement that meets the course requirements in every respect.
C- .... 1.667	
D+ ... 1.333	
D ..... 1.000.....	Represents achievement that is worthy of credit even though it fails fully to meet the course requirements.
S.....	Represents achievement that is satisfactory (equivalent to a C- or higher and meets or exceeds course requirements in every respect). The S does not carry grade points and is not included in GPA calculations, but the credits count toward the student's degree program if allowed by the department.
F or N.....	Represents failure or no credit and indicates that coursework was completed but at an achievement level unworthy of credit, or was not completed and there was no agreement between the instructor and student that the student would be awarded an I. Academic dishonesty is grounds for an F or N for the course. The F carries 0.00 grade points and is included in GPA calculations; the N does not carry grade points and is not included in GPA calculations.
I.....	Incomplete, a temporary grade that indicates coursework has not been completed. The instructor assigns an I when, due to extraordinary circumstances, a student is prevented from completing coursework on time. An I requires a written agreement between the instructor and student specifying the time and manner in which the student will complete the course requirements during the student's next term of enrollment. For undergraduates and nondegree seeking students, work to make up an I must be submitted within one year of the final examination; if not submitted by that time, the I will automatically change to an F (if A-F registration) or N (if S-N registration). The instructor is expected to turn in the new grade within four weeks of the date work is submitted. When an I is changed to another symbol, the I is removed from the record. Once an I has become an F or N, it may be converted to any other grade by petition of the instructor (or department if the instructor is unavailable).
K.....	Indicates the course is still in progress and a grade cannot be assigned at the present time.
NG.....	No grade required.
T.....	Transfer credit or test credit.
V.....	Visitor, indicates registration as an auditor or visitor; does not carry credit or grade points.
W.....	Withdrawal, indicates a student has officially withdrawn from a course. If a student withdraws from a course during the first two weeks of classes, that course registration is not recorded on the student's transcript. The W is recorded if the student withdraws from the course during the third through eighth week of class (second or third weeks of summer terms). Withdrawal in the ninth or later week of classes (fourth or later in summer terms) requires college approval. Each student may, once during his or her undergraduate enrollment, withdraw from a course without college approval, and receive a W, at any time up to and including the last day of class for that course.
X.....	Indicates a student may continue in a sequence course in which a grade cannot be determined until the full sequence of courses is completed. The instructor submits a grade for each X when the student completes the sequence.

## Grades and Transcripts

The Office of the Registrar maintains student academic records. These records show all coursework for which students are registered as of the end of the second week of each term and the grades and symbols awarded for that work.

### Obtaining Grades/Transcripts

#### Online

- View or print your unofficial transcript at [http://onestop.umcrookston.edu/registration/grades/grades\\_report.htm](http://onestop.umcrookston.edu/registration/grades/grades_report.htm)

#### In Person

- Unofficial copies are available at the Office of the Registrar, 9 Hill Hall.
- Students must present a picture ID (U Card or driver's license).
- Students may receive two copies per day.
- There is no charge for this service.
- Financial and disciplinary holds must be cleared in order to receive a transcript.

#### Official Transcripts

- Official transcripts may be ordered online by anyone who has a current University e-mail account (see above), or by mail, fax, or in person. Telephone requests are not accepted.
- For a \$5 regular transcript fee, transcript(s) will be mailed within 2–3 working days.
- Pick-up service is available only as a rush service.

- For a \$10 rush transcript fee, transcripts will be mailed the same day.
- Fax requests may only be paid by VISA, Discover, American Express, MasterCard, or Diner's Club. The fax number is 218-281-8549.
- For a \$10 rush fax service fee, we will fax a transcript and follow up with a mailed transcript to the same location.
- Mailed requests may be paid by VISA, Discover, American Express, MasterCard, or check. Requests should be mailed to: 9 Hill Hall, 2900 University Avenue, Crookston, MN 56716-5001.
- When a student needs to forward an official transcript to another institution, the Office of the Registrar will sign and seal the mailing envelope. Students should not open the sealed envelope.
- Express Mail or other form of special delivery will be provided only if ordered online.

#### To order an official transcript, students must provide the Office of the Registrar with the following:

- Full name and all names used while attending the University of Minnesota
- Student ID number or social security number
- Date of birth and dates of attendance at the University
- Address(es) where the transcripts should be sent
- A signature
- A phone number or address where the student may be contacted you their request

Type	Fee	Description
Regular	\$5 per transcript	Mailed within 2–3 business days.
Rush	\$10 per transcript	Mailed the same day if received by 2 p.m. (CST).
Fax and Rush	\$10 per transcript	Faxed and mailed the same day if received by 2 p.m. (CST).
Priority Overnight	\$10 per transcript + \$15 shipping costs	Next business day delivery by 3 p.m. to most U.S. addresses if order is received by 2 p.m. (CST).
Fax and Priority Overnight	\$10 per transcript + \$15 shipping costs	Faxed and next business day delivery by 3 p.m. to most U.S. addresses if order is received by 2 p.m. (CST).
International Priority	\$10 per transcript + \$20 shipping costs	Orders received by 2 p.m. (CST) will be sent by international priority. Delivery time is approx 2–5 days.
Fax and International Priority	\$10 per transcript + 20 shipping costs	Orders received by 2 p.m. (CST) will be faxed and sent by international priority. Delivery time is approx 2–5 days.

**Transcript requests are not held for grades or degrees.** Most grades are posted to official transcripts approximately one week after the last day of final examinations. Degrees are posted and diplomas mailed to students approximately two months after the end of the term in which they are conferred.

### Transcript Fees and Payment

- When paying by credit card, students must include a credit card number, the expiration date, the name as it appears on the card, and a signature.
- Checks should be made payable to the University of Minnesota and must be included with the mailed request.

### Parent/Guest Access

Parent/Guest Access, an online self-service application, allows students active in a program at any of the four University of Minnesota campuses to provide a parent, spouse or other third party with view-only access to their student record information. Parent/Guest Access allows a third party to see up to six of the following areas of a student's record: enrollment summary, financial aid status, grades, holds, student account, financial aid awards.

Students invite a third party to be a guest viewer via an e-mail generated within the application. The guest responds by clicking an encoded link within the e-mail. This process associates the student record with the guest viewer. The student then grants specific viewing rights to one or more of the six subject areas of their student record. Students are able to discontinue access to their record at any time. The process for a student to release information can be found at: <http://onestop.umcrookston.edu/registration/grades/guestaccess.htm>.



## Examinations for Credit and Proficiency

The University of Minnesota offers proficiency examinations and special examinations for credit to currently registered undergraduate degree-seeking students. The exams are given at the discretion of the appropriate academic department.

**Proficiency Examinations** are administered by the appropriate academic department, require no fee, and yield no credit or grade but may fulfill prerequisites for advanced courses or satisfy requirements.

Proficiency examinations may be taken at any time, and if the student's work is of passing quality, a notation is made on his/her transcript saying "Course X satisfied by proficiency examination." A student may not first take a University of Minnesota course and earn a grade, subsequently take a proficiency exam for that course content, and then request that the original course grade be bracketed from the transcript.

**Special Examinations for Credit** have a fee of \$50 per credit. All requirements (e.g., application completed, fee paid, departmental test administered and scored) for these examinations must be completed and all paperwork submitted to the Office of the

Registrar no later than the last day of classes to add a class for that term. Materials received after the deadline date will be effective the following term. Credits earned by examination do not count as residence credits. A student may not first take a University of Minnesota course and earn a grade, subsequently take an examination for credit for that course content, and then request that the original course grade be bracketed from the transcript.

Further information regarding the policy on these examinations is available online at [www1.umn.edu/usenate/policies/creditprof.html](http://www1.umn.edu/usenate/policies/creditprof.html). Applications for these examinations may be obtained in the Office of the Registrar.

**Advanced Placement Policy**—Entering freshmen may earn college credit in some subject areas by receiving satisfactory scores on the College Entrance and Examination Board Advanced Placement (AP) Program examinations. Credits granted may be applied toward college degree requirements. In those cases in which a corresponding UMC course does not exist, "blanket credit" may be granted (with appropriate campus approval) and such credits may be used to meet certain liberal education requirements. For a list of AP credit awards, contact the Office of Admissions or go to <http://onestop.umcrookston.edu/registration/grades/credits/advancedplacement.htm>.

UMC POLICY			
AP Examinations	Score	UMC Course Equivalency	Credits
Biology	3–5	BIOL 1009—General Biology	4
Calculus AB	3–5	MATH 1271—Calculus I	4
Calculus BC	3	MATH 1271—Calculus I	4
	4–5	MATH 1271—Calculus I MATH 1272—Calculus II	8
Chemistry	3–5	CHEM 1021—Chem Prin I CHEM 1022—Chem Prin II	8
Macroeconomics	3–5	ECON 2102—Macroeconomics	3
Microeconomics	3–5	ECON 2101—Microeconomics	3
English Language and Composition	3–5	COMP 1011—Composition I	3
English Literature and Composition	3–5	COMP 1011—Composition I	3
Comparative Government and Politics	3–5	POL 1054—Comparative Government	3
United States Government and Politics	3–5	POL 1001—American Government	3
U.S. History	3–5	HIST 1301—American History I HIST 1302—American History II	6
Music Theory	3–5	MUS 1111—Music Theory I	3
	4–5	MUS 1111—Intro to Music MUS 1121—Music Theory II	6
Physics B	3–5	PHYS 1101—Intro College Physics I PHYS 1102—Intro College Physics II	8
Psychology	3–5	PSY 1001—Intro to Psychology	3
Spanish Language	3–5	SPAN 1104—Beginning Spanish I SPAN 1204—Beginning Spanish II	8
Statistics	3–5	MATH 1150—Elementary Statistics	3

*Adopted by Faculty Assembly, 5/9/2003*

**College Level Examination Program (CLEP)**—UMC offers the opportunity to submit the results of CLEP for credit in most of the Subject Examinations. CLEP Subject Examinations currently accepted by UMC for transfer credits are listed below with the minimum acceptable standard score. Credit earned through CLEP Subject Exams may be used to fulfill liberal education requirements, to fulfill specific course requirements, or used as elective credits. UMC does not grant credit for the General Exams.

The following guidelines have been established for utilization of the Subject Examinations:

1. A CLEP Subject Examination may not be taken to establish credit for a course in which a student has earned credit in a higher-level sequential course.
2. A student with previously earned credit in one course of a two-semester course sequence must petition the Academic Standards and Policy Committee (AS&P Committee) for approval before taking a CLEP Subject Examination

to receive credit for the second course in the sequence.

3. A Subject Examination may be repeated no sooner than six months after the date of the last testing. Students should submit a petition to the AS&P Committee for permission to repeat an examination.
4. A Subject Examination may not be used to establish credit in a subject that the student has previously failed.
5. CLEP credits awarded at another institution are not automatically accepted by UMC. The student must submit an original transcript of CLEP scores for evaluation. All scores are evaluated according to UMC policy.

**Competency Assessment Package (CAP)**—The Competency Assessment Package evaluates prior learning. Students should see their adviser for information and guidelines.

CLEP Subject Examination	Credit-Granting Score	Credit Granted	University of Minnesota Crookston Equivalent
Algebra	50	3 credits	MATH 1031—College Algebra and Analytical Geometry (3)
American Government	50	3 credits	POL 1001—American Government (3)
American Literature	54	3 credits	LIT 1016—Readings in American Life (3)
Analyzing and Interpreting Literature	54	3 credits	LIT 1005—Form and Idea in Literature (3)
Biology	50	3 credits	BIOL 1009—General Biology (3)
Calculus with Elementary Functions	50	3 credits	MATH 1142—Survey of Calculus (3)
Chemistry	50	4 credits	CHEM 1001—Introductory Chemistry (4)
Composition, Freshman	54	6 credits	COMP 1011—Composition I (3), COMP 1013—Composition II (3)
English Composition (with essay)	62	6 credits	COMP 1011—Composition I (3), COMP 1013—Composition II (3)
History of the United States II: 1865 to the Present	50	3 credits	HIST 1302—American History II (3)
Introduction to History of the United States I: Early Colonializations to 1877	50	3 credits	HIST 1301—American History I (3)
Macroeconomics, Principles of	50	3 credits	ECON 2102—Macroeconomics (3)
Microeconomics, Principles of	50	3 credits	ECON 2101—Microeconomics (3)
Psychology, Introductory	50	3 credits	PSY 1001—General Psychology (3)
Sociology, Introductory	50	3 credits	SOC 1001—Introduction to Sociology (3)
Spanish, Level 1	50	4 credits	SPAN 1104—Beginning Spanish I (4)
Spanish, Level 2	54	8 credits	SPAN 1104—Beginning Spanish I (4), SPAN 1204—Beginning Spanish II (4)
Western Civilization I: Ancient Near East to 1648	50	3 credits	HIST 1021—World Civilization I (3)
Western Civilization II: 1648 to the Present	50	3 credits	HIST 1022—World Civilization II (3)

## Chancellor’s and Dean’s Lists

Each semester, UMC publicly recognizes superior academic performance through notices posted on campus, public announcements, and press releases. To qualify for a place on the Dean’s List, students must complete 12 or more letter-graded (A-F) credits at UMC while attaining a 3.50 or higher GPA. To qualify for a place on the Chancellor’s List, students must complete 12 or more letter-graded (A-F) credits while attaining a perfect 4.00 GPA.

## Satisfactory Progress

Eligibility for student financial aid is governed by a separate Standards of Progress for Financial Aid Eligibility policy. See the financial aid section for more information.

**Academic Progress Policy**—UMC students are expected to make progress toward earning their degrees and to maintain at least a C average (2.00 cumulative GPA) in their selected curricula. Students on academic probation are considered to be making satisfactory academic progress. Suspended students, readmitted under the terms of the academic contract, are NOT making satisfactory academic progress.

**Academic Probation**—Students are placed on academic probation if they fail to meet the following standards.

**1. New high school admits and new advanced standing (transfer) admits**

New students who do not meet the requirements for regular admission but who qualify for UMC’s Conditional Admission program are admitted on academic probation. Students are informed in their letter of admission if they have been conditionally admitted on academic probation.

**2. Continuing UMC students and nondegree students**

Cumulative GPA must meet the following minimum standards:

Credits Completed With Permanent Grades	Minimum GPA
1–15	1.70
16–23	1.80
24–31	1.90
32 and beyond	2.00

**Requirements while on academic probation—**

During the term of probation students must:

1. Meet with an Academic Assistance Center/Student Support Services adviser/University counseling staff member and complete an Academic Action Plan no later than the end of the first week of the semester.
2. Revalidate their course registration with their academic adviser no later than the end of the first week of the semester.
3. Complete all additional requirements as specified for new high school and new college transfers who were conditionally admitted. Students should refer to their letter of admission and/or contact the Office of Admissions for specific requirements.
4. Earn a minimum term and cumulative GPA consistent with the credit hour/GPA table above. Students whose term GPA does not meet the requirements will be **SUSPENDED** for one term. Students who meet the term GPA requirement will be removed from probation or continued on probation according to the following table:

Meets Minimum Requirements?		
Term GPA	Cumulative GPA	Action
No		Suspended
Yes	Yes	Removed from probation
Yes	No	Continued on probation

**Suspended for Low Scholarship**—A student on academic probation who fails to meet the terms of probation will be suspended and required to withdraw from UMC for one academic term on the first incidence of suspension and one calendar year on the second suspension. Students who are suspended on four occasions are dismissed and not allowed to continue their studies at UMC. Credits earned at other institutions during the period of suspension may not be applied toward graduation from UMC unless permission to earn such credit is granted in advance by the Academic Standards and Policy Committee.

**Readmission**—The Academic Standards and Policy Committee reviews appeals for readmission by students who have been suspended for failure to meet the terms of their academic probation. Appeals for readmission after a suspension notice has been sent to students must be accompanied by evidence that factors contributing to the difficulty have been altered and that there is every reason to assume successful continuation of studies. On the first occasion of an academic suspension, students are readmitted if they agree to the terms and conditions of the academic contract. Students may **NOT** continue on academic contract for two consecutive semesters. Students who have been suspended from UMC and are petitioning to be readmitted on contract for the second or third time must meet individually with Student Support Services or University counseling staff for assistance in identifying reasons for academic difficulties and in developing a plan for corrective action prior to presenting their appeal to the Academic Standards and Policy Committee.

Suspended students, readmitted under the terms of the academic contract, are **NOT** considered to be making satisfactory academic progress; are **NOT**<sup>1</sup> eligible to receive state or federal financial aid; and are **NOT** eligible to represent the University in any official event, activity, or capacity. University representation includes, but is not limited to such things as athletic events, music or theater performances, club events occurring in a public venue or of a competitive nature, and serving as an officer in a club, organization, or the student association. Criteria to be used to determine what constitutes an official event, activity, or capacity is based on such factors as the use of University funding or facilities, and the University’s role in scheduling and involvement in the event. The Academic Standards and Policy Committee resolves any questions regarding this provision.

Suspended students who are readmitted after the required period of non-enrollment are readmitted on academic probation. Continued enrollment depends on satisfactorily completing probation requirements.

<sup>1</sup>Students may appeal financial aid suspension if unusual circumstances interfered with their ability to meet SAP standards. For more information see *Satisfactory Academic Progress (SAP) for Financial Aid Eligibility* at [www.crk.umn.edu/info/policies/FinAidSap.htm](http://www.crk.umn.edu/info/policies/FinAidSap.htm) or contact the Office of Financial Aid.

**Repeating Courses**—A student may repeat a course only once. When a student repeats a course, (a) both grades for the course appear on the official transcript, (b) the course credits may not be counted more than once toward degree and program requirements, and (c) only the last enrollment for the course counts in the student’s grade point average. The preceding sentence of this policy does not apply to courses using the same number but where students study different content each term of enrollment; all such courses falling under this provision must be approved by the appropriate department.

**Student Performance Notification**—Midterm grade reports of academic progress are e-mailed to students. Students are encouraged to visit with their instructor, faculty adviser, or a counselor to discuss their progress.

## Cancellation/Withdrawal From the University

Students who decide to stop attending a course or courses for which they are registered must officially cancel. Only by canceling can students be released from their responsibility for courses listed on their registration. Unless students officially cancel, they will be held responsible for full tuition and fees for all courses on their registration. Students who find it necessary or advisable to completely withdraw from college must obtain a withdrawal form, the necessary signatures, and complete an exit interview before the withdrawal becomes official. Students may obtain the appropriate form from the Counseling and Career Services Office (245 Student Center, or 270B or 270D Owen), the Student Experience/Parent Coordinator Office (145G Student Center), or the International Study Abroad Office (240 Student Center). The University does not require that students justify any course withdrawal completed before the end of the eighth week of a regular semester course. (**Note:** Students may withdraw from one or more classes, but not all, through the published course withdrawal date noted in the *Class Schedule*, [http://onestop.UMCcrookston.edu/registration/class\\_schedule.htm](http://onestop.UMCcrookston.edu/registration/class_schedule.htm), by accessing the registration system at <http://onestop.UMCcrookston.edu/registration/>). Beginning at the ninth week, students must give evidence of extenuating circumstances to justify withdrawal from a course. A student may petition to withdraw completely from the University for serious and compelling reasons.

**Refunds**—Students who cancel all or part of their registration may be entitled to tuition and fee refunds. The refund will be based on the date the student officially cancels (online or by taking a completed Registration Form to the Registrar's Office in 9 Hill Hall), not on the date the student stopped attending class. If tuition and fees are not paid in full, any refund will be a monetary credit applied to the student's unpaid balance.

### Fall and Spring Semester Refund Schedule

Week 1 .....	100%
Week 2 .....	75%
Week 3 .....	50%
Week 4 .....	25%

### May Session Refund Schedule

First day of class .....	100%
Day 2 .....	75%
Day 3 .....	50%
Day 4 .....	25%

### Summer Refund Schedule

Days 1–3 .....	100%
Days 4–6 .....	75%
Days 7–8 .....	50%
Days 9–10 .....	25%

Specific dates are listed in each term's *Class Schedule*.

**Retroactive Tuition Refund**—In a very limited number of circumstances (e.g., medical, scholastic drop, military duty, attendance at another institution) retroactive cancellation may be possible. If retroactive cancellation is authorized within one semester of the term in question and no later than June 30 of the fiscal year, students may be entitled to a tuition refund. Petitions for retroactive tuition refunds based on failure to cancel or nonattendance will not be approved. Check with the Registrar's Office 9 Hill Hall for more information or a petition form.

## Graduation

### Requirements

1. To be eligible for a University of Minnesota undergraduate degree, a student must present at least 30 semester credits awarded by the University of Minnesota campus from which he or she is seeking to graduate.
2. Students must complete at least half of upper division major work on the campus from which they are seeking to graduate.
3. At least 15 of the last 30 credits earned prior to attaining a University degree must be awarded by the University of Minnesota campus from which a student is seeking to graduate.
4. To be eligible for record of a minor on the University of Minnesota transcript, students who seek an academic minor must take at least 3 upper division credits in the minor field at the campus from which they will receive their degree.

A student's college or campus may, under extraordinary circumstances, waive the requirements in sections 2, 3, and 4 above, but not Section 1. All credit awarded by the University, regardless of the type of instruction, counts toward the credit requirements for the degree.

To qualify for the associate in applied science or the associate in science degree, the candidate must complete a minimum of 64 credits with a GPA of 2.00 (C). To qualify for the bachelor of science degree, the candidate must complete a minimum of 120 credits with a minimum GPA of 2.00 (C). The faculty reserves the right to change requirements for the various curricula. However, the credits required for the degree will not exceed the total specified at the time the student enrolled.

Liberal education, major, and elective requirements for graduation are specifically outlined for each program of study in subsequent sections of this catalog.

**Procedure**—Degree candidates must complete an electronic application for degree ([http://onestop.umcrookston.edu/registration/graduation\\_procedure.htm](http://onestop.umcrookston.edu/registration/graduation_procedure.htm)) by the end of the second week of the term or semester in which degree requirements will be met.

The commencement ceremony is held once yearly at the end of spring semester. Attendance at the commencement ceremony is optional. Students registered for courses that complete their degree requirements may participate in commencement exercises. This includes the student's spring term, summer session, and up to 16 credits of fall term registration. Any student who has outstanding financial debt to the University of \$100 or more will not be allowed to graduate.

**Honors**—Candidates for the associate or bachelor's degree who earn a 3.75 GPA graduate with distinction; those with a 3.90 GPA graduate with high distinction. The honor is recorded on the student's academic record and diploma.

Students who have completed 60 or more degree requirement credits for the baccalaureate degree or 33 or more degree requirement credits for the associate degree from UMC have honors computed only from the cumulative GPA at UMC. Students who have completed fewer than 60 degree requirement credits for the baccalaureate degree or fewer than 33 degree

requirement credits for the associate degree from UMC receive similar distinction if their cumulative record and record at UMC each meet the requirements.

## Classroom Behavior

Students are entitled to a classroom environment conducive to learning. Students whose behavior is disruptive either to the instructor or other students will be asked to leave and will be subject to disciplinary action under the terms of the Student Conduct Code.

## Scholastic Dishonesty/ Academic Integrity

Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. Cases of dishonesty may be handled as a scholastic matter or as a student conduct code matter at the discretion of the instructor. Instructors choosing to treat the case as a scholastic matter have the authority to decide how the incident will affect the student's course grade. Instructors choosing to treat the case as a disciplinary matter will refer the case to UMC's Student Conduct Code coordinator. Instructors are required to report all instances of scholastic dishonesty to the Office of Academic Integrity. A more complete policy statement is included in the Campus Policies section of the UMC Web site, [www.umcrookston.edu/info/policies/dishonest.htm](http://www.umcrookston.edu/info/policies/dishonest.htm).

## Student Concerns and Complaints

The University makes every effort to provide a supportive educational environment. Students who believe their rights have been violated have access to a system of appeals established by the University for resolving grievances or problems. All students are encouraged to resolve the issue with those students or University employees most directly involved. A complete policy statement and description of procedures are included in the Campus Policies section of the UMC Web site at [www.umcrookston.edu/info/policies/grievance.htm](http://www.umcrookston.edu/info/policies/grievance.htm).

## Grievances

Grievances involving an instructor's judgment in assigning a grade based on academic performance may be resolved only through the informal resolution procedures described below. In other instances, if a resolution is not achieved, the matter may be pursued as a formal grievance in accordance with the Regents Policy on Student Academic Grievance. Information on the formal academic grievance policy can be found at: <http://www1.umn.edu/regents/policies/academic/StudentGrievances.pdf>. (*This policy covers academic grievances and complaints brought by students regarding the University's provision of education and academic services affecting their role as students. Academic grievances must be based on a claimed violation of a University rule, policy, or established practice.*)

**Informal Grievance Procedure**—The start of the informal grievance procedure is at the lowest level between the parties directly involved. The concerns may include, but are not limited to, complaints or criticisms concerning course content, procedures, instructor's conduct, or the grade received.

The following are the steps to follow to reach resolution of your concern. Each step in the procedure is to be followed until resolution is achieved.

1. Visit with your instructor.
2. Submit a written request to the instructor. State specifically what your concern is and what action you are requesting be taken to address the concern.
3. Instructor is to respond in written form in a timely fashion to the written request of the student.
4. Visit with the department head of the instructor.
5. Submit a written request to the department head.
6. Department head is to respond in written form in a timely fashion to the written request of the student.
7. Visit with the senior vice chancellor for academic and student affairs.
8. Submit a written request to the senior vice chancellor for academic and student affairs.
9. Senior vice chancellor for academic and student affairs is to respond in written form in a timely fashion to the written request of the student.
10. Visit with the chancellor.
11. Submit a written request to the chancellor.
12. Chancellor is to respond in written form in a timely fashion to the written request of the student. The decision of the chancellor is final.

## Academic Support Services

### Technology Support Services

The focus of Technology Support Services is the support and enhancement of the learning process through the use of technology and other related resources. Staff members provide technical support to all academic programs and departments across the campus.

Technology Support Services

- coordinates technological applications and improvements,
- offers technical training that supports these applications,
- provides research and information resources, and
- maintains the campus technology infrastructure.

Taken together, these processes enrich the educational environment and strengthen the teaching and learning experience for UMC students, faculty, and staff. Five units provide services within Technology Support Services.

**Computing Services**—Computing Services offers day-to-day computer technical support, engages in research and development in new computing technologies, maintains the network infrastructure and computer server system for the campus, and deals with network access and database issues.

**Computer Help Desk**—Computing Services operates in tandem with the Computer Help Desk, located in 131 Kiehle Building. The Help Desk is the primary computer user support department on campus. Its staff configures and maintains the entire campus notebook computer inventory. Other services include computer issuing and inventory, computer repair and troubleshooting, laser printing, computer virus detection and elimination, and overall computer support.

**Instructional Technology Center (ITC)**—The ITC serves as a vital resource for faculty and staff in the incorporation of technology into individual courses and departmental projects. Located in 143 Kiehle Building, the ITC moves toward achieving its goal of a totally interactive, technology-based learning environment by offering software and hardware resources, training, and support in the development of interactive multimedia courseware and Web-based instructional

materials. Within the ITC, a pool of technically trained student workers assists faculty and staff in the development of these projects, in supporting internal campus Web site needs for faculty and staff, and in the testing and development of new Web-based, multimedia, and interactive courseware technologies.

**Media Services**—Media Services offers the campus a variety of media production services. These services include audiovisual hardware systems checkout and repair, photo services, digital imaging, graphic arts services, teaching tutorial production, satellite down-link, audio and video production, and tape and CD-ROM production and duplication. Staff members have offices and work areas in the Kiehle Building. Media Services often works closely with UMC Publications.

**Northwest Educational Technology System (NETS)**—NETS staff members coordinate and support both the UMC campus and the regional interactive television (ITV) distance learning infrastructure and its related activity with the operation, planning, scheduling and funding of the network. The regional network serves the 10 public colleges in northwestern Minnesota and provides access to most colleges and school districts in Minnesota.

### UMC Library Services

Located on the west side of campus just north of Kiehle Building, the UMC Library serves as the research center for the campus. The library is a state-of-the-art facility with high-speed Internet access, including wireless connectivity. Reference and consultation services are accessible both in person and online. Additional services include access to desktop computers with scanners and CD-burners, printing via networked laser printers, and check-out of image scanners, Web cameras, digital cameras, and CD-burners to registered students and faculty. A microform reader/printer and photocopier are also available. The core of the UMC Library collection consists of materials relating to the various academic programs offered at UMC. This includes reference material relating to business and marketing, information technology, agriculture (including equine science), early childhood education, hospitality, health, and sports management. Resources are available in many different print formats including books, journals, magazines, and newspapers. The emerging “digital library” plays an increasingly important role in serving the campus, therefore most items are available both in traditional print and digital media formats. Users can access the online materials and databases on the Library Web site at [www.crk.umn.edu/library](http://www.crk.umn.edu/library).

### UMC Printing and Design

The UMC Printing and Design Unit offers printing, design, and publication layout as well as electronic media conversion services for UMC faculty, staff, and student organizations. Printing and Design staff work with these clients to develop publications and to provide estimates.

The following services are available: design, publication, layout; large format printing; electronic media conversion; duplication; finishing; and color copying.



## Programs of Study

All baccalaureate degree programs at UMC

- lead to a bachelor of science or bachelor in an applied field degree.
- are applied and career-oriented. Emphasis areas permit programs to match student interests and workforce requirements.
- require a minimum of 120 total credits to permit graduation in four years.
- require a minimum of 40 credits of liberal education and 3 credits of technology (ITM or CA, including CA 1010).
- require 40 upper division credits.

In accordance with the University of Minnesota, Crookston mission, all programs are

### Employment-oriented

- Programs prepare students to participate in and manage a diverse workforce.
- Programs are linked to employers in a variety of ways (such as field trips, on-site assignments, shadowing, and shared databases).
- Programs require an internship or field experience.
- Programs respond to changes in the workforce via interaction between faculty and employers.
- Programs are evaluated by a Program Improvement Advisory Committee whose membership comes from business and industry.
- Programs are designed around active learning and responsive teaching
- Teachers are team leaders and project directors.
- Students are actively involved in the learning process.
- Programs emphasize application and solving real world problems.
- Students may develop portfolios of their experiences to demonstrate their personal and career development.

### Technology-driven

- Technology outcomes are central to every course.
- Students gain technical competence that meets or exceeds the needs of industry.
- Students use e-mail, interactive communication technology, and the Internet.
- Interactive television and online course delivery enables students to take courses offered by other higher education institutions.
- Students develop the ability to adapt to technological change—an essential ability for career success.

### Focused on three core components

Every program has curriculum focused on developing skills in the following core areas:

- **Communication**
  - Reading
  - Writing
  - Speaking
  - Listening
  - Using technology
- **Critical Thinking**
  - Problem solving
  - Applied learning
- **Working With Others**
  - Teamwork
  - Diversity

### Outcome-based

- Learner outcomes are published for each course.
- Program outcomes are published for each program.
- Active assessment of outcomes guides curriculum decisions.
- Quality is judged by measurable outcomes and programs undergo a formal review every three years.

## UMC Degrees

### **Bachelor of Science**

Accounting  
 Agricultural business  
     *Agricultural business*  
     *Sustainable development*  
 Agricultural education<sup>1</sup>  
     *Agricultural science and technology education*  
     *Natural and managed environmental education*  
 Agricultural systems management  
     *Farm and ranch management*  
     *Power and machinery*  
     *Precision agriculture*  
 Agronomy  
     *Agronomic science*  
     *Crop production*  
 Animal science  
     *Animal science*  
     *Pre-veterinary medicine*  
 Applied studies  
     *Applied studies*  
     *Respiratory care*  
 Aviation<sup>2</sup>  
     *Agricultural aviation*  
     *Law enforcement aviation*<sup>3</sup>  
     *Natural resources aviation*  
 Biology  
 Business management  
     *Business aviation*  
     *Entrepreneurship and small business management*  
     *Management*  
     *Marketing*  
 Communication  
 Computer software technology  
 Early childhood education<sup>4</sup>  
     *Primary education*  
     *Program management*  
 Equine science  
     *Equine science*  
     *Pre-veterinary medicine*  
 Golf and turf management  
 Health management  
 Health sciences  
 Horticulture  
     *Environmental landscaping*  
     *Production horticulture*  
 Hotel, restaurant, and institutional management  
     *Food service administration*  
     *Hotel/restaurant management*  
     *Resort/spa management*  
 Information technology management  
 Natural resources  
     *Natural resources management*  
     *Natural resources law enforcement*<sup>3</sup>  
     *Park management*  
     *Water resource management*  
     *Wildlife management*  
 Sport and recreation management

### **Bachelor in an Applied Field**

Applied health  
 Manufacturing management  
     *Manufacturing management*  
     *Quality management*

### **Bachelor Programs Offered Online**

Applied health  
 Business management  
 Manufacturing management  
 Psychology<sup>5</sup>

### **Minor**

Biology  
 Business management  
 Coaching  
 Communication  
 Horticulture  
 Information technology management  
 Music

### **Associate in Applied Science**

Agriculture  
 Dietetic technician  
 Hotel, restaurant, and institutional management  
 Information management  
 Marketing and management

### **Associate in Applied Science (Offered in China)**

*(The following programs are delivered to Zhejiang Economic and Trade Polytechnic Institute in China)*

Agricultural business  
 Information technology management

### **Associate in Science**

Business

### **Certificate Programs**

Hotel, restaurant, and institutional management  
 Manufacturing management

### **Program Option**

Aerospace studies Air Force ROTC<sup>6</sup>

<sup>1</sup> Degree awarded by UMC; teacher licensure awarded by the University of Minnesota, Twin Cities

<sup>2</sup> Cooperative program with University of North Dakota

<sup>3</sup> Cooperative program with Bemidji State University

<sup>4</sup> Degree awarded by UMC; teacher licensure awarded by Bemidji State University

<sup>5</sup> Cooperative program with University of Minnesota, Duluth; degree awarded by UMD

<sup>6</sup> Cooperative program with North Dakota State University



## Curricular Programs

UMC programs prepare students for successful careers and active citizenship. Students can explore their interests within the broad spectrum of the college's offerings and, because of the many requirements common to the various programs, can transfer from one program to another—including from an associate in applied science (A.A.S.) program to a bachelor of science (B.S.) program—with little loss of time.

**Degree Programs**—UMC offers programs leading to the associate in applied science (A.A.S.), the associate in science (A.S.), the bachelor of science (B.S.), and the bachelor in an applied field degrees. The A.A.S. programs require 64 credits, with 21 credits in liberal education. The A.S. programs require 64 credits, with 32 credits in liberal education. The B.S. programs require a minimum of 120 credits, with a minimum of 40 credits in liberal education. The bachelor in an applied field programs have requirements unique to each major. Upper division requirements include courses in liberal education and the major. Students must satisfy the 3-credit campus technology requirement. This is typically met by completing CA 1010—Introduction to Computer Technology (1 credit) and 2 additional credits of computer application (CA) courses. Developmental courses in reading, writing, and math skills cannot be used for credit toward graduation. These courses are identified with 09xx course numbers.

### Liberal Education Requirements for

**Baccalaureate Degrees**—An integral part of all UMC degree programs, liberal education is the set of common understanding and skills essential to successful living in a modern society and to functioning as a whole person integrated into that society. Specifically, there are three core component areas of liberal education (communication, critical thinking, and working with others) that are integrated throughout the curriculum for every degree. Bachelor of science degree programs require a minimum of 40 credits of liberal education; the bachelor's degree in an applied field and the associate degrees have separately established liberal education requirements. UMC's 40 credit liberal education requirement for all bachelor of science degrees also meets the 10 goal areas of the Minnesota Transfer Curriculum, a collaborative effort among two- and four-year public colleges and universities in Minnesota to help students transfer their work in liberal education. The faculty of the University of Minnesota, Crookston, recognizes the courses below as meeting the student competencies of the Minnesota Transfer Curriculum. Because courses may be added or deleted from the list check online or with an academic adviser for the most current updates.

**Technology Requirement**—UMC is a technologically advanced campus that embraces the use of modern communications and information technology in teaching and learning. To assure all UMC graduates are well prepared for today's technology-driven workplace, all baccalaureate programs require at least 3 credits in computer applications (CA) coursework.

**Internship Requirement**—The internship or field experience requirement helps students obtain additional skills important to successful employment in their chosen field. It may be completed through on-the-job experience in the private sector, with a government agency, or through other appropriate work experience.

The internship program can be tailored to fit the needs of individual students. Baccalaureate degree students usually complete the internship requirement during the summer term between their third and fourth year, while associate degree students do so between their first and second year. Associate degree students who decide to continue in a baccalaureate degree program may substitute an upper division course for the internship requirement.

A minimum of 450 hours of employment or volunteer assignments are usually required for satisfactory evaluation of the student's progress. The internship assignment will be supervised by the college staff in cooperation with the employer. Students must submit reports assigned by the college staff.

**Transferring to UMC**—The University of Minnesota, Crookston, values transfer students. Faculty and staff work closely with every student to make sure courses taken at other institutions are fully counted toward UMC graduation requirements. For example, students who complete the Minnesota Transfer Curriculum at any participating Minnesota college or university automatically fulfill UMC's liberal education requirements. In addition, all other previously earned credits are evaluated as to whether they fulfill graduation requirements for a specific program.

Prospective transfer students are encouraged to consult the Office of Admissions and an academic adviser in their proposed area of study for a complete transcript evaluation.

## Liberal Education Requirements—Associate Degrees

### A.A.S. Degree

**Communication**—3 credits  
**Humanities/fine arts**—3 credits  
**Math/science**—3 credits  
**Social science**—3 credits  
**Technology**—3 credits  
 CA 1010—Introduction to Computer Technology (1 cr) required  
**Liberal education electives**—6 credits  
**Major field of study**—43 credits  
**Total**—64 credits

### A.S. Degree

**Communication**—6 credits  
**Humanities/fine arts**—6 credits  
**Math/science**—6 credits  
**Social science**—6 credits  
**Technology**—3 credits  
 CA 1010—Introduction to Computer Technology (1 cr) required  
**Liberal education electives**—5 credits  
**Major field of study**—32 credits  
**Total**—64 credits

## Minnesota Transfer Curriculum and Liberal Education Requirements for Bachelor of Science Degrees

UMC bachelor of science (B.S.) degree programs require a minimum of 40 credits of liberal education. This requirement also meets the 10 goal areas of the Minnesota Transfer Curriculum.

### Goal Area 1: Written and Oral Communication—9 credits minimum

COMM 2002—Interpersonal and Group Processes  
 COMM 3431—Persuasion  
 \*COMP 1011—Composition I  
 \*COMP 1013—Composition II  
 \*SPCH 1101—Public Speaking  
*\*required for bachelor of science degrees*

### Goal Area 2: Critical Thinking

Critical thinking is taught throughout the liberal education curriculum at UMC. Upon completion of the other 9 Minnesota Transfer Curriculum goal areas, students will have met the critical thinking goal.

### Goal Area 3: Biological and Physical Sciences (with labs)—3 credits each area minimum

+BIOL 1009—General Biology (also Goal Area 10)  
 ++CHEM 1001—Introductory Chemistry  
 ++CHEM 1021—Chemical Principles I (also Goal Area 10)  
 ++CHEM 1401—Elementary Bioorganic Chemistry (also Goal Area 10)  
 ++GEOL 1001—Introductory Geology (also Goal Area 10)  
 +NATR 3374—Ecology  
 ++PHYS 1012—Introductory Physics (also Goal Area 10)  
 ++PHYS 1101—Introductory College Physics I  
 ++PHYS 1102—Introductory College Physics II  
*+biological sciences course*  
*++physical sciences course*

### Goal Area 4: Mathematical Thinking—3 credits minimum

MATH 1031—College Algebra  
 MATH 1142—Survey of Calculus  
 MATH 1150—Elementary Statistics  
 MATH 1250—Precalculus  
 MATH 1271—Calculus I

### Goal Area 5: History and the Behavioral and Social Sciences—6 credits minimum

ECE 2100—Child Development and Learning  
 ECON 2101—Microeconomics  
 ECON 2102—Macroeconomics  
 GEOG 1104—World Regional Geography (also Goal Area 8)  
 HIST 1301—American History I  
 HIST 1302—American History II  
 PSY 1001—General Psychology  
 PSY 1093—Lifespan Development  
 SOC 1001—Introduction to Sociology (also Goal Area 7)  
 SOC 1102—Cultural Anthropology (also Goal Area 8)

### Goal Area 6: The Humanities (the arts, literature, and philosophy)—6 credits minimum

ART 1152—Drawing and Design  
 ART 1252—Color and Design  
 ART 1352—Art Design and Techniques

ART 2000—Elementary Art  
 HUM 1301—Introduction to Humanities  
 HUM 3310—Culture and Technology (also Goal Area 8)  
 LIT 1005—Introduction to Literature (also Goal Area 8)  
 LIT 1016—Readings in American Life (also Goal Area 7)  
 LIT 3001—World Literature (also Goal Area 8)  
 MUS 1011—University Singers (R)  
 MUS 1021—Introduction to Music (also Goal Area 7)  
 MUS 1041—Private Music Instruction (R)  
 MUS 1042—Private Instruction: Class Piano (R)  
 MUS 1051—Band/Pep Band (R)  
 MUS 1071—Musical Theatre (R)  
 MUS 1111—Music Theory I: Foundations of Tonal Music  
 MUS 3011—University Singers (choir) (R)  
 MUS 3029—Music of the 20th Century (also Goal Area 7)  
 MUS 3041—Private Music Instruction (R)  
 PHIL 1001—Introduction to Philosophy (also Goal Area 9)  
 TH 1121—Theater Production (R)  
*(R) repeatable to 3 credits toward meeting Minnesota Transfer Curriculum and liberal education goal*

### Goal Area 7: Human Diversity—one course minimum

COMM 3001—Communication in Human Relationships  
 LIT 1016—Readings in American Life (also Goal Area 6)  
 MUS 1021—Introduction to Music (also Goal Area 6)  
 MUS 3029—Music of the 20th Century (also Goal Area 6)  
 SOC 1001—Introduction to Sociology (also Goal Area 5)

### Goal Area 8: Global Perspective—one course minimum

GEOG 1104—World Regional Geography (also Goal Area 5)  
 GNED 3000—Global Seminar  
 HIST 1021—World Civilization I  
 HIST 1022—World Civilization II  
 HUM 3310—Culture and Technology (also Goal Area 6)  
 LIT 1005—Introduction to Literature (also Goal Area 6)  
 LIT 3001—World Literature (also Goal Area 6)  
 SOC 1102—Cultural Anthropology (also Goal Area 5)

### Goal Area 9: Ethical and Civic Responsibility—one course minimum

NATR 1226—Environmental Science and Sustainability (also Goal Area 10)  
 PHIL 1001—Introduction to Philosophy (also goal Area 6)  
 POL 1001—American Government

### Goal Area 10: People and the Environment—one course minimum

BIOL 1009—General Biology (also Goal Area 3)  
 CHEM 1021—Chemical Principles I (also Goal Area 3)  
 CHEM 1401—Elementary Bioorganic Chemistry (also Goal Area 3)  
 GEOL 1001—Introductory Geology (also Goal Area 3)  
 NATR 1226—Environmental Science and Sustainability (also Goal Area 9)  
 PHYS 1012—Introductory Physics (also Goal Area 3)

## Accounting B.S.

### Business Department

Required credits to graduate with this degree: 120.

Accounting is an information system that represents the economic resources and responsibilities of business or nonbusiness enterprises. Monitored over time, it is used as a decision-making tool for allocating resources and evaluating responsibilities.

Accounting information affects major economic decisions that have national and international impact. The accounting program teaches analytical, theoretical, communication, and leadership skills necessary for effective accounting and advancement in public, private, and government careers.

The program prepares students to become accountants in business and government by providing accounting, business, and liberal education courses.

**Program outcomes**—graduates will

- use computer technology for accounting spreadsheet applications and general ledger accounting functions and demonstrate overall literacy in technology
- develop and demonstrate skills in financial and cost accounting systems that are common to most businesses
- develop and demonstrate skills in U.S. tax fundamentals for individuals and businesses
- demonstrate skills and knowledge in auditing
- demonstrate competencies in ethical decision making
- demonstrate knowledge of liberal education that provides a foundation for the applied curriculum
- demonstrate a commitment to continuing professional development
- demonstrate skills in communication, working with others, and critical thinking

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

### Liberal Education Requirements

*A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1020—Spreadsheet Applications (2 cr)

### Accounting Core

ACCT 2101—Principles of Accounting I (3 cr)  
 ACCT 2102—Principles of Accounting II (3 cr)  
 ACCT 3201—Intermediate Accounting I (4 cr)  
 ACCT 3202—Intermediate Accounting II (4 cr)  
 ACCT 3301—Cost Accounting I (3 cr)  
 ACCT 3302—Cost Accounting II (3 cr)  
 ACCT 4210—Auditing I (3 cr)  
 ACCT 4220—Accounting Systems (3 cr)  
 ACCT 4404—Income Tax I (3 cr)  
 ACCT 4405—Income Tax II (3 cr)  
 GBUS 3107—Legal Environment in Business (3 cr)  
 ITM 2050—Introduction to Programming I (3 cr)  
 ITM 2060—Database Management Systems (3 cr)  
 MGMT 3100—Managerial Finance (3 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MGMT 3250—Operations Management (3 cr)  
 MKTG 3300—Principles of Marketing (3 cr)

## Aerospace Studies (Air Force ROTC)

*(A cooperative program with North Dakota State University.)*

UMC students may participate in the Air Force Reserve Officer Training Corps program through an agreement between UMC, North Dakota State University, the University of North Dakota, and the U.S. Air Force. The purpose of this program is to enable qualified undergraduate students to become commissioned officers in the United States Air Force. AFROTC learning experiences are of long-range value whether one pursues a military or civilian career. Upon completion of the AFROTC curriculum and graduation from UMC, students are commissioned as second lieutenants in the U.S. Air Force.

The program is conducted by North Dakota State University faculty on the University of North Dakota campus in Grand Forks, located 25 miles from the UMC campus.

The initial assignment options available to an Air Force second lieutenant include the following:

- Enter the Air Force and complete the designated technical training course prerequisite to the student's specialty, i.e., flight training, research and development, management, or support functions;
- Apply for a delay in entering active duty for the purpose of pursuing an advanced degree;
- Enroll in one of several Air Force-sponsored graduate study programs while serving with full pay as an Air Force officer.

The aerospace studies curriculum is divided into two courses of instruction: the General Military Course (GMC), which parallels the freshman and sophomore academic years, and the Professional Officer Course (POC), which parallels the junior and senior academic years. Students in the four-year program normally attend four weeks of field training at a designated Air Force base during the summer between their sophomore and junior years. The student who chooses not to enroll in the GMC (first two years) may still earn a commission by enrolling in a special two-year program during the junior and

senior years. Qualified students will then participate in a five-week field training program at an Air Force base the summer between their junior and senior year.

AFROTC college scholarships are awarded to the best-qualified students and are available for one to four years. These grants cover up to full tuition, incidental lab fees, and textbooks. Plus, cadets receive a monthly allowance from \$250 for freshmen and up to \$400 for seniors. Students interested in AFROTC can contact the University of North Dakota office at 1-800-CALL UND, ext. 4733/4957.

## Agriculture A.A.S.

### Agriculture Department

Required credits to graduate with this degree: 67 to 68.

The program provides students with the skills necessary to obtain a variety of entry-level positions in agriculture, natural resources, and related fields. Program flexibility allows students to choose the area of emphasis that most closely fits their interests and career goals. Many students pursue a baccalaureate degree upon completion of the associate degree. All credits earned will transfer to UMC's parallel baccalaureate program.

**Program outcomes**—graduates will

- possess the fundamental technical skills necessary to obtain entry-level employment in the field
- have successfully completed an internship experience emphasizing participatory learning in a “real world” setting
- be able to gather and assimilate information, follow directions, formulate ideas, and solve problems
- apply technical knowledge and basic skills to the lifelong learning requirements of a changing workplace and world
- demonstrate effective computer, communication, and interpersonal skills

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

#### Liberal Education Requirements

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)  
 Complete 3 credits of humanities electives.  
 CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
 or CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)

#### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
 Take 2 or more credit(s) from the following:  
 CA 1xxx

### Program Sub-plans

Students are required to complete one of the following sub-plans.

### Agricultural Aviation Emphasis

The emphasis gives students the agronomic knowledge and aeronautical skills for careers as aerial applicators. Graduates have earned the appropriate flight certificates to pursue related careers as pilots in charter services, aerial fire fighting or photography, aviation sales, fixed-base operations, or flight instruction.

### Agricultural Aviation Emphasis Requirements

AVIA 1103—Introduction to Aviation (4 cr)  
 AVIA 1104—Introduction to Aviation Flight Lab (1 cr)  
 AVIA 1221—Basic Attitude Instrument Flying (3 cr)  
 AVIA 1222—IFR Regulations and Procedures (3 cr)  
 AVIA 1396—Conventional Aircraft Operations (1 cr)  
 AVIA 3323—Airplane Aerodynamics (3 cr)  
 AVIA 3324—Aircraft Systems and Instruments (3 cr)  
 AVIA 3396—Advanced Conventional Aircraft Operations (UND) (1 cr)  
 AVIA 3603—Aerial Application (3 cr)  
 AGRO 1030—Crop and Weed Identification (3 cr)  
 AGRO 1183—Field Crops: Production Principles (3 cr)  
 AGRO 2640—Applied Agriculture Chemicals (3 cr)  
 BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 PIM 3230—Introduction to Plant Pathology (3 cr)  
 PIM 2573—Entomology (3 cr)  
 or SOIL 1293—Soil Science (3 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)

### Agricultural Business Emphasis

Students receive a combination of liberal education, agriculture, and business courses sufficient for employment in a variety of agricultural businesses, including rural cooperatives, grain and livestock marketing firms, implement dealerships, and chemical companies.

### Agricultural Business Emphasis Requirements

Take 6 credits of agriculture or business electives, selected in consultation with an adviser, and 3 credits of open electives. Also take the following courses.  
 ACCT 2101—Principles of Accounting I (3 cr)  
 AGECE 2530—Professional Agriselling (3 cr)  
 AGECE 3430—Agricultural Commodity Marketing (3 cr)  
 AGECE 3540—Farm Business Management (4 cr)  
 AGECE 3640—Agricultural Finance and Valuation (4 cr)  
 ANSC 1004—Introduction to Animal Science (4 cr)  
 ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 SOIL 1293—Soil Science (3 cr)  
 MATH 1001—Technical Math (3 cr)  
 or MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)  
 HORT 1010—Introduction to Horticulture (3 cr)  
 or AGRO 1183—Field Crops: Production Principles (3 cr)

### Agriculture Emphasis

The emphasis gives students broad exposure to production agriculture and closely related industries. Students acquire practical skills and technical knowledge they will need as agricultural producers or to gain entry-level employment in the businesses and industries that support farmers and ranchers.

### Agriculture Emphasis Requirements

Take 7 credits of agriculture, natural resources, or business electives; 9 credits of upper division agriculture or natural resources electives; and 6 credits of open electives, all selected in consultation with an adviser. Also take the following courses.

AGEC 2530—Professional Agriselling (3 cr)  
 AGRO 1183—Field Crops: Production Principles (3 cr)  
 ANSC 1004—Introduction to Animal Science (4 cr)  
 ASM 1034—Facility Maintenance and Safety (4 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 SOIL 1293—Soil Science (3 cr)  
 MATH 1001—Technical Math (3 cr)  
 or MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)

### Agronomy Emphasis

The emphasis prepares graduates to work in crop farm production operations and provides entry-level education for jobs in the agricultural services sector. Employment options include seed, feed, fertilizer, and chemical companies; grain inspection and elevator operations; and crop research support.

### Agronomy Emphasis Requirements

Take 8 credits of agriculture or business electives and 6 credits of open electives, all selected in consultation with adviser. Also take the following courses.

AGEC 3430—Agricultural Commodity Marketing (3 cr)  
 AGRO 1030—Crop and Weed Identification (3 cr)  
 AGRO 1183—Field Crops: Production Principles (3 cr)  
 AGRO 3640—Weed Science (3 cr)  
 BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 PIM 2573—Entomology (3 cr)  
 PIM 3230—Introduction to Plant Pathology (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 SOIL 3414—Soil Fertility and Plant Nutrition (4 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)

### Animal Dairy/Equine/Meat Science Emphasis

Students within this emphasis can further focus their studies on the meat animals, dairy, or equine industries. Respectively, typical careers include rancher or assistant ranch manager, assistant herdsman, dairy equipment installer/service person, stable manager, and riding instructor.

### Animal Dairy/Equine/Meat Science Emphasis Requirements

Take 14 credits of animal/dairy/equine science electives; 6 credits of agriculture or business electives; and 5–6 credits (to total 45 credits in the emphasis) of open electives, all selected in consultation with an adviser. Also take the following courses.

AGEC 3540—Farm Business Management (4 cr)  
 ANSC 1004—Introduction to Animal Science (4 cr)  
 ANSC 2104—Feeds and Feeding (4 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 ANSC 1101—Animal Evaluation (1 cr)  
 or EQSC 1202—Equine Evaluation (2 cr)  
 MATH 1001—Technical Math (3 cr)  
 or MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)

### Horticulture Emphasis

For students seeking careers in production of horticultural crops or in landscaping, nursery, florist, or horticultural supply and service businesses, the emphasis teaches the identification and production of horticultural plants; nutrition, soils, and pest management; and environmental health and safety.

### Horticulture Emphasis Requirements

Take 6 credits of agriculture or business electives and 7 credits of open electives, selected in consultation with an adviser. Also take the following courses.

BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 GNAG 4652—Senior Seminar (1 cr)  
 HORT 1010—Introduction to Horticulture (3 cr)  
 HORT 1021—Woody Plant Materials (4 cr)  
 HORT 3036—Plant Propagation (4 cr)  
 PIM 2573—Entomology (3 cr)  
 PIM 3230—Introduction to Plant Pathology (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 SOIL 3414—Soil Fertility and Plant Nutrition (4 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)

### Natural Resources Emphasis

Employment opportunities include technician-level jobs with conservation managers or researchers and with watershed or soil and water conservation districts. Other options include assistant-level positions with county, state, and federal parks and supervisory/maintenance work with city and county park departments.

### Natural Resources Emphasis Requirements

Take 13 credits of agriculture/natural resources electives and 6 credits of open electives, selected in consultation with an adviser. Also take the following courses.

ASM 1034—Facility Maintenance and Safety (4 cr)  
 BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 GNAG 4652—Senior Seminar (1 cr)  
 NATR 1233—Introduction to Natural Resources (3 cr)  
 NATR 1244—Elements of Forestry (4 cr)  
 NATR 3203—Park and Recreation Management (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 MATH 1001—Technical Math (3 cr)  
 or MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 3899—Pre-Internship Seminar (0.5 cr)

## Agricultural Business B.S.

### Agriculture Department

Required credits to graduate with this degree: 120.

The program blends a strong base of agriculture, business, and general education courses while maximizing flexibility that allows students to choose electives to fit their career interests and expectations. A wide array of challenging, satisfying, and rewarding careers await graduates as demand for trained personnel in agribusiness continues to outstrip the supply of qualified graduates. Clusters of employment opportunities include agricultural sales and marketing, agribusiness management, agribusiness finance, agribusiness information management, food marketing management, global agribusiness, and rural economic development.

**Program outcomes**—graduates demonstrate

- skills that lead to satisfying and rewarding opportunities for agribusiness careers in either rural or urban settings
- knowledge of the basic general education that provides the foundation for applied knowledge and lifelong learning
- knowledge and technical skills required for careers in agribusiness
- polytechnic knowledge to make immediate contributions in the work place
- skills to advance the agricultural business program in concert with industry to ensure rapid response to evolving needs

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

**Program Requirements**

Students must complete 40 upper division credits.

**Liberal Education Requirements**

*A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)
- CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)
- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)
- ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- MATH 1150—Elementary Statistics, MATH THINK (3 cr)
- PSY 1001—General Psychology, HI/BEH/SSC (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

**Technology Requirements (3 cr)**

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1020—Spreadsheet Applications (2 cr)

**Agricultural Business Program Requirements (41 cr)**

- ACCT 2101—Principles of Accounting I (3 cr)
- AGBU 1005—World Agricultural Food Systems (3 cr)
- AGEC 2530—Professional Agriselling (3 cr)
- AGEC 3050—Economics for AgriBusiness Management (5 cr)
- AGEC 4750—Agribusiness Marketing (3 cr)
- AGEC 4760—Agribusiness Market Plan Development (3 cr)
- COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)
- GNAG 1012—Introduction to Applied Agricultural Chemistry (2 cr)
- GNAG 3900—Internship (1–4 cr)
- GNAG 3901—Post Internship Seminar (0.5 cr)
- GNAG 4652—Senior Seminar (1 cr)
- MGMT 3200—Principles of Management (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)
- MKTG 3360—Global Business (3 cr)
- SOIL 1293—Soil Science (3 cr)
- GNAG 2899—Pre-Internship Seminar (0.5 cr)
- or GNAG 3899—Pre-Internship Seminar (0.5 cr)

**Technology Electives**

*Students must take 3 credits of CA or ITM courses.*

**Open Electives**

*Students must take 12 credits.*

**Agricultural Business Options**

Students are required to complete one of the following course groups.

**Agriculture/Business/Technology Electives**

*Students must complete 21 credits selected in consultation with an adviser.*

-OR-

**Sustainable Development Emphasis**

*Complete the requirements in the sustainable development emphasis.*

**Sustainable Development Emphasis**

Sustainable development is a unique blend of social, economic, and environmental factors that provides long-term strategies to benefit communities. The sustainable development emphasis focuses on social, economic, and environmental leadership skills to help communities develop and sustain quality of place.

**Sustainable Development Emphasis Requirements (21 cr)**

- AGEC 4800—Rural Economic Development Practicum (3 cr)
- ENR 2200—Introduction to Entrepreneurship and Small Business (3 cr)
- ENR 3400—Entrepreneurial and Small Business Finance (3 cr)
- MGMT 3100—Managerial Finance (3 cr)
- NATR 1226—Environmental Science and Sustainability, ETH/CIV RE, PEOPLE/ENV (3 cr)
- NATR 3344—Land Use Planning (3 cr)
- NATR 3699—Integrated Resource Management (3 cr)

**Agricultural Education B.S.**

**Agriculture Department**

Required credits to graduate with this degree: 128.

(A collaborative program with the University of Minnesota, Twin Cities (UMTC) campus.)

Two teaching emphasis (specializations) areas available to students at UMC are agricultural science and technology and natural and managed environmental education.

Both emphases serve students preparing to teach agriscience, agribusiness, agriculture, horticulture, food systems, agrimechanics, and natural resource management, all under the licensure field of agricultural education in public schools at the 5–12 level. Graduates of the agricultural science and technology specialization also are qualified for a broad array of agriculturally related positions in sales, management, finance, and production aspects of agriculture.

Graduates with the natural and managed environmental education specialization have an emphasis in natural resource management and education and are prepared for work in environmental learning centers.

Specific degree requirements, admission requirements, program outcomes, and professional education course descriptions are congruent with those in the UMTC Undergraduate Catalog. Transfer within the collaborative agreement allows students to complete all four years on either the UMC or UMTC campus. It also allows students to make a seamless transfer between campuses.

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

**Program Requirements**

Students must complete 40 upper division credits.

**Liberal Education Requirements**

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 BIOL 1020—Microbiology, LIB ED ELC (3 cr)  
 BIOL 3022—Principles of Genetics, LIB ED ELC (3 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
 CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)  
 HUM 3310—Culture and Technology, HUMANITIES, GLOB PERSP (3 cr)  
 LIT 3001—World Literature, HUMANITIES, GLOB PERSP (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 PHYS 1012—Introductory Physics, PHYS SCI, PEOPLE/ENV (4 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)  
 HIST 1301—American History I, HI/BEH/SSC (3 cr)  
 or HIST 1302—American History II, HI/BEH/SSC (3 cr)

**Technology Requirement**

CA 1010—Introduction to Computer Technology (1 cr)

**Program Core**

AGBU 1005—World Agricultural Food Systems (3 cr)  
 ANSC 1004—Introduction to Animal Science (4 cr)  
 ASM 1034—Facility Maintenance and Safety (4 cr)  
 CI 5452—Reading in the Content Areas for Initial Licensure Candidates (1 cr)  
 NATR 1233—Introduction to Natural Resources (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 ASM 1044—Computer-Aided Drafting (3 cr)  
 or ASM 3360—Applications in Precision Agriculture (3 cr)  
 HORT 1010—Introduction to Horticulture (3 cr)  
 or AGRO 1183—Field Crops: Production Principles (3 cr)

**Professional Education Courses**

AFEE 1001—Intro to Agricultural Education and Extension (UMTC) (1 cr)  
 AFEE 1002—Principles of Career Planning for Agricultural Professional (UMTC) (1 cr)  
 AFEE 2096—Professional Practicum in Agricultural Education: Early Experience (UMTC) (1 cr)  
 AFEE 5111—Agricultural Education: Methods of Teaching (UMTC) (4 cr)  
 AFEE 5112—Agricultural Education Program Organization and Curriculum for Youth (UMTC) (3 cr)  
 AFEE 5114—Agricultural Education Teaching Seminar (UMTC) (1 cr)  
 AFEE 5116—Coordination of SAE Programs: Work-Based Learning (UMTC) (2 cr)  
 AFEE 5118—Strategies for Managing and Advising the FFA Organization (UMTC) (2 cr)  
 EDHD 5001—Learning, Cognition, and Assessment in the Schools (UMTC) (3 cr)  
 EDHD 5003—Developmental and Individual Differences in Educational Contexts (UMTC) (3 cr)  
 EDHD 5005—School and Society (UMTC) (2 cr)  
 EDHD 5007—Technology for Teaching and Learning (UMTC) (1.5 cr)  
 EDHD 5009—Human Relations: Applied Skills for School and Society (UMTC) (1 cr)  
 EDPA 5341—American Middle School (UMTC) (3 cr)  
 PUBH 3005—Fundamentals of Alcohol and Drug Abuse (UMTC) (1 cr)  
 WHRE 5697—Teaching Internship: School and Classroom Settings (UMTC) (2 cr)  
 WHRE 5698—Teaching Internship (UMTC) (6 cr)

**Program Sub-plans**

Students are required to complete one of the following sub-plans.

**Agricultural Science and Technology Education Emphasis**

Graduates with this emphasis are qualified for a broad array of agriculturally related positions in sales, management, finance, and production aspects of agriculture.

**Agricultural Science and Technology Education Emphasis Requirements**

*Take 3 credits of agricultural economics or accounting electives; 3 credits of agronomy, horticulture, or plant industries management electives; 2 credits of animal science or equine science electives; 3 credits of natural resources electives; and 2.5 credits of agriculture electives, all selected in consultation with an adviser. Also take the following courses.*  
 AGECE 2530—Professional Agriselling (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)

**Natural and Managed Environmental Education Emphasis**

Students with this emphasis focus on natural resource management and education and are prepared for work in environmental learning centers.

**Natural and Managed Environmental Education Requirements**

*Take 3 credits of agronomy, horticulture, or plant industries management electives; 2 credits of animal science or equine science electives; 6 credits of natural resources electives; 4 credits of soil and water management electives; and 1.5 credits of agriculture electives, all selected in consultation with an adviser. Also take one of the following courses.*  
 AGECE 2530—Professional Agriselling (3 cr)  
 or ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)

**Agricultural Systems Management B.S.****Agriculture Department**

Required credits to graduate with this degree: 120.

This program combines students' interest in machinery, technology, and crop and livestock production with superior people skills, creative thinking, and problem solving to build a career in the agricultural and food production industry.

Agricultural systems management graduates are well versed in agricultural foundations and have working knowledge of economic systems with a well-developed sense of professionalism. Companies are looking for multitalented people who are confident around computers, machines, and business plans. The agricultural systems management program offers three areas of emphasis to provide a unique portfolio of technical and business skills that gives graduates an edge in the job market.

**Program outcomes**—graduates will

- be well versed in agricultural foundations
- be technically proficient and knowledgeable in agricultural technologies
- have working knowledge of economic systems and financial management
- possess speaking, listening, and writing communication skills
- have a well-developed sense of professionalism

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

#### Liberal Education Requirements

*A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 PHYS 1012—Introductory Physics, PHYS SCI, PEOPLE/ENV (4 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

#### Technology Requirement (3 cr)

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1020—Spreadsheet Applications (2 cr)

#### Agricultural Systems Management Program (28 cr)

AGRO 1183—Field Crops: Production Principles (3 cr)  
 ASM 1021—Introduction to Agricultural Systems Management (2 cr)  
 ASM 1034—Facility Maintenance and Safety (4 cr)  
 ASM 3002—Agricultural Mobile Power Systems (3 cr)  
 ASM 3005—Facilities Planning and Selection (3 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)  
 GNAG 4652—Senior Seminar (1 cr)  
 SOIL 1293—Soil Science (3 cr)  
 ACCT 2101—Principles of Accounting I (3 cr)  
*or* ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)  
 COMM 2334—Communication Topics, LIB ED ELC (3 cr)  
*or* COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
*or* COMM 3431—Persuasion, COMMUNICAT (3 cr)  
*or* COMM 3704—Business and Professional Speaking, LIB ED ELC (3 cr)  
 GNAG 2899—Pre-Internship Seminar (0.5 cr)  
*or* GNAG 3899—Pre-Internship Seminar (0.5 cr)

#### Program Sub-plans

Students are required to complete one of the following sub-plans.

#### **Farm and Ranch Management Emphasis**

This emphasis focuses on a blend of business and production management. The program's goal is to provide a solid foundation to allow the graduate to be competitive and succeed in the changing world of modern agriculture.

#### **Farm and Ranch Management Emphasis Requirements (25 cr)**

AGEC 3430—Agricultural Commodity Marketing (3 cr)  
 AGECE 3540—Farm Business Management (4 cr)  
 AGECE 3640—Agricultural Finance and Valuation (4 cr)  
 ANSC 1004—Introduction to Animal Science (4 cr)  
 ASM 2053—Electricity, Controls, and Sensors in Agriculture (3 cr)  
 ASM 2250—Agricultural Machinery Management (3 cr)  
 ASM 3360—Applications in Precision Agriculture (3 cr)  
 ASM 3513—Precision Farming Data (1 cr)

#### **Agriculture/Management Electives**

*Students must take 14 credits.*

#### **Open Electives**

*Students must take 10 credits.*

#### **Power and Machinery Emphasis**

New technology and labor-saving innovations in machinery, engines, and equipment drive a multi-billion dollar global business. Excellent careers exist in servicing, testing, and sales and marketing of new products for agricultural, industrial, and consumer applications.

#### **Power and Machinery Emphasis Requirements (26 cr)**

AGEC 2530—Professional Agriselling (3 cr)  
 AGECE 3050—Economics for AgriBusiness Management (5 cr)  
 AGECE 3640—Agricultural Finance and Valuation (4 cr)  
 ASM 2053—Electricity, Controls, and Sensors in Agriculture (3 cr)  
 ASM 2250—Agricultural Machinery Management (3 cr)  
 ASM 3360—Applications in Precision Agriculture (3 cr)  
 CA 1060—Database Applications (2 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)

#### **Agriculture/Management Electives**

*Students must take 11 credits.*

#### **Open Electives**

*Students must take 12 credits.*

#### **Precision Agriculture Emphasis**

Work in the field or in an office to help others improve agriculture production practices (chemical application, planting, pest management) by using satellites, geographical information systems (GIS), and precision data analysis. Field data collection, analysis, and application are keys to improving agricultural production management practices and implementing efficiencies.

#### **Precision Agriculture Emphasis Requirements (25 cr)**

AGEC 2530—Professional Agriselling (3 cr)  
 AGRO 3640—Weed Science (3 cr)  
 ASM 2053—Electricity, Controls, and Sensors in Agriculture (3 cr)  
 ASM 3009—Surveying (4 cr)  
 ASM 3360—Applications in Precision Agriculture (3 cr)  
 ASM 3511—Yield Monitoring and Data Interpretation (1 cr)  
 ASM 3512—Remote Sensing Applications in Precision Agriculture (1 cr)  
 ASM 3513—Precision Farming Data (1 cr)  
 CA 1060—Database Applications (2 cr)  
 SOIL 3414—Soil Fertility and Plant Nutrition (4 cr)

#### **Agriculture/Management Electives**

*Students must take 12 credits.*

#### **Open Electives**

*Students must take 12 credits.*

### **Agronomy B.S.**

#### **Agriculture Department**

Required credits to graduate with this degree: 120.

The B.S. in agronomy is a career-oriented program that combines science-based agriculture training and education with a strong liberal arts background to produce graduates skilled in the highly technical fields of agronomic science and crop production. The flexibility of the two tracks, agronomy and crop production enables students to build a thorough understanding of crop science with a concentration in areas such as crop production, agricultural chemicals, fertilizers, integrated pest management, seed conditioning and technology, and other areas related to production and quality in the food and fiber industry.



**Program outcomes**—graduates will

- demonstrate appropriate skills necessary for employment in agronomic sciences or crop production
- demonstrate skills in general education and management that provide a foundation for the applied curriculum
- develop and demonstrate an attitude of continued inquiry and lifelong learning

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

**Program Requirements**

Students must complete 40 upper division credits.

**Liberal Education Requirements**

A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)
- BIOL 2022—General Botany, LIB ED ELC (3 cr)
- CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)
- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

**Technology Requirement (3 cr)**

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1xxx

**Agronomy Program Requirements (50 cr)**

- AGRO 1030—Crop and Weed Identification (3 cr)
- AGRO 1183—Field Crops: Production Principles (3 cr)
- AGRO 1540—Seed Conditioning and Technology (4 cr)
- AGRO 2640—Applied Agriculture Chemicals (3 cr)
- AGRO 2840—Grain and Seed Evaluation (4 cr)
- AGRO 3130—Forages (3 cr)
- AGRO 3444—Crop Production (4 cr)
- GNAG 1012—Introduction to Applied Agricultural Chemistry (2 cr)
- GNAG 3900—Internship (1–4 cr)
- GNAG 3901—Post Internship Seminar (0.5 cr)
- GNAG 4652—Senior Seminar (1 cr)
- PIM 2573—Entomology (3 cr)
- PIM 3023—Plant Breeding and Genetics (4 cr)
- PIM 3230—Introduction to Plant Pathology (3 cr)
- PIM 3630—Integrated Crop Management (Capstone) (3 cr)
- SOIL 1293—Soil Science (3 cr)
- SOIL 3414—Soil Fertility and Plant Nutrition (4 cr)
- GNAG 2899—Pre-Internship Seminar (0.5 cr)
- or GNAG 3899—Pre-Internship Seminar (0.5 cr)

**Program Sub-plans**

Students are required to complete one of the following sub-plans.

**Agronomic Science Emphasis**

The agronomic science track allows students to build a thorough understanding of crop science with a concentration in areas such as agricultural chemicals, fertilizers, integrated pest management, and seed conditioning and technology.

**Agronomic Science Emphasis Requirements (13 cr)**

- AGRO 3640—Weed Science (3 cr)
- CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)
- BIOL 3131—Plant Physiology, LIB ED ELC (3 cr)
- PIM 3030—Research Techniques (3 cr)

**Agriculture/Natural Resources Electives**

Students must take 5 credits of agriculture/natural resources electives selected from the following departments: AGBU, AGECE, AGRO, ASM, ANSC, GNAG, HORT, NATR, GFTS, PIM.

**Open Electives**

Students must take 9 credits.

**Crop Production Emphasis**

The crop production track, along with building strong agronomic skills, has an agricultural business component that allows students to develop their marketing and farm business management skills.

**Crop Production Emphasis Requirements (11 cr)**

- AGEC 3430—Agricultural Commodity Marketing (3 cr)
- AGEC 3540—Farm Business Management (4 cr)
- SWM 3224—Soil and Water Conservation (4 cr)

**Agriculture/Natural Resources Electives**

Students must take 7 credits of agriculture/natural resources electives selected from the following departments: AGBU, AGECE, AGRO, ASM, ANSC, GNAG, HORT, NATR, GFTS, PIM.

**Open Electives**

Students must take 9 credits.

**Animal Science B.S.****Agriculture Department**

Required credits to graduate with this degree: 120 to 124.

The B.S. in animal science leads to careers in live-stock production and management or one of the many allied industries such as feed production, artificial insemination, and livestock or farm equipment support and sales. In addition, students can meet the requirements to attend graduate school or veterinary college.

Coursework includes computer and communications training, sales, and business management. Other required coursework is traditional to livestock degrees, but students have the option of taking courses specific to their interests. Options also exist for students who wish to pursue pre-veterinary studies.

**Program outcomes**—graduates will

- demonstrate competencies in dairy/livestock management
- demonstrate individual communication skills
- demonstrate personal problem solving, decision-making, and critical thinking skills
- demonstrate technology skills used for dairy/livestock management decision making and problem solving
- work effectively in teams;
- be able to obtain a career in the dairy/livestock industry

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)

*Take 2 or more credit(s) from the following:*

CA 1xxx

### Program Requirements

ANSC 1004—Introduction to Animal Science (4 cr)  
 ANSC 1101—Animal Evaluation (1 cr)  
 ANSC 2104—Feeds and Feeding (4 cr)  
 ANSC 3004—Livestock Facilities and Environmental Systems (3 cr)  
 ANSC 3023—Animal Breeding (3 cr)  
 ANSC 3104—Applied Animal Nutrition (4 cr)  
 ANSC 3203—Animal Anatomy and Physiology (3 cr)  
 ANSC 3204—Dairy Production (4 cr)  
 ANSC 3303—Beef Production (3 cr)  
 ANSC 3304—Reproduction, AI, and Lactation (4 cr)  
 ANSC 3503—Animal Health and Disease (3 cr)  
 ANSC 4204—Animal Systems Management (4 cr)  
 BIOL 2032—General Microbiology, LIB ED ELC (4 cr)  
 BIOL 3022—Principles of Genetics, LIB ED ELC (3 cr)  
 GNAG 4652—Senior Seminar (1 cr)  
 ANSC 1205—Beef and Dairy Production Techniques (2 cr)  
 or ANSC 1206—Sheep and Swine Production Techniques (2 cr)  
 GNAG 3899—Pre-Internship Seminar (0.5 cr)  
 or GNAG 2899—Pre-Internship Seminar (0.5 cr)  
 GNAG 3900—Internship (1–4 cr)  
 GNAG 3901—Post Internship Seminar (0.5 cr)

### Program Sub-plans

Students are required to complete one of the following sub-plans.

#### **Animal Science Emphasis**

This emphasis leads graduates to careers within the livestock industry such as production and management, feed production, artificial insemination, livestock and farm equipment support/sales, pharmaceutical sales, and veterinary technician. Students are exposed to classroom instruction and hands-on experiential learning in the laboratory. Coursework includes computer and communications training, sales training, and business management. Other required coursework is traditional to livestock degrees and may include nutrition, breeding, reproduction, evaluation, feeds, production and management, and facilities. Students can take courses specific to their interest.

#### **Animal Science Emphasis Requirements**

*In addition to the specific courses listed below, students must complete 3 credits of agricultural economics electives and 9 credits of agriculture electives selected in consultation with their adviser.*

AGEC 3540—Farm Business Management (4 cr)  
 ANSC 1201—Advanced Animal Evaluation (1 cr)  
 CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)

GNAG 3203—Ag Products and Processing (3 cr)  
 CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
 or CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)

#### **Pre-Veterinary Medicine Emphasis**

The pre-veterinary medicine emphasis meets the course entry requirements for admission to the University of Minnesota College of Veterinary Medicine; however, similar entry requirements among colleges of veterinary medicine, coupled with sufficient flexibility within the curriculum, allow graduates to meet the admission requirements for many other institutions. Students who graduate are well prepared to pursue their career goal of becoming a veterinarian. Students are exposed to traditional classroom instruction as well as hands-on/experiential learning in the laboratory.

#### **Pre-Veterinary Medicine Emphasis Requirements**

*In addition to the specific courses listed below, students must complete 6 credits of agriculture electives selected in consultation with their adviser.*

BIOL 2012—General Zoology, LIB ED ELC (4 cr)  
 CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)  
 CHEM 1022—Chemical Principles II, LIB ED ELC (4 cr)  
 CHEM 2301—Organic Chemistry I, LIB ED ELC (3 cr)  
 CHEM 2310—Organic Chemistry Laboratory I, LIB ED ELC (2 cr)  
 CHEM 3021—Biochemistry, LIB ED ELC (3 cr)  
 PHYS 1101—Introductory College Physics I, PHYS SCI (4 cr)  
 PHYS 1102—Introductory College Physics II, PHYS SCI (4 cr)

## Applied Health B.A.H.

### **Math, Science and Technology Department**

Required credits to graduate with this degree: 120.

The bachelor of applied health (B.A.H.) is an integrated four-year baccalaureate degree program delivered via distance education through the Web. The program includes a liberal education core curriculum, clinical occupational field, and management component. The applied curriculum combines the knowledge and experiences necessary to provide clinical leadership in the changing health care arena and in entrepreneurial health care settings where clinical expertise is valued.

**Program outcomes**—graduates will

- communicate effectively and work as a team in a health care setting
- demonstrate leadership ability in problem solving, conflict resolution, and change management
- understand the legal, regulatory, and ethical issues inherent to health care
- show the ability to adapt to changing public policy, economic, and financial issues in health care
- demonstrate assessment skills related to improving clinical care and customer service
- understand technology and how to apply it to the workplace

### **Admission Requirements**

Students must complete an associate degree in a health care field before enrolling in this degree program.

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### **Program Requirements**

Students must complete 40 upper division credits.

## Liberal Education Requirements

Students must take 6 credits of humanities from at least two departments in addition to the following.

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 or SOC 1001—Introduction to Sociology, HI/BEH/SSC,  
 HUMAN DIV (3 cr)

## Science Electives

Students must take 9 credits.

## Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
 Take 2 or more credit(s) from the following:  
 CA 1xxx

## Program Core Requirements

HSM 3020—Quality Improvement and Risk Management (4 cr)  
 HSM 3100—Essentials of Managed Care (3 cr)  
 HSM 3130—Health Management Information Systems (3 cr)  
 HSM 3200—Health Care Leadership and Planning (4 cr)  
 HSM 3230—Administration of Continuum Care Facilities (3 cr)  
 HSM 3240—Health Care Policy and Comparative Systems (3 cr)  
 HSM 3900—Internship (1–3 cr)  
 HSM 4100—Health Care Finance (3 cr)  
 HSM 4210—Health Care Law and Biomedical Ethics (4 cr)  
 HSM 4212—Regulatory Management (3 cr)  
 ABUS 4012—Problem Solving in Complex Organizations  
 (UMTC) (3 cr)  
 or MGMT 3210—Supervision and Leadership (3 cr)  
 ABUS 4023—Communicating for Results (UMTC) (3 cr)  
 or COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 ABUS 4104—Management and Human Resource Practices  
 (UMTC) (3 cr)  
 or MGMT 3220—Human Resource Management (3 cr)

## Occupational Course Requirements

Students must take 42 credits of occupational courses from partner schools, selected in consultation with an adviser.

## Electives

Students must take 6 credits of electives.

## Applied Studies B.S.

### Arts, Humanities, Social Science Department

Required credits to graduate with this degree: 120.

The applied studies program addresses the needs of individuals whose educational objectives cannot be met through traditional degree programs. It provides a professionally accommodating entry point for students with previous educational and technical competencies to develop an individualized B.S. degree. Examples of the types of previous college credits that transfer to the degree include those from the allied health field such as respiratory care and radiologic technology. Transfer students with credits from the Community College of the Air Force and who are enrolled in the Air Force ROTC program can use the aerospace studies courses to meet program requirements for the applied studies B.S. degree.

**Program outcomes**—graduates will

- complete an individually tailored course of study that builds upon prior education and experience
- demonstrate technical competencies in selected areas of study in an internship setting

- demonstrate skills in communication, problem solving and working with others in a capstone experience
- meet career development goals related to achieving a baccalaureate degree

### Applied Studies—Articulation Agreements

The University of Minnesota, Crookston has an articulation agreement with Northland Community and Technical College, East Grand Forks. Students who complete the A.T.S. degree in respiratory care or the A.A.S in radiologic technology at Northland can move into the B.S. degree in applied studies at UMC. The skills and competencies developed at the technical college combined with achieving the B.S. degree provide students with advancement opportunities in hospital, clinic, or home care settings.

## Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

## Program Requirements

Students develop a program of study selected to meet career goals. A specific program track in respiratory care is also available. Students must complete 40 upper division credits.

## Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

## Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1xxx

## Applied Studies Seminar

APLS 4652—Applied Studies Seminar (2.5 cr)

## Applied Studies Options

Students either design a program with two fields of study, in consultation with an adviser, or they complete the respiratory care requirements.

Students are required to complete one of the following course groups.

## Self-Designed Program

Students complete at least two areas of study, with at least one area having an occupational direction. Technical courses taken at a technical college may be used to complete one area of study. The first area of study requires at least 27 credits of technical or occupational courses. The second area of study requires at least 18 credits of additional courses selected across the curriculum to meet specific career objectives. All courses must be selected in consultation with an adviser.

APLS 3001—Individual Program Development (0.5 cr)

APLS 3900—Internship/Field Experience (1–3 cr)

First area of study

Second area of study

-OR-

## Respiratory Care

*Complete the requirements in the respiratory care emphasis.*

### **Respiratory Care Emphasis**

**Program outcomes**—graduates will

- demonstrate respiratory care competencies in clinical settings as appropriate for certification in respiratory care
- demonstrate skills in communication, problem solving and working with others in an appropriate capstone experience
- meet career development goals related to achieving a baccalaureate degree

Courses taken at Northland Community and Technical College, East Grand Forks, will be transferred in to complete the first area (23 credits) and second area (31 credits) of study.

#### **1st Area of Study**

*Courses taken at Northland Community and Technical College—minimum 23 credits: BIOL 2221, 2252, 2254, RESP 1104, 1110, 1120, 1124*

#### **2nd Area of Study**

*Courses taken at Northland Community and Technical College—minimum 31 credits: RESP 2206, 2212, 2242, 2248, 2252, 2258, 2262, 2266, 2276*

## **Aviation B.S.**

### **Natural Resources Department**

Required credits to graduate with this degree: 120. (A collaborative program with the University of North Dakota Aerospace Foundation)

The aviation program trains students to excel in the increasingly sophisticated and competitive profession of aviation. Extensive coursework in aviation, liberal education, and other disciplines provides the graduate with the skills for success. The University of North Dakota (UND AEROSPACE), an internationally recognized collegiate flight training center, provides aircraft, simulators, flight instructors, and aviation course materials under a collaborative agreement.

Only full-time students (taking 12 credits or more) may enroll in flight training courses; others must obtain consent from the aviation program manager. Pilot certification courses include private pilot, commercial pilot, instrument rating, certified flight instructor, instrument flight instructor, multi-engine rating, and multi-engine flight instructor. Non-certification courses include conventional gear (tail wheel) operations, advanced conventional gear operations, aerial applicator training, and natural resources/law enforcement applications. Students enrolling with previous flight training or experience may receive college credit after a practical test is administered by the aviation program manager or an appointed check pilot. Aviation students attend all classes on the UMC campus. Flight training is conducted at the UMC flight training center located at the Crookston Municipal Airport, three miles north of the campus.

The aviation program includes flight courses for which students incur costs over and above regular tuition rates. These costs vary and depend on the courses taken as well as the aircraft and flight instructor time used. Call the aviation program manager (218-281-8114) or check the aviation Web site at [www.aero.und.edu/crookston/](http://www.aero.und.edu/crookston/) for current cost estimates.

Depending upon their career interest, students may choose from three areas of emphasis: agricultural, law enforcement, or natural resources aviation.

Business aviation is offered as an emphasis within business management.

### **Admission Requirements**

No medical or physical limitation that would prevent the student from holding a FAA second class medical certificate.

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### **Program Requirements**

Students must complete 40 upper division credits.

### **Liberal Education Requirements**

*A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)
- CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)
- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- PHYS 1012—Introductory Physics, PHYS SCI, PEOPLE/ENV (4 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### **Technology Requirement (3 cr)**

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1xxx

### **Aviation Program Requirements (29 cr)**

- AVIA 1103—Introduction to Aviation (4 cr)
- AVIA 1104—Introduction to Aviation Flight Lab (1 cr)
- AVIA 1221—Basic Attitude Instrument Flying (3 cr)
- AVIA 1222—IFR Regulations and Procedures (3 cr)
- AVIA 1396—Conventional Aircraft Operations (1 cr)
- AVIA 3323—Airplane Aerodynamics (3 cr)
- AVIA 3324—Aircraft Systems and Instruments (3 cr)
- AVIA 3396—Advanced Conventional Aircraft Operations (UND) (1 cr)
- BIOL 2022—General Botany, LIB ED ELC (3 cr)
- COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)
- NATR 3900—Internship (1–4 cr)
- NATR 3901—Post-Internship Seminar (0.5 cr)
- NATR 4652—Seminar (1 cr)
- NATR 2899—Pre-Internship Seminar (0.5 cr)
- or NATR 3899—Pre-Internship Seminar (0.5 cr)

### **Program Sub-plans**

Students are required to complete one of the following sub-plans.

### **Agricultural Aviation Emphasis**

This emphasis leads to careers in aerial application, aerial firefighting, aerial photography, charter pilot, or pilot representative for an agricultural business. UMC also offers an associate in applied science degree in agriculture with an emphasis in agricultural aviation.

**Program outcomes**—graduates will

- demonstrate competency in aeronautics
- demonstrate competency in applied agronomy
- demonstrate the use of current technology in aviation, agriculture, and applied business
- demonstrate critical thinking to analyze situations in aeronautics and applied agriculture

### **Agricultural Aviation Emphasis Requirements (33 cr)**

AGRO 1030—Crop and Weed Identification (3 cr)  
 AGRO 1183—Field Crops: Production Principles (3 cr)  
 AGRO 2640—Applied Agriculture Chemicals (3 cr)  
 AGRO 3444—Crop Production (4 cr)  
 AVIA 3603—Aerial Application (3 cr)  
 ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)  
 MKTG 3200—Personal Selling (3 cr)  
 PIM 2573—Entomology (3 cr)  
 PIM 3230—Introduction to Plant Pathology (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 SWM 3103—Meteorology and Climatology (2 cr)

### **Agriculture/Natural Resources Electives**

*Students must take 7 credits.*

### **Open Electives**

*Students must take 8 credits.*

### **Law Enforcement Aviation Emphasis**

This emphasis provides training in aviation, law enforcement, and liberal education. Careers include positions as law enforcement pilots employed by local, state, and federal agencies such as the U.S. Customs and Border Protection, state and federal conservation agencies, and state/county/local law enforcement agencies.

**Program outcomes**—graduates will

- demonstrate competency in aeronautics
- perform group problem solving, decision making, and conflict management activities
- demonstrate critical thinking to analyze situations in aeronautics and law enforcement
- be prepared to attend the peace officer's skills training academy

After completing all required coursework, students may attend a skills session and take the Minnesota Peace Officer Standards and Training (POST) certification examination as coordinated by Bemidji State University.

### **Law Enforcement Aviation Emphasis Requirements (36 cr)**

AVIA 3602—Natural Resources and Enforcement Applications (2 cr)  
 CRJS 1120—Criminal Justice and Society (BSU), LIB ED ELC (4 cr)  
 CRJS 3304—Police Process (BSU) (3 cr)  
 CRJS 3305—Judicial Process (BSU), LIB ED ELC (3 cr)  
 CRJS 3320—Juvenile Delinquency and Justice (BSU) (3 cr)  
 CRJS 3334—Criminal Justice Planning (BSU) (3 cr)  
 CRJS 3358—Criminal Law (BSU) (3 cr)  
 CRJS 3359—Criminal Investigation (BSU) (3 cr)  
 CRJS 3360—Criminal Procedure (BSU) (3 cr)  
 CRJS 4100—Applied Ethics (BSU) (3 cr)  
 CRJS 4103—Criminal Justice Diversity (BSU) (3 cr)  
 CRJS 4480—Policing People (BSU) (3 cr)

### **Agriculture/Natural Resources/Business Electives**

*Students must take 9 credits.*

### **Open Electives**

*Students must take 3 credits.*

### **Natural Resources Aviation Emphasis**

This emphasis leads to careers as natural resource pilots employed by state and federal agencies such as the National Park Service, U.S. Fish and Wildlife Service, and Forest Service, and state departments of natural resources.

**Program outcomes**—graduates will

- demonstrate competency in aeronautics
- apply an integrated approach to resource management that incorporates environmental/economic/social considerations
- perform group problem solving, decision making, and conflict management activities
- understand ecological/management principles that apply to wildlife/fish/forest/soil/water/recreation resources

### **Natural Resources Aviation Emphasis Requirements (45 cr)**

AVIA 3602—Natural Resources and Enforcement Applications (2 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 NATR 1233—Introduction to Natural Resources (3 cr)  
 NATR 1244—Elements of Forestry (4 cr)  
 NATR 2630—Introduction to Geographic Information Systems (3 cr)  
 NATR 3203—Park and Recreation Management (3 cr)  
 NATR 3344—Land Use Planning (3 cr)  
 NATR 3364—Plant Taxonomy (3 cr)  
 NATR 3374—Ecology, BIOL SCI (4 cr)  
 NATR 3654—Wildlife Ecology and Management (4 cr)  
 NATR 3699—Integrated Resource Management (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 SWM 3224—Soil and Water Conservation (4 cr)  
 AGRO 1183—Field Crops: Production Principles (3 cr)  
 or HORT 1010—Introduction to Horticulture (3 cr)

### **Open Electives**

*Students must take 3 credits.*

## **Biology B.S.**

### **Math, Science and Technology Department**

Required credits to graduate with this degree: 120.

The B.S. in biology provides students with a broad knowledge of the biological sciences while introducing them to the practical skills needed in today's biotech industries and the background required to be successful applicants to graduate programs. Students may choose from advanced courses designed to emphasize studies in either animal or plant systems while participating in a common core of courses which provide knowledge in the basic principles relevant to both areas.

**Program outcomes**—graduates will

- explain and reconstruct the scientific method and can apply this mode of inquiry in a laboratory setting
- explain and apply basic principles of biology in work setting
- demonstrate teamwork skills
- apply, critique, and synthesize protocols from current literature
- demonstrate and critique effective oral and written communication skills
- formulate proper data collection and analysis methods
- interpret and practice professional and ethical behavior related to biological research
- identify, provide examples, differentiate, and integrate current biology techniques into their scientific investigations

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

#### Biology Core Requirements

- BIOL 1001—Nature of Life (1 cr)
- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)
- BIOL 2032—General Microbiology, LIB ED ELC (4 cr)
- BIOL 3022—Principles of Genetics, LIB ED ELC (3 cr)
- BIOL 3027—Cell Biology, LIB ED ELC (3 cr)
- BIOL 3122—Evolution, LIB ED ELC (3 cr)
- BIOL 3822—Techniques in Molecular Biology (4 cr)
- BIOL 3899—Pre-Internship Seminar (0.5 cr)
- BIOL 3900—Internship (1–2 cr)
- BIOL 3901—Post-Internship Seminar (0.5 cr)
- BIOL 4101—Biology Seminar (1 cr)
- COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)
- NATR 3374—Ecology, BIOL SCI (4 cr)
- BIOL 2012—General Zoology, LIB ED ELC (4 cr)
- or BIOL 2022—General Botany, LIB ED ELC (3 cr)

#### Chemistry Core Requirements

- CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)
- CHEM 1022—Chemical Principles II, LIB ED ELC (4 cr)
- CHEM 2301—Organic Chemistry I, LIB ED ELC (3 cr)
- CHEM 2302—Organic Chemistry II, LIB ED ELC (3 cr)
- CHEM 2310—Organic Chemistry Laboratory I, LIB ED ELC (2 cr)
- CHEM 2311—Organic Chemistry Laboratory II, LIB ED ELC (2 cr)
- CHEM 3021—Biochemistry, LIB ED ELC (3 cr)

#### Math and Physics Core Requirements

- MATH 1150—Elementary Statistics, MATH THINK (3 cr)
- MATH 1271—Calculus I, MATH THINK (4 cr)
- PHYS 1101—Introductory College Physics I, PHYS SCI (4 cr)
- PHYS 1102—Introductory College Physics II, PHYS SCI (4 cr)

#### Liberal Education Requirements

A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)



### Technology Requirement

In addition to the course below, student must take 2 CA electives.

- CA 1010—Introduction to Computer Technology (1 cr)

### Biology Major Electives

Students must take 11–13 credit(s) from the following:

- ANSC 3203—Animal Anatomy and Physiology (3 cr)
- ANSC 3304—Reproduction, AI, and Lactation (4 cr)
- BIOL 2103—Human Anatomy and Physiology I, LIB ED ELC (4 cr)
- BIOL 2104—Human Anatomy and Physiology II, LIB ED ELC (4 cr)
- BIOL 3131—Plant Physiology, LIB ED ELC (3 cr)
- BIOL 3140—Histology (4 cr)
- BIOL 3464—Mammalogy, LIB ED ELC (3 cr)
- BIOL 3466—Ornithology, LIB ED ELC (3 cr)
- BIOL 3720—Plant Form and Function (3 cr)
- BIOL 3722—Limnology, LIB ED ELC (3 cr)
- BIOL 3994—Undergraduate Research (1–3 cr)
- BIOL 4361—Developmental Biology (4 cr)
- GEOL 1001—Introductory Geology, PHYS SCI, PEOPLE/ENV (3 cr)
- MATH 1272—Calculus II, LIB ED ELC (4 cr)
- NATR 3364—Plant Taxonomy (3 cr)
- SOIL 1293—Soil Science (3 cr)

## Biology Minor

### Math, Science and Technology Department

Required credits in this minor: 30 to 31.

The biology minor program introduces students to the core concepts in a broad range of biological areas with two possible emphases, animal or plant biology. It is designed to compliment majors in animal sciences, agriculture, and natural resources but can be tailored for students in other majors as well.

### Minor Requirements

- BIOL 1001—Nature of Life (1 cr)
- BIOL 2032—General Microbiology, LIB ED ELC (4 cr)
- BIOL 3022—Principles of Genetics, LIB ED ELC (3 cr)
- BIOL 3027—Cell Biology, LIB ED ELC (3 cr)
- BIOL 3122—Evolution, LIB ED ELC (3 cr)
- BIOL 4101—Biology Seminar (1 cr)
- CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)
- NATR 3374—Ecology, BIOL SCI (4 cr)

### Biology Minor Requirements

- BIOL 2012—General Zoology, LIB ED ELC (4 cr)
- or BIOL 2022—General Botany, LIB ED ELC (3 cr)

### Biology Electives

Students must take 4 credits of 3xxx or 4xxx biology electives.

## Business General A.S.

### Business Department

Required credits to graduate with this degree: 64.

The business-general program prepares students for transfer to an upper division baccalaureate program.

**Program outcomes**—graduates will

- demonstrate a basic understanding of business decision-making
- demonstrate the ability to communicate effectively
- demonstrate a basic understanding of computer software applications

- demonstrate basic knowledge of ethical/environmental issues
- demonstrate basic knowledge and competency in the application of business management and marketing skills
- demonstrate understanding and capability in business sufficient for transition to a bachelor of science degree program

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

#### Liberal Education Requirements

Take 5 credits of liberal education electives, 6 credits of humanities/fine arts electives, and 6 credits of math/science electives, all selected in consultation with an adviser. Also take the following courses.

- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)
- ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)

#### Technology Requirement

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1020—Spreadsheet Applications (2 cr)

#### Program Requirements

Take 17 credits of business/technology electives, selected in consultation with an adviser. Also take the following courses.

- ACCT 2101—Principles of Accounting I (3 cr)
- ACCT 2102—Principles of Accounting II (3 cr)
- GBUS 3107—Legal Environment in Business (3 cr)
- MGMT 3200—Principles of Management (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)

## Business Management B.S.

### Business Department

Required credits to graduate with this degree: 120.

A variety of organizations require competent managers to plan, organize, lead, and evaluate the organization's activities. Organizations need individuals who can manage resources, identify and solve problems, work with others, understand markets and advertising, collect and analyze data, and evaluate results.

The program prepares graduates for management positions in business firms, institutions, small businesses, and other organizations. It provides a well-rounded education in business operations, preparing individuals for a variety of management positions in business and government.

**Program outcomes**—graduates will

- demonstrate analytical and critical-thinking skills with direct application to business environments
- demonstrate the ability to communicate clearly and concisely in personal and business communication
- demonstrate capability to effectively manage human relations and diversity in professional and business environments
- demonstrate capability to apply global multidisciplinary concepts in business and industry
- demonstrate skill in the use of technology and computer software applications in business and industry
- demonstrate capability to apply ethical and environmental values to general business principles and practices

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

#### Liberal Education Requirements

A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)
- ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- MATH 1150—Elementary Statistics, MATH THINK (3 cr)
- PSY 1001—General Psychology, HI/BEH/SSC (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

#### Technology Requirement

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1020—Spreadsheet Applications (2 cr)

#### Business Management Core

- ACCT 2101—Principles of Accounting I (3 cr)
- ACCT 2102—Principles of Accounting II (3 cr)
- GBUS 3107—Legal Environment in Business (3 cr)
- MGMT 3100—Managerial Finance (3 cr)
- MGMT 3200—Principles of Management (3 cr)
- MGMT 3900—Internship (1–3 cr)
- MKTG 3300—Principles of Marketing (3 cr)

#### Program Sub-plans

Students are required to complete one of the following sub-plans.

#### Business Aviation Emphasis

The business management aviation emphasis includes courses and experiences that enhance students' opportunities for entry into aviation management. Students who complete the program and the appropriate number of flight hours and flight examinations may earn the following certifications: private pilot, (FAA), commercial pilot (FAA), instrument rating, multi-engine certification, certified flight instructor, instrument flight instructor, and multi-engine flight instructor.

**Program outcomes**—graduates will

- demonstrate technical competency in aeronautics
- demonstrate the use of current technology in aviation and applied business

#### Business Aviation Emphasis Requirements

- AVIA 1103—Introduction to Aviation (4 cr)
- AVIA 1104—Introduction to Aviation Flight Lab (1 cr)
- AVIA 1221—Basic Attitude Instrument Flying (3 cr)
- AVIA 1222—IFR Regulations and Procedures (3 cr)
- AVIA 3323—Airplane Aerodynamics (3 cr)
- AVIA 3324—Aircraft Systems and Instruments (3 cr)
- AVIA 3412—CFI Certification (4 cr)
- AVIA 3413—CFI Certification Flight Lab (1 cr)
- AVIA 3415—Instrument CFI Certification (4 cr)
- MGMT 3210—Supervision and Leadership (3 cr)
- MGMT 4800—Strategic Management (3 cr)
- PHYS 1012—Introductory Physics, PHYS SCI, PEOPLE/ENV (4 cr)
- SWM 3103—Meteorology and Climatology (2 cr)
- MGMT 3220—Human Resource Management (3 cr)
- or MKTG 3250—Promotional Strategies (3 cr)

MGMT 3250—Operations Management (3 cr)  
 or MKTG 3360—Global Business (3 cr)  
 COMM 2334—Communication Topics, LIB ED ELC (3 cr)  
 or COMM 3008—Business Writing, LIB ED ELC (3 cr)

**Entrepreneurship and Small Business Management Emphasis**

The business management entrepreneurship emphasis focuses on small business development and growth. Students learn how to identify and capitalize on entrepreneurial opportunities. Careers for the emphasis include small business management, rural economic development, and small business ownership.

**Program outcomes**—graduates will

- demonstrate the capability and initiative to identify entrepreneurial opportunity, assess and evaluate risk, and plan for small business ventures
- demonstrate the leadership and entrepreneurial competencies required to conceptualize, plan, finance, resource, manage, and grow small business

**Entrepreneurship and Small Business Management Emphasis Requirements**

ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)  
 ENTR 3200—Business Plan Development (3 cr)  
 ENTR 3400—Entrepreneurial and Small Business Finance (3 cr)  
 ENTR 4100—International Entrepreneurship (3 cr)  
 ENTR 4200—Field Studies in Entrepreneurship and Small Business (3 cr)  
 ENTR 4800—Entrepreneurship and Small Business Strategies (3 cr)  
 MGMT 3270—Fundamentals of E-Business (3 cr)  
 MKTG 3360—Global Business (3 cr)  
 COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)

**Business/Technology Electives**

*Students must take 14 credits.*

**Computer Applications Electives**

*Students must take 4 or more credit(s) from the following:*

CA 1030—Multimedia Graphics (2 cr)  
 CA 1040—Web Site Development (2 cr)  
 CA 1055—Animation Software Applications With Flash MX (2 cr)  
 CA 1060—Database Applications (2 cr)  
 CA 1070—Desktop Publishing (2 cr)  
 CA 1080—Audio-Visual Production Applications (2 cr)

**Management Emphasis**

The business management management emphasis gives graduates the know-how to effectively and efficiently manage people, methods, materials, equipment, and money. The program focuses on entrepreneurial leadership, effective communication, technology mastery, critical thinking, and teamwork.

**Program outcomes**—graduates will

- demonstrate knowledge and skill of leadership required to effectively and efficiently plan, organize, and control an organization for a competitive advantage
- demonstrate skill in problem definition, problem solving, resource allocation and decision-making

**Management Emphasis Requirements**

ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 MGMT 3220—Human Resource Management (3 cr)  
 MGMT 3250—Operations Management (3 cr)  
 MGMT 3270—Fundamentals of E-Business (3 cr)  
 MGMT 3600—Management Case Studies (3 cr)  
 MGMT 4800—Strategic Management (3 cr)  
 MKTG 3360—Global Business (3 cr)  
 COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)

**Business/Technology Electives**

*Students must take 14 credits.*

**Computer Applications Electives**

*Students must take 4 or more credit(s) from the following:*

CA 1030—Multimedia Graphics (2 cr)  
 CA 1040—Web Site Development (2 cr)  
 CA 1055—Animation Software Applications With Flash MX (2 cr)  
 CA 1060—Database Applications (2 cr)  
 CA 1070—Desktop Publishing (2 cr)  
 CA 1080—Audio-Visual Production Applications (2 cr)

**Management Emphasis (Distance)**

The bachelor of science in business (B.S.B.) program is designed to prepare graduates for management positions in business firms, institutions, small businesses, and other organizations. The B.S.B. provides a well-rounded education in business operations, preparing individuals for a variety of management positions in business and government. The B.S.B. is available entirely online. Requirements are identical to the bachelor of science in business management management emphasis taught on campus.

**Management Emphasis (Distance) Requirements**

ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 MGMT 3220—Human Resource Management (3 cr)  
 MGMT 3250—Operations Management (3 cr)  
 MGMT 3270—Fundamentals of E-Business (3 cr)  
 MGMT 3600—Management Case Studies (3 cr)  
 MGMT 4800—Strategic Management (3 cr)  
 MKTG 3360—Global Business (3 cr)  
 COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)

**Business/Technology Electives**

*Students must take 14 credits.*

**Computer Applications Electives**

*Students must take 4 or more credit(s) from the following:*

CA 1030—Multimedia Graphics (2 cr)  
 CA 1040—Web Site Development (2 cr)  
 CA 1055—Animation Software Applications With Flash MX (2 cr)  
 CA 1060—Database Applications (2 cr)  
 CA 1070—Desktop Publishing (2 cr)  
 CA 1080—Audio-Visual Production Applications (2 cr)

**Marketing Emphasis**

The business management marketing emphasis prepares graduates for a variety of careers in marketing, including sales, advertising, and retailing. Marketing principles, relationship marketing, marketing communications, personal selling, consumer behavior, and marketing strategies are stressed throughout the coursework.



**Program outcomes**—graduates will

- understand the importance of having a consumer orientation and demonstrate how to effectively establish, develop, and maintain business relationships
- demonstrate working knowledge of technological and global developments that are changing the scope of the marketing discipline

**Marketing Emphasis Requirements**

ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)

MGMT 3270—Fundamentals of E-Business (3 cr)

MKTG 3200—Personal Selling (3 cr)

MKTG 3250—Promotional Strategies (3 cr)

MKTG 3310—Buyer Behavior (3 cr)

MKTG 3360—Global Business (3 cr)

MKTG 4200—Marketing Research (3 cr)

MKTG 4800—Marketing Strategies (3 cr)

COMM 3008—Business Writing, LIB ED ELC (3 cr)

or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)

**Business/Technology Electives**

*Students must take 14 credits*

**Computer Applications Electives**

*Students must take 4 or more credit(s) from the following:*

CA 1030—Multimedia Graphics (2 cr)

CA 1040—Web Site Development (2 cr)

CA 1055—Animation Software Applications With Flash MX (2 cr)

CA 1060—Database Applications (2 cr)

CA 1070—Desktop Publishing (2 cr)

CA 1080—Audio-Visual Production Applications (2 cr)

**Business Management Minor****Business Department**

Required credits in this minor: 21.

The business management minor introduces students to current business theories and practices in one of four business management clusters: entrepreneurship, international business, management, or marketing. A common core of business courses provides a basic business knowledge foundation and the cluster allows students to select other courses in a specific area of interest.

The business management minor gives students interested in business more marketability in all types of professions from agriculture and natural sciences to information technology and more.

The demand for professionals in entrepreneurship, international business, management, and marketing continues to grow at a fast pace.

Program outcomes: students who earn a business management minor will

**Entrepreneurship Cluster**

- demonstrate an understanding of small business financing options
- demonstrate an understanding of legal forms of business establishment
- demonstrate the ability to develop effective business plans

**International Business Cluster**

- demonstrate an understanding of global marketing issues
- develop an appreciation for diverse cultures
- demonstrate an understanding of political and legal differences worldwide

**Management Cluster**

- demonstrate an understanding of the management roles of planning, leading, organizing, and controlling
- demonstrate the ability to use management planning tools
- develop an understanding of the impact of human relations and interpersonal effectiveness in the workplace

**Marketing Cluster**

- demonstrate an understanding of product, price, distribution, and promotion decisions faced by marketers
- demonstrate an understanding of the promotional mix
- develop the skills to create promotional campaigns for business

**Minor Requirements (12 cr)**

MGMT 3100—Managerial Finance (3 cr)

MGMT 3200—Principles of Management (3 cr)

MGMT 3270—Fundamentals of E-Business (3 cr)

MKTG 3300—Principles of Marketing (3 cr)

**Business Management Minor Clusters**

Students are required to complete one of the following course groups.

**Entrepreneurship Cluster (9 cr)**

ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)

ENTR 3200—Business Plan Development (3 cr)

ENTR 3400—Entrepreneurial and Small Business Finance (3 cr)

or ENTR 4100—International Entrepreneurship (3 cr)

-OR-

**International Business Cluster (9 cr)**

GBUS 3190—Topics in Business (1–3 cr)

MKTG 3360—Global Business (3 cr)

ENTR 4100—International Entrepreneurship (3 cr)

or GBUS 1010—Global Trade (3 cr)

-OR-

**Management Cluster (9 cr)**

MGMT 3210—Supervision and Leadership (3 cr)

MGMT 3250—Operations Management (3 cr)

MGMT 3220—Human Resource Management (3 cr)

or MGMT 4200—Project Management (3 cr)

-OR-

**Marketing Cluster (9 cr)**

MKTG 3250—Promotional Strategies (3 cr)

MKTG 3360—Global Business (3 cr)

MKTG 3200—Personal Selling (3 cr)

or MKTG 3310—Buyer Behavior (3 cr)

**Coaching Minor****Business Department**

Required credits in this minor: 19.

The coaching minor develops future coaches by teaching current theories and practices in coaching and with practical experience through the coaching practicum. This helps to prepare students for coaching at the youth, elementary, high school, college, or even professional levels. The minor can be taken by students in any major and has a requirement of 18 credits.

Since 1997, Minnesota has not required a teaching or coaching license to coach high school athletics. The coaching minor helps train and develop future coaches in the areas of practice planning, skill development, and coaching strategies in their sport of interest. In addition, it gives those students interested in coaching more marketability for coaching positions.

Any student, regardless of major, can earn a coaching minor.

### Minor Requirements

#### Program Core Requirements

- BIOL 2103—Human Anatomy and Physiology I, LIB ED ELC (4 cr)
- SRM 2000—Prevention and Care of Athletic Injuries (3 cr)
- SRM 2100—Psychology of Sport (3 cr)
- SRM 3001—Sports Nutrition (3 cr)
- SRM 3010—Topics in Coaching (2 cr)
- SRM 3020—Coaching Practicum (1 cr)
- SRM 3320—Exercise Physiology (3 cr)

### Communication B.S.

#### Arts, Humanities, Social Science Department

Required credits to graduate with this degree: 120.

The B.S. in communication prepares students to be effective communicators in many professional settings. Graduates can expect to find or create jobs in areas as such as corporate e-learning, general corporate management, health management, human resources, marketing, public relations, sports information, and technical communication. Communication graduates also may hold jobs as communication consultants, editors, event planners, political campaign leaders, public affairs officers, public information officers, publication designers and editors, speech writers, and Web site designers.

The program emphasizes communication theory and practice in the creation, development, presentation, and evaluation of coherent messages. Students use communication technologies to create publications (newsletters, brochures, flyers, news releases, communication plans), design Web resources, plan events, and manage projects.

The concentration lets students select courses to focus their professional career preparation.

**Program outcomes:** students will demonstrate

- proficiencies in applying theory, listening, reading, speaking, and writing in the profession
- technology proficiencies in computer applications, including graphic design and Web page development
- critical thinking and problem-solving skills, including analyzing, interpreting, and evaluating applied communication
- proficiencies in interpersonal and group processes, conflict management, collaboration, team building, and leadership
- understanding of the ethical behavior practiced in the profession
- awareness and sensitivity required for communicating in culturally diverse groups

#### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

#### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

#### Campus Technology Requirement

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1xxx

#### Communication Core

- COMM 3000—Communication Theory, LIB ED ELC (3 cr)
- COMM 3001—Communication in Human Relationships, HUMAN DIV (3 cr)
- COMM 3258—Research Methods in Communication, LIB ED ELC (3 cr)
- COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)
- COMM 3431—Persuasion, COMMUNICAT (3 cr)
- COMM 3704—Business and Professional Speaking, LIB ED ELC (3 cr)
- COMM 3900—Internship (3 cr)
- COMM 4703—Communication Ethics, LIB ED ELC (3 cr)
- COMM 4704—Organizational Communication, LIB ED ELC (3 cr)

#### Technology Electives

*Students must take 6 or more credit(s) from the following:*

- CA 1011—Introduction to Computer Systems Architecture (2 cr)
- CA 1012—Application Suite Software (2 cr)
- CA 1015—Word Processing Applications (2 cr)
- CA 1020—Spreadsheet Applications (2 cr)
- CA 1030—Multimedia Graphics (2 cr)
- CA 1040—Web Site Development (2 cr)
- CA 1070—Desktop Publishing (2 cr)

#### Communication Electives

*Students must take 12 or more credit(s) from the following:*

- COMM 2223—English Grammar and Usage, LIB ED ELC (3 cr)
- COMM 2334—Communication Topics, LIB ED ELC (3 cr)
- COMM 3008—Business Writing, LIB ED ELC (3 cr)
- COMM 3537—Visual Communication, LIB ED ELC (3 cr)
- COMM 4800—Crisis Communication, LIB ED ELC (3 cr)
- COMM 4802—Publication Design and Management, LIB ED ELC (3 cr)
- COMM 4900—Public Relations, LIB ED ELC (3 cr)
- COMM 2002—Interpersonal and Group Processes, COMMUNICAT (3 cr)
- COMM 2434—Oral Interpretation and Performance Techniques, LIB ED ELC (3 cr)

#### Concentration Courses

*Select 18 credits in consultation with an adviser, focusing on a defined area of study.*

### Communication Minor

#### Arts, Humanities, Social Science Department

Required credits in this minor: 18.

The communication minor complements all UMC degree programs by preparing students to be effective communicators in any profession. The program emphasizes communication theory and practice as well as the creation, development, presentation, and evaluation of coherent messages.

The minor also provides students with the flexibility to select courses that enhance their professional career preparations.

**Program outcomes**—students will

- demonstrate proficiencies in applying theory, listening, reading, speaking, and writing in the profession
- demonstrate technology proficiencies in computer applications
- demonstrate critical thinking and problem-solving skills, including analyzing, interpreting, and evaluating applied communication
- demonstrate proficiencies in interpersonal and group processes, conflict management, collaboration, team building, and leadership
- demonstrate understanding of the ethical behavior practiced in the profession
- demonstrate awareness and sensitivity required for communicating in culturally diverse groups

## Minor Requirements

### Required Courses

*Required Courses—12 credits*

- COMM 3000—Communication Theory, LIB ED ELC (3 cr)  
 COMM 3001—Communication in Human Relationships, HUMAN DIV (3 cr)  
 COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 COMM 3704—Business and Professional Speaking, LIB ED ELC (3 cr)

### Electives

*Students must take 2 or more course(s) totaling a minimum of 6 or more credit(s) from the following:*

- COMM 2002—Interpersonal and Group Processes, COMMUNICAT (3 cr)  
 COMM 2223—English Grammar and Usage, LIB ED ELC (3 cr)  
 COMM 2334—Communication Topics, LIB ED ELC (3 cr)  
 COMM 2434—Oral Interpretation and Performance Techniques, LIB ED ELC (3 cr)  
 COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 COMM 3258—Research Methods in Communication, LIB ED ELC (3 cr)  
 COMM 3431—Persuasion, COMMUNICAT (3 cr)  
 COMM 3537—Visual Communication, LIB ED ELC (3 cr)  
 COMM 3804—Individual Studies (1–3 cr)  
 COMM 3855—Topics in Communication, LIB ED ELC (3 cr)  
 COMM 3900—Internship (3 cr)  
 COMM 4703—Communication Ethics, LIB ED ELC (3 cr)  
 COMM 4704—Organizational Communication, LIB ED ELC (3 cr)  
 COMM 4800—Crisis Communication, LIB ED ELC (3 cr)  
 COMM 4802—Publication Design and Management, LIB ED ELC (3 cr)  
 COMM 4900—Public Relations, LIB ED ELC (3 cr)

## Computer Software Technology B.S.

### *Math, Science and Technology Department*

Required credits to graduate with this degree: 120.

As technology penetrates every sector of the economy, software needs are becoming increasingly complex. This need has seen the evolution of a relatively new area of study, software engineering. The U.S. Department of Labor, Bureau of Labor Statistics state that computer software engineering will be among the fastest growing occupations over the next 10 years.

The computer software technology program combines the theory behind good software engineering practices along with applied projects throughout the IEEE standardized curriculum. This approach

provides graduates the knowledge and skills to be successful in the workplace or in graduate studies.

**Program outcomes**—graduates will

- show mastery of the software engineering knowledge and skills and professional issues necessary to begin practice as a software engineer
- work as an individual and as part of a team to develop and deliver quality software artifacts
- reconcile conflicting project objectives, finding acceptable compromises within limitations of cost, time, knowledge, existing systems, and organizations
- design appropriate solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal, and economic concerns
- demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for problem identification and analysis, software design, development, implementation, verification, and documentation
- demonstrate an understanding and appreciation for the importance of negotiation, effective work habits, leadership, and good communication with stakeholders in a typical software development environment
- learn new models, techniques, and technologies as they emerge and appreciate the necessity of such continuing professional development

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 HUM 3310—Culture and Technology, HUMANITIES, GLOB PERSP (3 cr)  
 PHIL 1001—Introduction to Philosophy, HUMANITIES, ETH/CIV RE (3 cr)  
 PHYS 1101—Introductory College Physics I, PHYS SCI (4 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 MATH 1271—Calculus I, MATH THINK (4 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)

### Technology Requirement

- CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1xxx

### Program Requirements

*Students must complete 17 open electives.*

*Recommended electives for Financial/E-Commerce Systems Specialization: ACCT 2101, ITM 3215, MGMT 3100, MGMT 3270*

*Recommended electives for Network-Centric Systems Specialization: ITM 3130, ITM 3145, ITM 3200, ITM 3215*

- CS 1500—Discrete Structures I (3 cr)  
 CS 1600—Discrete Structures II (3 cr)  
 CS 2090—Data Structures and Algorithms (3 cr)  
 CS 2100—Microcomputer Systems Architecture (3 cr)

CS 2200—Introduction to Software Engineering (3 cr)  
 CS 2300—Software Construction (3 cr)  
 CS 2400—Software Engineering Approach to Human Computer Interaction (3 cr)  
 CS 3200—Software Design and Architecture (3 cr)  
 CS 3300—Software Quality Assurance and Testing (3 cr)  
 CS 3400—Software Requirements Analysis (3 cr)  
 CS 3700—Software Project Management (3 cr)  
 CS 3900—Internship (3 cr)  
 CS 4500—Senior Project I (3 cr)  
 CS 4510—Senior Project II (3 cr)  
 ITM 2050—Introduction to Programming I (3 cr)  
 ITM 2060—Database Management Systems (3 cr)  
 ITM 2070—Introduction to Programming II (3 cr)  
 ITM 3110—Microcomputer Operating Systems (3 cr)  
 ITM 3120—Networking and Telecommunications (3 cr)  
 MGMT 3200—Principles of Management (3 cr)

## Dietetic Technician A.A.S.

### *Math, Science and Technology Department*

Required credits to graduate with this degree: 76.

The program prepares students to be registered dietetic technicians. The program is accredited by the Commission on Accreditation for Dietetic Education of the American Dietetic Association. Dietetic technicians are employed by hospitals, public health nutrition programs, long-term care facilities, child nutrition and school lunch programs, nutrition programs for the elderly, and food service systems management firms.

**Program outcomes**—graduates will

- demonstrate foundation knowledge and practice skills for entry-level dietetic technician as identified by the Commission on Accreditation for Dietetic Education of the American Dietetic Association
- demonstrate foundation knowledge in communication, physical and biological sciences, social sciences, research, food, nutrition, management, and health care systems
- demonstrate management skills including the teamwork needed to be an effective food service director in a health care or institutional setting
- practice the clinical and communication skills needed of a dietetic technician in a hospital, nursing home, or community setting
- demonstrate abilities in critical thinking, problem solving, and self-assessment needed to maintain competency as a dietetic professional

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

#### Liberal Education Requirements

*Take 4 credits of chemistry electives, 3 credits of math electives, and 3 credits of social science electives, all selected in consultation with an adviser. Also take the following courses.*

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 BIOL 2103—Human Anatomy and Physiology I, LIB ED ELC (4 cr)  
 BIOL 2104—Human Anatomy and Physiology II, LIB ED ELC (4 cr)  
 CA 1010—Introduction to Computer Technology (1 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)

### Technology Requirement

*Take 2 or more credit(s) from the following:*

CA 1xxx

### Program Core Requirements

*Take 3 credits of hotel, restaurant, and institutional management electives, selected in consultation with an adviser. Also take the following courses.*

FSCN 1123—Fundamentals of Nutrition (3 cr)  
 FSCN 1273—Medical Nutrition Therapy (4 cr)  
 FSCN 1313—Life Cycle Nutrition (3 cr)  
 FSCN 1654—Nutritional Care: Practices and Procedures (3 cr)  
 FSCN 1999—Dietetic Practicum (1–3 cr)  
 FSCN 3203—Community Nutrition (3 cr)  
 FSCN 3211—Professional Issues in Dietetics (1 cr)  
 FSCN 3310—Elements of Food Science (3 cr)  
 HRI 1111—Introduction to Food Preparation (3 cr)  
 HRI 1112—Sanitation and Safety (2 cr)  
 HRI 2124—Quantity Foods Systems Management (4 cr)  
 HSM 1010—Medical Terminology (2 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)

*Take 1 or more course(s) totaling 2 or more credit(s) from the following:*

FSCN 3900—Internship (1–3 cr)

## Early Childhood Education B.S.

### *Arts, Humanities, Social Science Department*

Required credits to graduate with this degree: 120 to 124.

(A collaborative baccalaureate degree and teacher licensure program with Bemidji State University.)

The B.S. degree in early childhood education is a career-oriented program that prepares students to be effective teachers of young children from birth through age eight or third grade.

Graduates of this teacher education program design, implement, and evaluate developmentally appropriate learning experiences for young children in a variety of early childhood settings. They are prepared to work collaboratively with families and in the community. Significant opportunities for professional positions exist in these educational programs: infant and toddler care and education, preschool programs, K–3 classrooms, Head Start, and early childhood family education.

This degree program has four academic core areas of required coursework—education core, early childhood and family core, infant and toddler education core, and preprimary education core—and two areas of emphasis—primary education and program management.

Students who expect to apply for teacher licensure must complete the primary education emphasis. Graduates with the primary education emphasis will demonstrate competencies as described in the MN Board of Teaching, Rules 8710.3000, Standard for Teachers of Early Childhood Education (ECE) and in MN Rules 8710.2000, Standards for Effective Practice for all Teachers. See program outcomes listed in the emphasis descriptions below.

### Admission Requirements

A GPA above 2.00 is preferred for the following:

- 2.50 for students already admitted to the degree-granting college.
- 2.50 for students transferring from another University of Minnesota college.
- 2.50 for students transferring from outside the University.

In addition, students must have:

1. A minimum GPA of 2.50 overall.
2. Completed the Praxis I: Pre-Professional Skills Test (PPST).
3. Personal Liability Insurance which is usually obtained inexpensively through an annual student membership in Education Minnesota.

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits. Students must maintain a minimum GPA of 2.50 throughout their enrollment in the program and must earn a C- or better in all program required courses plus ART 2000 and ECE 2100.

### Liberal Education Requirements

*A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required.*

- ART 2000—Elementary Art, HUMANITIES (3 cr)
- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- ECE 2100—Child Development and Learning, HI/BEH/SSC (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### Technology Requirements (3 cr)

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1012—Application Suite Software (2 cr)

### Early Childhood and Family Core (17 cr)

- ECE 3672—Promoting Children's Physical Health (2 cr)
- ECE 4500—Young Children With Special Needs (3 cr)
- ECE 4730—Understanding and Supporting Parenting (3 cr)
- ECE 4750—Family, School, and Community Relations (3 cr)
- ECE 4880—Administration of Early Childhood Programs (3 cr)
- ED 3670—Foundations of Early Childhood Education (BSU) (3 cr)

### Education Core (9 cr)

- ECE 3901—The Professional Teacher I (0.5 cr)
- ECE 3902—The Professional Teacher II (0.5 cr)
- ED 3100—Introduction to the Foundations of Education (3 cr)
- ED 3110—Educational Psychology (3 cr)
- EDHD 5009—Human Relations: Applied Skills for School and Society (UMTC) (1 cr)
- PUBH 3005—Fundamentals of Alcohol and Drug Abuse (UMTC) (1 cr)

### Infant and Toddler Education Core (13 cr)

- ECE 3410—Learning Environments for Infants and Toddlers (4 cr)
- ECE 3420—Nurturing and Collaborative Relationships for Infants and Toddlers (3 cr)
- ECE 4440—Infant and Toddler Student Teaching (6 cr)

### Preprimary Education Core (17 cr)

- ECE 4700—Developmentally Appropriate Preprimary Education I (3 cr)
- ECE 4702—Developmentally Appropriate Preprimary Education II (3 cr)
- ECE 4811—Preprimary Student Teaching I (4 cr)
- ECE 4812—Preprimary Student Teaching II (K) (4 cr)
- ED 3677—Relations and Management in Early Childhood Education (BSU) (3 cr)

### Program Sub-plans

Students are required to complete one of the following sub-plans.

### Primary Education Emphasis

The primary education emphasis is for students who wish to teach in public school classrooms with kindergarten through third grade.

**Program outcomes**—graduates will

- promote child development/learning
- encourage infant/toddler development/learning
- facilitate preprimary-aged children's development/learning
- facilitate primary-aged children's development/learning
- assist in building family relationships
- document and assess to support young children
- become a reflective professional

The emphasis requires 25 credits and completes requirements for Board of Teaching licensure.

### Primary Education Emphasis Requirements (25 cr)

- ED 3201—Language Arts in the Primary Grades (4 cr)
- ED 3301—Creative Expression in Elementary Education (BSU) (3 cr)
- ED 3870—Mathematics in the Primary Grades (BSU) (3 cr)
- ED 3877—Social Studies and Sciences in the Primary Grades (BSU) (4 cr)
- ED 4827—Primary Student Teaching (8 cr)
- MATH 1011—Mathematics for Elementary School Teachers (BSU), LIB ED ELC (3 cr)

### Program Management Emphasis

The program management emphasis is for students who wish to increase their academic preparation for supervisory, management and/or leadership roles in developmental child care facilities.

**Program outcomes**—graduates will

- promote child development/learning
- encourage infant/toddler development/learning
- facilitate preprimary-aged children's development/learning
- assist in building family relationships
- document and assess to support young children
- become a reflective professional
- demonstrate ability to perform tasks associated with planning, organizing, staffing, leading, monitoring and controlling for quality in childcare programs

The emphasis requires 19 credits without Board of Teaching licensure.

### Program Management Emphasis Requirements (19 cr)

- ACCT 2101—Principles of Accounting I (3 cr)
- ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)
- MGMT 3200—Principles of Management (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)
- 4 credits of electives selected in consultation with and approved by the student's adviser

### Open Electives

*Students must take 2 credits.*



## Equine Science B.S.

### Agriculture Department

Required credits to graduate with this degree: 120 to 124.

Graduates of UMC's equine science program understand and are able to meet the daily care, nutrition, health care, and exercise/training needs of horses in their care. They have the knowledge and skills necessary to succeed in equine or equine-related employment and have the business and management experience necessary to operate an equine or related business. The program balances the practical skills students need to work with and care for horses and the theory required to build a successful career. The focus is on the business and management aspects of the horse industry, thus providing a broad-based education which appeals to employers. Options also exist for students who wish to pursue graduate school or pre-veterinary studies.

**Program outcomes**—graduates will

- demonstrate knowledge of theory and practical experience in physiology, nutrition, health, and reproduction of the horse
- demonstrate a working knowledge of equine ownership responsibility and husbandry
- be able to apply management theories and software and marketing strategies to equine and related enterprises
- demonstrate horsemanship and training skills in a variety of disciplines and discern what methods work most effectively with horses of different temperaments and breeding/conformation
- have practical skills and knowledge that will lead to a variety of employment opportunities in the equine industry

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

### Liberal Education Requirements

A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)
- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)
- MATH 1150—Elementary Statistics, MATH THINK (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)

Take 2 or more credit(s) from the following:

CA 1xxx

### Equine Science Core Requirements

In addition to the courses below, students must take 3 credits of agricultural electives, selected in consultation with an adviser.

- ANSC 1004—Introduction to Animal Science (4 cr)
- ANSC 2104—Feeds and Feeding (4 cr)
- ANSC 3023—Animal Breeding (3 cr)
- ANSC 3104—Applied Animal Nutrition (4 cr)
- ANSC 3203—Animal Anatomy and Physiology (3 cr)
- ANSC 3304—Reproduction, AI, and Lactation (4 cr)
- ANSC 3503—Animal Health and Disease (3 cr)
- BIOL 3022—Principles of Genetics, LIB ED ELC (3 cr)
- EQSC 1202—Equine Evaluation (2 cr)
- EQSC 2102—Horse Production (4 cr)
- EQSC 3403—Equine Exercise Physiology (3 cr)
- EQSC 4102—Equine Management (3 cr)
- GBUS 3107—Legal Environment in Business (3 cr)
- GNAG 4652—Senior Seminar (1 cr)
- GNAG 2899—Pre-Internship Seminar (0.5 cr)  
or GNAG 3899—Pre-Internship Seminar (0.5 cr)
- GNAG 3900—Internship (1–4 cr)
- GNAG 3901—Post Internship Seminar (0.5 cr)

### Program Sub-plans

Students are required to complete one of the following sub-plans.

### Equine Science Emphasis

This emphasis leads graduates to equine careers including management, training/showing, riding instruction, breeding/reproduction, feed production/sales, sales of equestrian equipment or pharmaceutical/health care products, and veterinary technician. Students receive classroom instruction and hands-on experiential learning. Focus is on the business/management aspect of the horse industry. Curriculum includes computer, communications training and sales training. Coursework includes riding instruction, nutrition, breeding, reproduction, horse production, evaluation, feeds, health/disease, management, training/showing, and facilities. Students can take courses specific to their interest.

### Equine Science Emphasis Requirements

- AGEC 3540—Farm Business Management (4 cr)
- AGEC 4750—Agribusiness Marketing (3 cr)
- CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)
- EQSC 3305—Equine Reproductive Techniques (3 cr)
- EQSC 3413—Horse Training and Showing (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
or CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)

## Equine Science Electives

*Students must take 6 or more credit(s) from the following:*

- EQSC 1000—Light Horse Driving (2 cr)
- EQSC 1100—Western Equitation (3 cr)
- EQSC 1200—Hunt Seat & Dressage Equitation (3 cr)
- EQSC 1300—Saddle Seat Equitation (3 cr)
- EQSC 3441—Topics in Advanced Western Equitation (1.5 cr)
- EQSC 3443—Topics in Advanced Equitation Over Fences (1.5 cr)

## Pre-Veterinary Medicine Emphasis

The pre-veterinary medicine emphasis meets the course entry requirements for admission to the University of Minnesota College of Veterinary Medicine; however, similar entry requirements among colleges of veterinary medicine coupled with sufficient flexibility within the curriculum allow graduates to meet the admission requirements for many other institutions. Students who graduate are well prepared to pursue their career goal of becoming a veterinarian. Students are exposed to traditional classroom instruction as well as hands-on/experiential learning in the laboratory.

## Pre-Veterinary Emphasis Requirements

- BIOL 2012—General Zoology, LIB ED ELC (4 cr)
- BIOL 2032—General Microbiology, LIB ED ELC (4 cr)
- CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)
- CHEM 1022—Chemical Principles II, LIB ED ELC (4 cr)
- CHEM 2301—Organic Chemistry I, LIB ED ELC (3 cr)
- CHEM 2310—Organic Chemistry Laboratory I, LIB ED ELC (2 cr)
- CHEM 3021—Biochemistry, LIB ED ELC (3 cr)
- PHYS 1101—Introductory College Physics I, PHYS SCI (4 cr)
- PHYS 1102—Introductory College Physics II, PHYS SCI (4 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- or MATH 1142—Survey of Calculus, MATH THINK (3 cr)

## Pre-Veterinary Electives

*Students must take 3 or more credit(s) from the following:*

- EQSC 1000—Light Horse Driving (2 cr)
- EQSC 1100—Western Equitation (3 cr)
- EQSC 1200—Hunt Seat & Dressage Equitation (3 cr)
- EQSC 1300—Saddle Seat Equitation (3 cr)
- EQSC 3441—Topics in Advanced Western Equitation (1.5 cr)
- EQSC 3443—Topics in Advanced Equitation Over Fences (1.5 cr)

## Golf and Turf Management B.S.

### Natural Resources Department

Required credits to graduate with this degree: 120.

Golf course superintendents and turf grass professionals use technology and talent to balance the needs of people with those of nature. The golf facilities and turf systems degree provides students with skills and experiences to build and maintain functional, recreational, and aesthetically pleasing turf grass environments. Extensive coursework in plant science, horticulture, and turf management helps students develop the technical skills needed to be successful. Complementary courses in facility management and communication provide the fundamentals for managing employees and interacting with customers.

Student learning incorporates hands-on activities along with technological applications in a practical, career-oriented environment. Internships may be completed at golf courses, athletic fields, park and recreation areas, or with industry suppliers. Graduates will hold positions in the golf industry, sports field management, lawn care, sod production, grounds maintenance, sales, or pursue advanced degrees.

*Program outcomes*—graduates will

- demonstrate competencies in turf grass management
- demonstrate problem-solving skills in relation to turf grass pests and fertility issues
- understand the use of integrated pest management and resource preservation
- demonstrate an awareness of the need for continual professional development
- demonstrate skills in written and oral communication and human resource management

## Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

## Program Requirements

Students must complete 40 upper division credits.

### Program Requirements (34 cr)

- BIOL 2022—General Botany, LIB ED ELC (3 cr)
- HORT 1010—Introduction to Horticulture (3 cr)
- HORT 1021—Woody Plant Materials (4 cr)
- NATR 3900—Internship (1–4 cr)
- NATR 3901—Post-Internship Seminar (0.5 cr)
- NATR 4652—Seminar (1 cr)
- PIM 2573—Entomology (3 cr)
- PIM 3230—Introduction to Plant Pathology (3 cr)
- SOIL 1293—Soil Science (3 cr)
- SOIL 3414—Soil Fertility and Plant Nutrition (4 cr)
- SPAN 1104—Beginning Spanish I (4 cr)
- COMM 3008—Business Writing, LIB ED ELC (3 cr)
- or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)
- or COMM 3431—Persuasion, COMMUNICAT (3 cr)
- NATR 2899—Pre-Internship Seminar (0.5 cr)
- or NATR 3899—Pre-Internship Seminar (0.5 cr)

### Major Requirements (21 cr)

- HORT 3040—Landscape Installation and Maintenance (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)
- SPAN 1204—Beginning Spanish II (4 cr)
- TURF 1072—Principles of Turf Management (3 cr)
- TURF 3074—Turf grass Pest Management (3 cr)
- TURF 3076—Turf grass Management Systems (3 cr)
- TURF 3077—Turf and Landscape Irrigation Design and Installation (2 cr)

### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)
- CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)
- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

### Technology Requirements (3 cr)

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1xxx

### Program Electives

*Students must take 12 or more credit(s) from the following:*

- AGRO 2640—Applied Agriculture Chemicals (3 cr)
- ASM 1034—Facility Maintenance and Safety (4 cr)
- ASM 2043—Welding and Manufacturing Processes (3 cr)
- ASM 2250—Agricultural Machinery Management (3 cr)
- ASM 3009—Surveying (4 cr)

BIOL 3131—Plant Physiology, LIB ED ELC (3 cr)  
 CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)  
 HORT 3030—Landscape Design (4 cr)  
 HORT 3031—Herbaceous Perennial Plant Materials (2 cr)  
 HORT 3034—Commercial Floriculture Crops-Spring (4 cr)  
 HORT 3036—Plant Propagation (4 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MGMT 3220—Human Resource Management (3 cr)  
 MGMT 3250—Operations Management (3 cr)  
 NATR 2630—Introduction to Geographic Information Systems (3 cr)  
 NATR 3203—Park and Recreation Management (3 cr)  
 NATR 3344—Land Use Planning (3 cr)  
 NATR 3468—Wildlife Habitat Management Techniques (3 cr)  
 PHYS 1012—Introductory Physics, PHYS SCI, PEOPLE/ENV (4 cr)  
 SRM 3000—Foundations of Sport and Recreation Management (3 cr)  
 SRM 3003—Facility and Equipment Management (3 cr)  
 SWM 3225—Watershed Management (3 cr)

**Open Electives**

*Students must take 10 credits.*

**Health Management B.S.**

**Math, Science and Technology Department**

Required credits to graduate with this degree: 120.

The health management program provides career-entry opportunities for high school graduates and professional advancement opportunities for health care personnel. Career opportunities for students with baccalaureate degrees in health management include management positions in hospitals, long-term care facilities, health maintenance and other managed care organizations, public health departments, community-based and home health agencies, medical equipment companies, government regulatory agencies, and health insurance companies. The health management program focuses on developing managerial, administrative, and computer skills, supplementing those skills with an in-depth knowledge of the health care system. The program prepares graduates to offer managerial excellence to employers.

**Long-Term Care Administration**—The health management program has been approved by the Minnesota Board of Examiners for Nursing Home Administrators and meets Minnesota regulations for long-term health care administration. Health management program graduates are eligible to take the Minnesota licensure examination for nursing home administration.

**Program outcomes**—graduates will

- communicate effectively and work as a team in a health care setting
- demonstrate leadership ability in problem solving, conflict resolution, and change management
- understand the legal, regulatory, and ethical issues inherent to health care
- show the ability to adapt to changing public policy, economic, and financial issues in health care
- demonstrate assessment skills related to improving clinical care and customer service
- understand technology and how to apply it to the workplace

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

**Program Requirements**

Students must complete 40 upper division credits.

**Liberal Education Requirements**

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

**Technology Requirement (3 cr)**

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1xxx

**Health Management Core Requirements (59 cr)**

ACCT 2101—Principles of Accounting I (3 cr)  
 ACCT 2102—Principles of Accounting II (3 cr)  
 CA 1020—Spreadsheet Applications (2 cr)  
 HSM 1010—Medical Terminology (2 cr)  
 HSM 2010—Introduction to Health Services Organizations (2 cr)  
 HSM 3020—Quality Improvement and Risk Management (4 cr)  
 HSM 3030—Health Care and Medical Needs (2 cr)  
 HSM 3100—Essentials of Managed Care (3 cr)  
 HSM 3130—Health Management Information Systems (3 cr)  
 HSM 3200—Health Care Leadership and Planning (4 cr)  
 HSM 3230—Administration of Continuum Care Facilities (3 cr)  
 HSM 3240—Health Care Policy and Comparative Systems (3 cr)  
 HSM 3900—Internship (1–3 cr)  
 HSM 4100—Health Care Finance (3 cr)  
 HSM 4210—Health Care Law and Biomedical Ethics (4 cr)  
 HSM 4212—Regulatory Management (3 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 MGMT 3220—Human Resource Management (3 cr)  
 MKTG 3300—Principles of Marketing (3 cr)

**Computer Applications Electives**

*Students must take 2 credits of CA electives.*

**Electives**

*Students must take 16 credits*

**Health Sciences Pre-Professional B.S.**

**Math, Science and Technology Department**

Required credits to graduate with this degree: 120.

The B.S. in health sciences provides students with the prerequisite knowledge and skills required for admission to professional programs in chiropractic, dentistry, medicine, optometry, occupational therapy, pharmacy, and physical therapy. UMC also provides a two-year pre-nursing course of study. Admission is competitive and specific admission requirements, including courses and experiences, vary by professional program and institution. Completion of the B.S. does not guarantee admission to professional programs at the University of Minnesota or other universities. The course requirements shown are common to similar programs at other institutions; however, students are advised to check with their specific professional program to be sure all prerequisite courses are met. Most professional programs



have additional admission requirements, and students are advised to contact the program(s) to which they plan to apply to identify all admission requirements.

**Program outcomes**—graduates will

- explain and reconstruct the scientific method and can apply this mode of inquiry in a laboratory setting
- explain and apply basic principles of biology in work setting
- demonstrate teamwork skills
- apply, critique, and synthesize protocols from current literature
- demonstrate and critique effective communication skills orally and in writing
- formulate proper data collection and analysis methods
- interpret and practice professional and ethical behavior related to biological research
- identify, provide examples, differentiate, and integrate current biology techniques into their scientific investigations
- produce evidence of their ability to be admitted into health science professional programs

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits. Students work with their adviser to develop an individualized program of study that meets their health science educational goals (pre-chiropractic, pre-dentistry, pre-medicine, pre-occupational therapy, pre-pharmacy, pre-physical therapy).

### Core Curriculum

*These courses are common to all pre-health sciences programs.*

- CHEM 1021—Chemical Principles I, PHYS SCI, PEOPLE/ENV (4 cr)  
 CHEM 1022—Chemical Principles II, LIB ED ELC (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 PHYS 1101—Introductory College Physics I, PHYS SCI (4 cr)  
 PHYS 1102—Introductory College Physics II, PHYS SCI (4 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

## Horticulture B.S.

### Natural Resources Department

Required credits to graduate with this degree: 120.

The B.S. in horticulture is a career-oriented program that combines science-based education, liberal arts education, and technical training. All horticulture students are introduced to botany, woody plants, entomology, plant pathology, and soil science as part of the program requirements. These courses together with liberal arts courses and program specific courses prepare students for careers in the Green Industry. Students select from two emphases: environmental landscaping or horticulture production.

**Program outcomes**—graduates will

- demonstrate competency in identification of plant species, diseases, pests and disorders of horticultural plants

- understand the use of horticultural plants for aesthetic improvement and sustainability of the environment
- apply principles of plant science, nutrition, soils, and pest management, and exhibit an awareness of environmental health and safety issues
- demonstrate an awareness of the need for continuing professional development
- demonstrate communication skills, ability to make sound decisions, and willingness to work as part of a team, providing leadership and accountability
- use computer technology to effectively communicate, manage, and enhance business operations

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

### Technology Requirement (3 cr)

- CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1xxx

### Program Requirements (34 cr)

- BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 HORT 1010—Introduction to Horticulture (3 cr)  
 HORT 1021—Woody Plant Materials (4 cr)  
 NATR 3900—Internship (1–4 cr)  
 NATR 3901—Post-Internship Seminar (0.5 cr)  
 NATR 4652—Seminar (1 cr)  
 PIM 2573—Entomology (3 cr)  
 PIM 3230—Introduction to Plant Pathology (3 cr)  
 SOIL 1293—Soil Science (3 cr)  
 SOIL 3414—Soil Fertility and Plant Nutrition (4 cr)  
 SPAN 1104—Beginning Spanish I (4 cr)  
 NATR 2899—Pre-Internship Seminar (0.5 cr)  
 or NATR 3899—Pre-Internship Seminar (0.5 cr)  
 COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 or COMM 3431—Persuasion, COMMUNICAT (3 cr)

### Program Sub-plans

Students are required to complete one of the following sub-plans.

### Environmental Landscaping Emphasis

The environmental landscaping track includes courses in landscape design, planning and development of residential and commercial landscapes, and plant science. Impact on the environment and sustainability are a major focus as well as appropriate use of plants and proper installation and management of landscape features. Many students include business courses in their elective curriculum to prepare them for all aspects of the industry. Graduates are prepared to be a landscape designer, installer, or

contractor. They may also choose landscape supply sales, nursery management, land reclamation, or garden center management.

**Environmental Landscaping Emphasis Requirements (22 cr)**

- HORT 3030—Landscape Design (4 cr)
- HORT 3031—Herbaceous Perennial Plant Materials (2 cr)
- HORT 3034—Commercial Floriculture Crops-Spring (4 cr)
- HORT 3036—Plant Propagation (4 cr)
- HORT 3040—Landscape Installation and Maintenance (3 cr)
- TURF 1072—Principles of Turf Management (3 cr)
- TURF 3077—Turf and Landscape Irrigation Design and Installation (2 cr)

**Environmental Landscaping Electives**

*Students must take 12 or more credit(s) from the following:*

- ACCT 2101—Principles of Accounting I (3 cr)
- AGRO 2640—Applied Agriculture Chemicals (3 cr)
- ASM 1034—Facility Maintenance and Safety (4 cr)
- ASM 1044—Computer-Aided Drafting (3 cr)
- ASM 3009—Surveying (4 cr)
- BIOL 3131—Plant Physiology, LIB ED ELC (3 cr)
- CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)
- ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)
- HORT 3033—Commercial Floriculture Crops-Fall (4 cr)
- MGMT 3200—Principles of Management (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)
- MGMT 3220—Human Resource Management (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)
- NATR 2630—Introduction to Geographic Information Systems (3 cr)
- NATR 3203—Park and Recreation Management (3 cr)
- NATR 3344—Land Use Planning (3 cr)
- NATR 3364—Plant Taxonomy (3 cr)
- NATR 3374—Ecology, BIOL SCI (4 cr)
- SPAN 1204—Beginning Spanish II (4 cr)
- TURF 3074—Turf grass Pest Management (3 cr)

**Open Electives**

*Students must take 9 credits.*

**Production Horticulture Emphasis**

The production horticulture emphasis concentrates on crops produced in greenhouses or nurseries. Students experience plant propagation, identification of herbaceous plants, cultivation of indoor and outdoor plants and floral design. In greenhouse production courses, students produce crops that are sold to industry businesses. Graduates are employed as greenhouse or nursery growers, garden center managers, garden designers, floral designers, and floriculture extension specialists. Faculty work with students to develop a plan of study tailored to the individual.

**Production Horticulture Emphasis Requirements (23 cr)**

- HORT 1091—Indoor Flowering and Foliage Plants (2 cr)
- HORT 3030—Landscape Design (4 cr)
- HORT 3031—Herbaceous Perennial Plant Materials (2 cr)
- HORT 3033—Commercial Floriculture Crops-Fall (4 cr)
- HORT 3034—Commercial Floriculture Crops-Spring (4 cr)
- HORT 3036—Plant Propagation (4 cr)
- NATR 3364—Plant Taxonomy (3 cr)

**Production Horticulture Electives**

*Students must take 12 or more credit(s) from the following:*

- ACCT 2101—Principles of Accounting I (3 cr)
- AGRO 2640—Applied Agriculture Chemicals (3 cr)

- ASM 1034—Facility Maintenance and Safety (4 cr)
- BIOL 3022—Principles of Genetics, LIB ED ELC (3 cr)
- BIOL 3131—Plant Physiology, LIB ED ELC (3 cr)
- CHEM 1401—Elementary Bioorganic Chemistry, PHYS SCI, PEOPLE/ENV (4 cr)
- ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)
- ENTR 3200—Business Plan Development (3 cr)
- HORT 1092—Floral Design (2 cr)
- HORT 3040—Landscape Installation and Maintenance (3 cr)
- HORT 3093—Advanced Floral Design and Florist Operations (2 cr)
- MGMT 3200—Principles of Management (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)
- MGMT 3220—Human Resource Management (3 cr)
- MKTG 3200—Personal Selling (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)
- PIM 3023—Plant Breeding and Genetics (4 cr)
- SPAN 1204—Beginning Spanish II (4 cr)
- TURF 1072—Principles of Turf Management (3 cr)
- TURF 3077—Turf and Landscape Irrigation Design and Installation (2 cr)

**Open Electives**

*Students must take 8 credits.*

**Horticulture Minor**

**Natural Resources Department**

Required credits in this minor: 18.

The horticulture minor is offered to provide an opportunity for students in other majors (e.g., natural resources related, agronomy, ag business, business management, golf and turf management) to take a selected group of horticulture classes and strengthen their credentials in this area.

**Minor Requirements**

**Core Requirements**

- HORT 1010—Introduction to Horticulture (3 cr)
  - HORT 1021—Woody Plant Materials (4 cr)
  - HORT 3036—Plant Propagation (4 cr)
  - HORT 3033—Commercial Floriculture Crops-Fall (4 cr) *or* HORT 3034—Commercial Floriculture Crops-Spring (4 cr)
- Take 3 or more credit(s) from the following:*
- HORT 3030—Landscape Design (4 cr)
  - HORT 3031—Herbaceous Perennial Plant Materials (2 cr)
  - HORT 1091—Indoor Flowering and Foliage Plants (2 cr)
  - HORT 1092—Floral Design (2 cr)
  - HORT 3093—Advanced Floral Design and Florist Operations (2 cr)
  - HORT 3040—Landscape Installation and Maintenance (3 cr)

**Hotel, Restaurant, and Institutional Management Certificate**

The HRI certificate program is designed to enhance students' job skill through courses that are directly applicable to hospitality management. The program is employment oriented and designed around active, results oriented learning. All courses are online (internet based) for distance delivery. All credits can be applied towards the associate or bachelor's degree. The certificate program provides both depth and breadth.

Students who complete the hotel, restaurant, and institutional management certificate program will be able to

- show competency in industry standards regarding financial accountability;
- demonstrate communication skills appropriate for the industry;

- use critical thinking processes to analyze hospitality systems.

### Certificate Requirements

A minimum of 23 credits is required for completion.

- HRI 1111—Introduction to Food Preparation (3 cr)
- HRI 1112—Sanitation and Safety (2 cr)
- HRI 2231—Menu Design and Analysis (3 cr)
- HRI 3241—Hospitality Selection and Procurement (3 cr)
- HRI 3321—Food Beverage and Labor Control (3 cr)
- HRI 3332—Global Tourism and Marketing (3)
- HRI 3421—Hospitality Law (3 cr)

Select one of the following:

- HRI 2124—Quantity Food Systems Management (4)
- or FSCN 1123—Fundamentals of Nutrition (3)

## Hotel, Restaurant, and Institutional Management A.A.S.

### Business Department

Required credits to graduate with this degree: 64.

The hotel, restaurant, and institutional management program prepares students for supervisory or entry-level management positions in the hospitality industry.

**Program outcomes**—graduates will

- show competency in industry standards regarding financial accountability
- demonstrate communication skills appropriate for the industry
- use critical thinking processes to analyze hospitality systems
- demonstrate collaboration within team settings
- demonstrate appropriate use of technology as used in the hospitality industry

Career positions include front desk supervisor or assistant manager, assistant restaurant manager, assistant banquet manager, housekeeping floor supervisor, assistant manager in university food service cafeteria, food service supervisor in hospital food service, beverage controller, and assistant purchasing steward.

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

#### Liberal Education Requirements

Take 6 credits of liberal education electives, 3 credits of humanities/fine arts electives, 3 credits of math/science electives, and 3 credits of social science electives, selected in consultation with an adviser. Also take the following course.

- COMP 1011—Composition I, COMMUNICAT (3 cr)

#### Technology Requirement

- CA 1010—Introduction to Computer Technology (1 cr)

Take 2 or more credit(s) from the following:

- CA 1xxx

#### Program Requirements

- ACCT 2101—Principles of Accounting I (3 cr)
- HRI 1111—Introduction to Food Preparation (3 cr)
- HRI 1112—Sanitation and Safety (2 cr)
- HRI 3241—Hospitality Selection and Procurement (3 cr)
- HRI 3900—Internship (1–3 cr)
- HRI 4421—Hospitality Law (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)

Take 12 or more credit(s) from the following:

- HRI 2124—Quantity Foods Systems Management (4 cr)
- HRI 2211—Rooms Division Operational Management (3 cr)
- HRI 2231—Menu Design and Analysis (3 cr)
- HRI 3311—Restaurant Operational Management (3 cr)
- HRI 3332—Global Tourism and Marketing (3 cr)
- HRI 3411—Facility Management (3 cr)
- HRI 4321—Food, Beverage, and Labor Control (3 cr)
- HRI 4451—Cases and Trends in Hospitality Management (3 cr)

### Adviser Approved Electives

Students must take 11 credits of adviser approved electives.

## Hotel, Restaurant, and Institutional Management B.S.

### Business Department

Required credits to graduate with this degree: 120.

The hotel, restaurant, and institutional management program at UMC prepares students for managerial positions in the rapidly growing hospitality industry. Students can specialize in working with food, lodging, travel, tourism, and entertainment.

UMC's program offers three distinct areas of emphasis allowing students the flexibility to pursue their individual interests: food service administration, hotel/restaurant management, and resort/spa management. Students graduating with this degree possess the technical and intellectual skills required of the 21st century hospitality professional.

**Program outcomes**—graduates will

- show competency in industry standards regarding financial accountability
- demonstrate communication skills appropriate for the industry
- use critical thinking processes to analyze hospitality systems
- demonstrate collaboration within team settings
- demonstrate appropriate use of technology as used in the hospitality industry

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.



### Program Requirements

Students must complete 40 upper division credits.

#### Hotel, Restaurant, and Institutional Management Program Requirements (39 cr)

*Students must complete 2 separate internships (HRI 3900). Internship I: 1–3 credits; Internship II: 2–3 credits.*

ACCT 2101—Principles of Accounting I (3 cr)  
 ACCT 2102—Principles of Accounting II (3 cr)  
 HRI 1111—Introduction to Food Preparation (3 cr)  
 HRI 1112—Sanitation and Safety (2 cr)  
 HRI 2231—Menu Design and Analysis (3 cr)  
 HRI 3241—Hospitality Selection and Procurement (3 cr)  
 HRI 3900—Internship (1–3 cr)  
 HRI 4321—Food, Beverage, and Labor Control (3 cr)  
 HRI 4421—Hospitality Law (3 cr)  
 HRI 4451—Cases and Trends in Hospitality Management (3 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MKTG 3300—Principles of Marketing (3 cr)  
 SPAN 1104—Beginning Spanish I (4 cr)

#### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

#### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
*Take 2 or more credit(s) from the following:*  
 CA 1xxx

#### Program Sub-plans

Students are required to complete one of the following sub-plans.

#### Food Service Administration Emphasis

Students in this emphasis focus on the daily management of food preparation needs in larger institutions, such as hospitals, schools, universities, managed care facilities, and corporations. The curriculum focuses on quantity food production, nutrition, inventory management, cost control, and developing sanitation and security measures.

#### Food Service Administration Emphasis Requirements (24 cr)

FSCN 1123—Fundamentals of Nutrition (3 cr)  
 FSCN 1273—Medical Nutrition Therapy (4 cr)  
 FSCN 1654—Nutritional Care: Practices and Procedures (3 cr)  
 FSCN 3211—Professional Issues in Dietetics (1 cr)  
 FSCN 3310—Elements of Food Science (3 cr)  
 HRI 2124—Quantity Foods Systems Management (4 cr)  
 HRI 3311—Restaurant Operational Management (3 cr)  
 HRI 3411—Facility Management (3 cr)

#### Open Electives

*Students must take 14 credits.*

#### Hotel/Restaurant Management Emphasis

Managers in this facet of the industry have responsibilities in practically every aspect of the business, but they deal primarily with lodging and meal preparation and the related needs. Majors develop skills that allow them to supervise staff, work in hotel sales and catering, direct banquets for over 1,000 guests, create

and analyze menus, design attractive facilities and surroundings, and perform front office, reservation, and auditing procedures.

#### Hotel/Restaurant Management Emphasis Requirements (25 cr)

GBUS 3107—Legal Environment in Business (3 cr)  
 HRI 1001—Introduction to Hospitality and Tourism (1 cr)  
 HRI 2211—Rooms Division Operational Management (3 cr)  
 HRI 3311—Restaurant Operational Management (3 cr)  
 HRI 3332—Global Tourism and Marketing (3 cr)  
 HRI 3411—Facility Management (3 cr)  
 HRI 4431—Wine, Beverage, and Food Pairing (3 cr)  
 HRI 4441—Catering On and Off Premise (3 cr)  
 MGMT 3100—Managerial Finance (3 cr)

#### Liberal Education Requirements (3 cr)

*Will count towards the 40 credits required in liberal education.*

ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)

#### Open Electives

*Students must take 10–13 credits.*

#### Resort and Spa Management Emphasis

More and more people are discovering the importance of the integrated relationship in health. In this context health is not the absence of illness, but rather the feeling of balance of mind, body, and spirit. The resort and spa management curriculum involves a balance of hospitality management and customer service, business management and marketing, and health, wellness, specialized treatments, and nutrition.

#### Resort and Spa Management Emphasis Requirements (13 cr)

GBUS 3107—Legal Environment in Business (3 cr)  
 HRI 1001—Introduction to Hospitality and Tourism (1 cr)  
 HRI 2211—Rooms Division Operational Management (3 cr)  
 HRI 3332—Global Tourism and Marketing (3 cr)  
 MGMT 3100—Managerial Finance (3 cr)

#### Liberal Education Requirement (3 cr)

*Will count towards the 40 credits required in liberal education.*

ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)

#### Resort and Spa Management Electives

*Students must take 12 or more credit(s) from the following:*

FSCN 1123—Fundamentals of Nutrition (3 cr)  
 FSCN 1273—Medical Nutrition Therapy (4 cr)  
 FSCN 1313—Life Cycle Nutrition (3 cr)  
 HLTH 1062—First Aid and CPR (2 cr)  
 HLTH 1072—Wellness (3 cr)  
 HRI 2124—Quantity Foods Systems Management (4 cr)  
 HRI 3311—Restaurant Operational Management (3 cr)  
 HRI 3411—Facility Management (3 cr)  
 HRI 4431—Wine, Beverage, and Food Pairing (3 cr)  
 HRI 4441—Catering On and Off Premise (3 cr)  
 PER 1451—Fitness for Better Health (1 cr)  
 PER 1461—Physical Training and Conditioning (1 cr)  
 PER 1481—Aerobic Exercise (1 cr)  
 PER 1601—Aquatic Activities (Beg Swim, Adv Beg, Intermediate, Swimmer, Lifeguard Trng/WSI, Aqua Aerobics) (1 cr)  
 SRM 3001—Sports Nutrition (3 cr)  
 SRM 3003—Facility and Equipment Management (3 cr)  
 SRM 3320—Exercise Physiology (3 cr)

#### Open Electives

*Students must take 10–13 credits.*

## Information Management A.A.S.

### Math, Science and Technology Department

Required credits to graduate with this degree: 64.

The two-year information management program offers courses in microcomputer systems, networking and programming basics, accounting and management foundations, and liberal education topics. It prepares graduates for employment as network technicians, systems administrators, Web site developers, and other business positions requiring technology, networking, and computer skills.

**Program outcomes**—graduates will:

- demonstrate abilities in the use of information systems hardware, operating systems, and application software made by industry leading computer companies
- use computer technology to communicate globally for a variety of information and business purposes
- demonstrate clear and concise written and oral communication skills
- demonstrate interpersonal communication skills
- develop and demonstrate an attitude of continuing inquiry and lifelong learning

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

#### Liberal Education Requirements

Take 3 credits of humanities electives, 3 credits of natural science electives, and 3 credits of liberal education electives, selected in consultation with an adviser. Also take the following courses.

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

#### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1011—Introduction to Computer Systems Architecture (2 cr)

### Program Requirements

Take 8 credits of business/technology electives, selected in consultation with an adviser. Also take the following courses.

ACCT 2101—Principles of Accounting I (3 cr)  
 ACCT 2102—Principles of Accounting II (3 cr)  
 CA 1060—Database Applications (2 cr)  
 GBUS 3107—Legal Environment in Business (3 cr)  
 ITM 2050—Introduction to Programming I (3 cr)  
 ITM 2070—Introduction to Programming II (3 cr)  
 ITM 3110—Microcomputer Operating Systems (3 cr)  
 ITM 3120—Networking and Telecommunications (3 cr)  
 MGMT 3200—Principles of Management (3 cr)

## Information Technology Management B.S.

### Math, Science and Technology Department

Required credits to graduate with this degree: 120.

The information technology management program prepares students for technical and management positions in business and industry. Graduates have the knowledge, experience, and skills to succeed in technology related careers as well as the business

and management competencies for mid-management positions such as information technology specialists, application developers, network administrators, Webmasters, technology project and information systems managers.

**Program outcomes**—graduates will

- demonstrate abilities in the use of information systems hardware, operating systems, programming languages, and application software
- use computer technology in preparing programs, presentations, and written reports
- demonstrate the ability to communicate clearly and concisely in written and oral communications through technical reports, solutions to information technology problems, and feasibility studies
- demonstrate human relations and career/life adaptability skills in problem solving, decision making, and responding to change
- demonstrate an environmental perspective in the development of solutions for business and information technology problem solving
- demonstrate global and ethical perspectives in information technology management
- demonstrate an understanding of the role of finance, marketing, and management as job responsibilities of the information technology professional

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

#### Liberal Education Requirements

A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 HUM 3310—Culture and Technology, HUMANITIES, GLOB PERSP (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 PHIL 1001—Introduction to Philosophy, HUMANITIES, ETH/CIV RE (3 cr)  
 PHYS 1101—Introductory College Physics I, PHYS SCI (4 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

#### Technology Requirement

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1011—Introduction to Computer Systems Architecture (2 cr)

#### Information Technology Management Core

ACCT 2101—Principles of Accounting I (3 cr)  
 ACCT 2102—Principles of Accounting II (3 cr)  
 CA 1030—Multimedia Graphics (2 cr)  
 CA 1040—Web Site Development (2 cr)  
 CA 1060—Database Applications (2 cr)  
 CS 2100—Microcomputer Systems Architecture (3 cr)  
 CS 2400—Software Engineering Approach to Human Computer Interaction (3 cr)  
 GBUS 3107—Legal Environment in Business (3 cr)  
 ITM 2050—Introduction to Programming I (3 cr)  
 ITM 2060—Database Management Systems (3 cr)  
 ITM 2070—Introduction to Programming II (3 cr)

ITM 3110—Microcomputer Operating Systems (3 cr)  
 ITM 3120—Networking and Telecommunications (3 cr)  
 ITM 3900—Internship (1–3 cr)  
 ITM 4020—Analysis and Design of Information Systems (3 cr)  
 ITM 4900—Senior Project in Information Technology Management (3 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MGMT 3270—Fundamentals of E-Business (3 cr)  
 MKTG 3300—Principles of Marketing (3 cr)

## Specializations

*Complete one 12-credit specialization.*

Students are required to complete one of the following course groups.

### Application Development

CS 2090—Data Structures and Algorithms (3 cr)  
 CS 2200—Introduction to Software Engineering (3 cr)  
 CS 3200—Software Design and Architecture (3 cr)  
 ITM 3145—HTML/XML (3 cr)  
 -OR-

### Computer Applications

CA 1012—Application Suite Software (2 cr)  
 CA 1015—Word Processing Applications (2 cr)  
 CA 1020—Spreadsheet Applications (2 cr)  
 CA 1055—Animation Software Applications with Flash MX (2 cr)  
 CA 1070—Desktop Publishing (2 cr)  
 CA 1080—Audio-Visual Production Applications (2 cr)  
 -OR-

### Networking and Telecommunications

ITM 3130—Messaging Systems (3 cr)  
 ITM 3190—Topics in Information Technology Management (3 cr)  
 ITM 3200—Internet Standards and Protocols-TCP/IP (3 cr)  
 ITM 3215—Information Assurance and Systems Security (3 cr)

## Information Technology Management Minor

### *Math, Science, and Technology Department*

Required credits in this minor: 18.

An information technology management minor gives students a general background in technology, computer applications, services, and systems.

Students completing the information technology management minor will:

- demonstrate abilities in the use of information systems hardware, operating systems, and industry leading computer applications
- use computer technology in preparing programs, presentations, and written reports
- demonstrate the ability to communicate clearly and concisely in written and oral communications through technical reports, solutions to information technology problems, and feasibility studies
- demonstrate human relations and career/life adaptability skills in problem solving, decision making, and responding to change
- demonstrate an environmental perspective in the development of solutions for business and information technology problem solving
- demonstrate global and ethical perspectives in information technology management

### Minor Requirements

#### Program Core Requirements

ITM 2050—Introduction to Programming I (3 cr)  
 ITM 2060—Database Management Systems (3 cr)

ITM 3110—Microcomputer Operating Systems (3 cr)  
*Take 9 or more credit(s) from the following:*  
 ITM 2070—Introduction to Programming II (3 cr)  
 ITM 3120—Networking and Telecommunications (3 cr)  
 ITM 3130—Messaging Systems (3 cr)  
 ITM 3145—HTML/XML (3 cr)  
 ITM 3190—Topics in Information Technology Management (3 cr)  
 ITM 3200—Internet Standards and Protocols-TCP/IP (3 cr)  
 ITM 3215—Information Assurance and Systems Security (3 cr)  
 ITM 4020—Analysis and Design of Information Systems (3 cr)

## Manufacturing Management Certificate

The manufacturing management certificate is a workplace centered continuing education program designed to meet the increasing demand for management skills in a production based industrial environment. The program content provides an educational base that enables employees to meet the demands of modern management within a technological work setting.

This flexible program fits the schedules of part-time students and students already in the workplace and is offered for credit or noncredit based on the students' background. The courses taken for the certificate program will transfer into the bachelor of manufacturing program.

### Certificate Requirements

*A minimum of 18 credits is required for completion.*

BM 3011—Manufacturing Operations and Logistics (3 cr)  
 BM 4034—Quality Management Systems (3 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 MGMT 4200—Project Management (3 cr)

### Electives (6 cr)

*Courses from two areas are strongly recommended*

BM 3005—Facilities Planning and Selection (3 cr)  
 BM 3012—Applied Engineering Principles (3 cr)  
 BM 3020—Industrial Safety (3 cr)  
 MGMT 3100—Managerial Finance (3 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MGMT 3250—Operations Management (3 cr)  
 MKTG 3300—Principles of Marketing (3 cr)

## Manufacturing Management B.M.M.

### *Business Department*

Required credits to graduate with this degree: 120.

The bachelor of manufacturing management (B.M.M.) is a career-oriented program that prepares students to manage people and machines in a manufacturing environment. Graduates will be able to supervise a manufacturing process, manage human and mechanical resources within budgetary constraints, and assure product quality.

The program is designed to meet the needs of people already in the workplace and two-year graduates who want to continue their education to the bachelor's degree level with seamless integration of prior credits earned. The program is available for in-class instruction on campus and at various locations in Minneapolis and St. Paul as well as through online education. The online education components of the program are delivered through asynchronous electronic communication technologies and self-directed learning.

**Program outcomes**—graduates will

- play a growing role in their workplace especially in supervision and management
- contribute to manufacturing system technology and quality control
- establish a quality control department and train staff to meet quality audits
- develop grades and standards of quality
- set up acceptance sampling and inspection procedures
- prepare quality control charts and reports
- control the movement of materials in the most efficient manner at the right time, to and from the correct place in the required quantity
- do a safety audit through a comprehensive approach to problems of safety in the workplace, including meeting the OSHA standards

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

**Program Requirements**

Students must complete 40 upper division credits.

**Liberal Education Requirements**

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 MATH 1031—College Algebra, MATH THINK (3 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

**Manufacturing Management Core**

ACCT 2101—Principles of Accounting I (3 cr)  
 BM 3012—Applied Engineering Principles (3 cr)  
 BM 3034—Quality Management Systems (3 cr)  
 MGMT 3200—Principles of Management (3 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 MKTG 3300—Principles of Marketing (3 cr)

**Manufacturing Management Options**

Students are required to complete either the additional requirements for the manufacturing management program as listed below or the requirements for the quality management emphasis.

**Manufacturing Management Courses**

*In addition to the courses listed below, students must complete the following:*

13 credits of upper division business/technology credits (ACCT, BM, CS, ENTR, GBUS, ITM, MGMT MKTG) and 59 transfer credits or open electives.

MGMT 3100—Managerial Finance (3 cr)  
 MGMT 3250—Operations Management (3 cr)  
 COMM 3431—Persuasion, COMMUNICAT (3 cr)  
 COMM 3008—Business Writing, LIB ED ELC (3 cr)  
 or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 -OR-

**Quality Management Emphasis**

The quality management emphasis prepares graduates for employment in industry and public regulatory agencies. UMC graduates have the knowledge and skills to contribute to the quality functions at their prospective employers.

Quality management graduates will leave UMC with

- statistical preparation
- foundations in the principles of engineering

- strong communication, critical thinking, and teamwork skills
- effective business management training
- technology skills that meet or exceed industry demands

These skills are essential not only to help secure an entry level position, but also to increase the frequency and likelihood of promotion.

**Quality Management Emphasis Requirements**

*In addition to the courses listed below, students must complete the following: 10 credits of upper division electives (suggested electives include BM 3011, BM 3804, GBUS 3107, MGMT 3100, MGMT 3250) and 58 transfer credits or open electives.*

BM 3006—Maintenance and Safety Management (3 cr)  
 BM 3007—Metrology (3 cr)  
 BM 3008—Regulations and Compliance (3 cr)  
 BM 3009—Quality Auditing Certification (1 cr)  
 BM 3053—Product Development Management (3 cr)  
 COMM 4800—Crisis Communication, LIB ED ELC (3 cr)  
 or COMM 3431—Persuasion, COMMUNICAT (3 cr)

**Marketing and Management A.A.S.****Business Department**

Required credits to graduate with this degree: 64.

The marketing and management program prepares students for supervisory or entry-level management positions in business organizations. Career options include retail store manager, assistant general manager, physical distribution manager, sales representative, purchasing agent, warehouse manager, and consumer service manager.

**Program outcomes**—graduates will

- demonstrate a basic understanding of business decision-making
- demonstrate the ability to communicate effectively
- demonstrate a basic understanding of computer software applications
- demonstrate basic knowledge of ethical/environmental issues
- demonstrate basic knowledge and competency in the application of business management skills
- demonstrate the capability to directly apply basic management leadership skills and principles to functional areas in a variety of career options

**Admission Requirements**

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

**Program Requirements****Liberal Education Requirements**

*Take 3 credits of liberal education electives and 3 credits of humanities/fine arts electives, selected in consultation with an adviser. Also take the following courses.*

COMP 1011—Composition I, COMMUNICAT (3 cr)  
 ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)  
 PSY 1001—General Psychology, HI/BEH/SSC (3 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)  
 or MATH 1031—College Algebra, MATH THINK (3 cr)

**Technology Requirement**

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1020—Spreadsheet Applications (2 cr)

### Program Requirements

Take 16 credits of business/technology electives. *GBUS 1603 and GBUS 1981 are recommended. Also take the following courses.*

- ACCT 2101—Principles of Accounting I (3 cr)
- ACCT 2102—Principles of Accounting II (3 cr)
- ENTR 2200—Introduction to Entrepreneurship and Small Business (3 cr)
- GBUS 3107—Legal Environment in Business (3 cr)
- MGMT 3200—Principles of Management (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)
- MGMT 3900—Internship (1–3 cr)
- MKTG 3250—Promotional Strategies (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)

### Music Minor

#### Arts, Humanities, Social Science Department

Required credits in this minor: 18.

The music minor allows students to develop a concentrated course of studies in the area of music while pursuing a major in another area. It is primarily for students who plan to earn a baccalaureate degree at UMC and who are able to complete the music coursework over a period of at least four years. Students completing the minor may pursue opportunities in teaching beginning to intermediate piano lessons, playing church organ, directing volunteer choirs, directing community musicals, etc. The minor complements all UMC major degree programs.

**Program outcomes**—students develop

- broader knowledge of music
- vocal or instrumental skills for performance
- enhanced appreciation of the performing arts
- skills for part-time employment in music field

#### Minor Requirements

- MUS 1021—Introduction to Music, HUMANITIES, HUMAN DIV (3 cr)
- MUS 1111—Music Theory I: Foundations of Tonal Music, HUMANITIES (3 cr)
- MUS 1121—Music Theory II: Diatonic Tonality, Harmony and Voice Leading, LIB ED ELC (3 cr)

Take 3 or more credit(s) from the following:

- MUS 1011—University Singers, HUMANITIES (1 cr)
  - MUS 1041—Private Music Instruction, HUMANITIES (1 cr)
  - MUS 1042—Private Instruction: Class Piano, HUMANITIES (1 cr)
  - MUS 1051—Band/Pep Band, HUMANITIES (1 cr)
  - MUS 1071—Musical Theater, HUMANITIES (1 cr)
- Take 6 or more credit(s) from the following:
- MUS 3011—University Singers (Choir), HUMANITIES (1 cr)
  - MUS 3029—Music of the Twentieth Century, HUMANITIES, HUMAN DIV (3 cr)
  - MUS 3041—Private Instruction, HUMANITIES (1 cr)
  - MUS 3051—Band/Pep Band, LIB ED ELC (1 cr)
  - MUS 3091—Instrumental and Choral Conducting, LIB ED ELC (2 cr)
  - MUS 3604 {Inactive}

### Natural Resources B.S.

#### Natural Resources Department

Required credits to graduate with this degree: 120.

Concern for managing natural resources is becoming more important each day as a result of increasing human populations and limited natural resources and habitats. Natural resource managers help balance the needs of people with the ability of ecosystems to sustainably support soil, water, forests, wildlife, fish, and recreational resources.

UMC's bachelor of science (B.S.) in natural resources provides an integrated approach to soil and water conservation, wildlife and fisheries management, forestry, and recreation. This combination enables graduates to work with a variety of resources and people and to build a career tailored to their interests. Students select one of the following emphases:

- natural resources management
- wildlife management
- park management
- water resource management
- natural resources law enforcement

**Program outcomes**—graduates will

- apply an integrated approach to resource management that incorporates environmental, economic, and social considerations with a goal of long-term sustainability
- demonstrate appropriate technical knowledge and practical applications necessary for employment in the natural resources field
- perform group problem solving, decision-making, and conflict management activities to function effectively in society
- demonstrate oral and written communication skills appropriate for a beginning natural resource professional
- be aware of the necessity of continuing education/development to be successful in a changing natural resources workplace

#### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

#### Program Requirements

Students must complete 40 upper division credits.





### Liberal Education Requirements

A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required.

BIOL 1009—General Biology, BIOL SCI, PEOPLE/ENV (4 cr)  
 CHEM 1001—Introductory Chemistry, PHYS SCI (4 cr)  
 COMP 1011—Composition I, COMMUNICAT (3 cr)  
 COMP 1013—Composition II, COMMUNICAT (3 cr)  
 PHYS 1012—Introductory Physics, PHYS SCI, PEOPLE/ENV (4 cr)  
 SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### Technology Requirement (3 cr)

CA 1010—Introduction to Computer Technology (1 cr)  
 CA 1xxx

### Natural Resources Program Requirements (33 cr)

COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)  
 MGMT 3210—Supervision and Leadership (3 cr)  
 NATR 1233—Introduction to Natural Resources (3 cr)  
 NATR 1244—Elements of Forestry (4 cr)  
 NATR 2630—Introduction to Geographic Information Systems (3 cr)  
 NATR 3344—Land Use Planning (3 cr)  
 NATR 3364—Plant Taxonomy (3 cr)  
 NATR 3374—Ecology, BIOL SCI (4 cr)  
 NATR 3900—Internship (1–4 cr)  
 NATR 3901—Post-Internship Seminar (0.5 cr)  
 NATR 4652—Seminar (1 cr)  
 SOIL 1293—Soil Science (3 cr)  
 NATR 2899—Pre-Internship Seminar (0.5 cr)  
 or NATR 3899—Pre-Internship Seminar (0.5 cr)

### Program Sub-plans

Students are required to complete one of the following sub-plans.

#### Natural Resources Law Enforcement Emphasis

(A collaborative program with Bemidji State University)

This emphasis provides integrated instruction in natural resources law enforcement. General classes in natural resources, wildlife and fisheries management, recreation, and land use planning are combined with criminal justice/law enforcement classes. After completing coursework and training in first aid and traffic law, students may attend a skills session and take the Minnesota Peace Officer Standards and Training (POST) certification examination.

**Program outcomes**—graduates will

- understand the role of education/law enforcement in natural resource management
- attend the peace officer's skills training academy

#### Natural Resources Law Enforcement Emphasis Requirements (41–42 cr)

CRJS 1120—Criminal Justice and Society (BSU), LIB ED ELC (4 cr)  
 CRJS 3304—Police Process (BSU) (3 cr)  
 CRJS 3305—Judicial Process (BSU), LIB ED ELC (3 cr)  
 CRJS 3320—Juvenile Delinquency and Justice (BSU) (3 cr)  
 CRJS 3334—Criminal Justice Planning (BSU) (3 cr)  
 CRJS 3358—Criminal Law (BSU) (3 cr)  
 CRJS 3359—Criminal Investigation (BSU) (3 cr)  
 CRJS 3360—Criminal Procedure (BSU) (3 cr)  
 CRJS 4100—Applied Ethics (BSU) (3 cr)  
 CRJS 4103—Criminal Justice Diversity (BSU) (3 cr)  
 CRJS 4480—Policing People (BSU) (3 cr)

NATR 3654—Wildlife Ecology and Management (4 cr)  
 BIOL 2012—General Zoology, LIB ED ELC (4 cr)  
 or BIOL 2022—General Botany, LIB ED ELC (3 cr)

### Liberal Education Requirement (3 cr)

Will count towards the 40 credits required in liberal education.

MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

### Open Electives

Students must take 2–3 credits.

### Natural Resources Management Emphasis

This emphasis provides an integrated approach to land use and the conservation of wildlife, fish, forest, and recreation resources. This major is especially appropriate for students seeking a broad understanding of resource management principles and environmental issues. A combination of coursework in natural resources, agriculture, and liberal education prepares students for land management positions in which a balance between environmental, economic, and social concerns is sought.

**Program outcomes**—graduates will

- understand ecological and management principles that apply to wildlife, fish, forest, soil, water, and recreation resources

### Natural Resources Management Emphasis Requirements (26 cr)

ASM 3009—Surveying (4 cr)  
 BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 NATR 3203—Park and Recreation Management (3 cr)  
 NATR 3654—Wildlife Ecology and Management (4 cr)  
 NATR 3660—Prairie Ecosystem Management (2 cr)  
 NATR 3699—Integrated Resource Management (3 cr)  
 SWM 3224—Soil and Water Conservation (4 cr)  
 AGRO 1183—Field Crops: Production Principles (3 cr)  
 or HORT 1010—Introduction to Horticulture (3 cr)

### Liberal Education Requirement

Will count towards the 40 credits required in liberal education.

MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

### Agriculture/Natural Resources Electives

Students must take 9 credits selected in consultation with an adviser.

### Open Electives

Students must take 9 credits.

### Park Management Emphasis

This emphasis provides an integrated approach to park and recreation area management. A combination of natural resources, horticulture, and management courses prepare students for park and resource management positions, typically with federal/state/county/city recreation agencies. A series of wilderness management coursework is delivered collaboratively from the University of Montana School of Forestry. Flexibility in the choice of elective courses in the major allows students to build a customized program that meets their specific career goals.

**Program outcomes**—graduates will

- understand the interrelatedness of and techniques used to manage both visitor use and recreational resources

**Park Management Emphasis Requirements (9 cr)**

BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 NATR 3203—Park and Recreation Management (3 cr)  
 NATR 3699—Integrated Resource Management (3 cr)

**Liberal Education Requirement (3 cr)**

*Will count towards the 40 credits required in liberal education.*

MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

**Agriculture/Natural Resources Electives**

*Students must take 15 credits.*

**Horticulture Electives**

*Students must take 7 credits.*

**Management Electives**

*Students must take 3 credits.*

**Open Electives**

*Students must take 10 credits.*

**Water Resource Management Emphasis**

This emphasis blends courses in natural resources with agriculture, geology, soils, fisheries management, water quality, and land use planning to provide a background focused on water resources. Watersheds studies by land cover and mapping technologies in relationship to field monitoring of lakes and streams.

**Program outcomes**—graduates will

- understand methods of assessing land management practices at the watershed scale and how they affect water quality
- be able to measure and use appropriate water quality parameters to assess the health of aquatic systems
- be able to recommend appropriate land/water management practices to achieve soil conservation and water quality goals

**Water Resource Management Emphasis Requirements (36 cr)**

AGRO 1183—Field Crops: Production Principles (3 cr)  
 ASM 3009—Surveying (4 cr)  
 BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 BIOL 3722—Limnology, LIB ED ELC (3 cr)  
 GEOL 1001—Introductory Geology, PHYS SCI, PEOPLE/ENV (3 cr)  
 NATR 1663—Principles of Fisheries Management (3 cr)  
 NATR 3376—Wetland and Riparian Ecology and Management (3 cr)  
 NATR 3699—Integrated Resource Management (3 cr)  
 SWM 3009—Hydrology and Water Quality (4 cr)  
 SWM 3224—Soil and Water Conservation (4 cr)  
 SWM 3225—Watershed Management (3 cr)

**Liberal Education Requirement (3 cr)**

*Will count towards the 40 credits required in liberal education.*

MATH 1031—College Algebra, MATH THINK (3 cr)  
 or MATH 1150—Elementary Statistics, MATH THINK (3 cr)

**Open Electives**

*Students must take 8 credits.*

**Wildlife Management Emphasis**

This emphasis concentrates on wildlife and habitats. The major focuses on land and wetland habitats and their animal associates with some emphasis on fisheries management. Graduates fulfill the educational requirements for certification as an Associate Wildlife Biologist by The Wildlife Society. Professional relationships and student development are enhanced by a student chapter of The Wildlife Society.

**Program outcomes**—graduates will

- understand the interrelatedness and techniques used to manage vertebrate populations and their habitat
- understand the dynamics of wildlife populations/habitats, and appropriate monitoring techniques

A minimum GPA of 3.00 is required for graduation.

**Wildlife Management Emphasis Requirements (39 cr)**

ANSC 3203—Animal Anatomy and Physiology (3 cr)  
 ASM 1034—Facility Maintenance and Safety (4 cr)  
 ASM 3009—Surveying (4 cr)  
 BIOL 2012—General Zoology, LIB ED ELC (4 cr)  
 BIOL 2022—General Botany, LIB ED ELC (3 cr)  
 NATR 3464—Mammalogy (3 cr)  
 NATR 3466—Ornithology (3 cr)  
 NATR 3468—Wildlife Habitat Management Techniques (3 cr)  
 NATR 3654—Wildlife Ecology and Management (4 cr)  
 NATR 3660—Prairie Ecosystem Management (2 cr)  
 NATR 3699—Integrated Resource Management (3 cr)  
 PIM 3030—Research Techniques (3 cr)

**Liberal Education Requirement (6 cr)**

*Will count towards the 40 credits required in liberal education.*

MATH 1031—College Algebra, MATH THINK (3 cr)  
 MATH 1150—Elementary Statistics, MATH THINK (3 cr)

**Open Electives**

*Students must take 5 credits.*

**Sport and Recreation Management B.S.**

**Business Department**

Required credits to graduate with this degree: 120.

The sport and recreation management program gives students the opportunity to develop knowledge and expertise in sport and recreation with an orientation toward management. It is employment-oriented, designed around active learning and responsive teaching, and technology-driven, focused on communication and human relations.

Program graduates will be able to manage, assist in the management of, or find employment in sport and recreation organizations. Career opportunities include positions in professional sport franchises, sport and recreation facilities, participative sport event management, spectator sport event management, licensed athletic apparel companies, corporate fitness programs, college and university athletic departments, park and tourist attraction sites, community centers, senior centers, health clubs, sport and recreation camps, clinics, and seminars.

**Program outcomes**—graduates will demonstrate

- competencies in general business disciplines (i.e. management, marketing, finance) as related to sport and recreation management
- skills in written and oral communication that relate to the sport and recreation industry
- ability to apply industry-specific technological tools and operating procedures for sport and recreation
- team building skills and the ability to work in groups

### Admission Requirements

For information about UMC admission requirements, visit the UMC Office of Admissions Web site.

### Program Requirements

Students must complete 40 upper division credits.

### Liberal Education Requirements

*A minimum of 40 liberal education credits required. Students must complete the 10 goal areas of the Minnesota Transfer Curriculum with the following specific liberal education courses required:*

- COMP 1011—Composition I, COMMUNICAT (3 cr)
- COMP 1013—Composition II, COMMUNICAT (3 cr)
- ECON 2101—Microeconomics, HI/BEH/SSC (3 cr)
- ECON 2102—Macroeconomics, HI/BEH/SSC (3 cr)
- MATH 1031—College Algebra, MATH THINK (3 cr)
- MATH 1150—Elementary Statistics, MATH THINK (3 cr)
- SPCH 1101—Public Speaking, COMMUNICAT (3 cr)

### Technology Requirement

- CA 1010—Introduction to Computer Technology (1 cr)
- CA 1070—Desktop Publishing (2 cr)

### Sport and Recreation Management Core

- ACCT 2101—Principles of Accounting I (3 cr)
- ACCT 2102—Principles of Accounting II (3 cr)
- GBUS 3107—Legal Environment in Business (3 cr)
- HLTH 1062—First Aid and CPR (2 cr)
- HLTH 1072—Wellness (3 cr)
- MGMT 3100—Managerial Finance (3 cr)
- MGMT 3200—Principles of Management (3 cr)
- MKTG 3250—Promotional Strategies (3 cr)
- MKTG 3300—Principles of Marketing (3 cr)
- SRM 2100—Psychology of Sport (3 cr)
- SRM 2200—Sociology of Sport (3 cr)
- SRM 3000—Foundations of Sport and Recreation Management (3 cr)
- SRM 3002—Sport and Recreation Law (3 cr)
- SRM 3003—Facility and Equipment Management (3 cr)
- SRM 3005—Sports Information and Newsletters (3 cr)
- SRM 3006—Sports Marketing (3 cr)
- SRM 3010—Topics in Coaching (2 cr)
- SRM 3900—Internship in Sport and Recreation Management (1–3 cr)



- SRM 4099—Seminar in Sport and Recreation Management (1 cr)
- COMM 3008—Business Writing, LIB ED ELC (3 cr)  
or COMM 3303—Writing in Your Profession, LIB ED ELC (3 cr)
- MGMT 3210—Supervision and Leadership (3 cr)  
or MGMT 3220—Human Resource Management (3 cr)  
or MGMT 3600—Management Case Studies (3 cr)  
or MKTG 4200—Marketing Research (3 cr)
- Take 4 or more credit(s) from the following:*
- PER 1xxx
- Take 2 or more credit(s) from the following:*
- CA 1xxx
- ITM 1xxx
- ITM 2xxx
- ITM 3xxx
- ITM 4xxx
- MGMT 3xxx
- MGMT 4xxx
- MKTG 3xxx
- MKTG 4xxx

**Course Numbers**

- 0xxx** ..... Courses that do not carry credit toward any University degree.
- 1xxx** ..... Courses primarily for undergraduate students in their first year of study.
- 2xxx** ..... Courses primarily for undergraduate students in their second year of study.
- 3xxx** ..... Courses primarily for undergraduate students in their third year of study.
- 4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.
- 5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

**Course Abbreviations**

Letters following course numbers indicate what term(s) the course is taught:

- f ..... Fall semester
- s ..... Spring semester
- m ..... May session
- su ..... Summer term

Abbreviations in parentheses following a course name indicate the university that offers the course:

- BSU ..... Bemidji State University
- NDSU ..... North Dakota State University
- UMTC ..... University of Minnesota, Twin Cities
- UND ..... University of North Dakota

**Other abbreviations**

- Prereq ..... Course prerequisites
- cr ..... credit
- equiv ..... equivalent
- fr, soph, jr, sr ..... freshman, sophomore, junior, senior

A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means "and."

Courses beginning with 09 cannot be used for credit toward graduation or transfer.

## Accounting (ACCT)

**ACCT 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)

Current topics not covered in regularly offered courses.

**ACCT 2101f,s. Principles of Accounting I.** (3 cr; Stdnt Opt. Prereq–MATH 1031 or MATH 1131)

Concepts of accounting cycle, cash, accounts receivable, inventories, plant assets, payroll, partnerships.

**ACCT 2102s. Principles of Accounting II.** (3 cr; Stdnt Opt. Prereq–2101)

Modern accounting concepts, including cash flow statement and consolidated statements. Introduction to management accounting topics, including cost-volume-profit relationships, costing methods, and variance analysis.

**ACCT 3100f. Introduction to Professional Accounting.** (2 cr; Stdnt Opt. Prereq–2102; may be taken concurrently with 3201)

Emphasizes accounting theory upon which financial accounting is based. Fundamental interrelationships within financial statements.

**ACCT 3201f. Intermediate Accounting I.** (4 cr; Stdnt Opt. Prereq–2101)

Detailed study of discounted cash flow techniques, current and long-term assets, current and long-term liabilities and investments.

**ACCT 3202s. Intermediate Accounting II.** (4 cr; Stdnt Opt. Prereq–3201)

Detailed study of stockholders' equity and statement of cash flows. Several complex financial accounting topics.

**ACCT 3300f. Government Accounting.** (2 cr; Stdnt Opt. Prereq–2102)

Budget preparation, appropriations, conformity to laws, integrity of special funds, preparation of reports/statements.

**ACCT 3301f. Cost Accounting I.** (3 cr; Stdnt Opt. Prereq–2102, composition requirement)

Fundamentals of cost accounting information systems, including cost-volume-profit relationships, costing in service and manufacturing sectors, cost behavior, and budget and variance analysis.

**ACCT 3302s. Cost Accounting II.** (3 cr; Stdnt Opt. Prereq–3301)

Refinements of cost accounting information systems, including management control systems, cost allocation refinements, capital budgeting, and performance measurement.

**ACCT 3321f. Business Law I.** (3 cr; Stdnt Opt. Prereq–Jr)

Principles of law in American legal system. Contracts, sales, secured transactions, agency law, employment law.

**ACCT 3322s. Business Law II.** (3 cr; Stdnt Opt. Prereq–3321)

Negotiable instruments, bank deposits/collection, bankruptcy, suretyship, partnerships, corporations, federal securities law, accountant's legal liability, property, insurance, trust, estates.

**ACCT 3804f,s. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major but not covered in regularly offered courses.

**ACCT 4110s. Advanced Accounting.** (4 cr; Stdnt Opt. Prereq–3202)

Accounting for partnerships, combined corporate entities. Consolidated statements, fiduciary accounting, institutional accounting, international transactions, SEC reporting.

**ACCT 4210f,s. Auditing I.** (3 cr; Stdnt Opt. Prereq–3202)

Duties/responsibilities of auditor, kinds of audits, audit programs. Preparation of audit working papers, compilation of audit data.

**ACCT 4217f. Accounting Theory.** (3 cr; Stdnt Opt. Prereq–3202)

Conceptual framework/structure of accounting theory. Selected Financial Accounting Standard Board statements, other professional literature.

**ACCT 4220s. Accounting Systems.** (3 cr; Stdnt Opt. Prereq–ACCT 3202)

Theory/methodology of analyzing, designing, implementing accounting information systems. Emphasizes integrated data processing, managerial aspects of systems design.

**ACCT 4310s. Auditing II.** (3 cr; Stdnt Opt. Prereq–4210)

Auditor's responsibility/liability, ethics, standards of professional conduct, auditing electronic data systems, applying statistical audit techniques.

**ACCT 4404f. Income Tax I.** (3 cr; Stdnt Opt. Prereq–3202 or instructor consent)

Income tax laws as they relate to individuals.

**ACCT 4405s. Income Tax II.** (3 cr; Stdnt Opt. Prereq–4404)

Income tax as it affects corporations, partnerships, estates, and trusts.

**ACCT 4970f,s,su. Internship.** (2–12 cr [max 12 cr]; Stdnt Opt. Prereq–3202, 3302)

Internship in accounting.

## Aerospace Studies (AS)

**AS 1100f,s. Air Force ROTC Fitness (NDSU).** (1 cr [max 8 cr]; Stdnt Opt)

Benefits of being physically fit, participation in lifetime fitness programs. Achieving/maintaining Air Force and AFROTC fitness standards. Graded version of Enhanced Physical Fitness Training Program.

**AS 1110f. The Air Force Today I (NDSU).** (1 cr; A-F or Aud)

Introduction to the United States Air Force: its characteristics, missions, organization.

**AS 1120s. The Air Force Today II (NDSU).** (1 cr; A-F or Aud)

Continuation of AS 1110. Introduction to the United States Air Force: its characteristics, missions, organization.

**AS 2100f,s. Leadership Laboratory (NDSU).** (1 cr [max 4 cr]; S-N only)

Introduction to/application of Air Force customs/courtesies, drill/ceremonies, military commands. Air Force environment. Opportunities for commissioned officers.

**AS 2110f. Evolution of USAF Air and Space Power I (NDSU).** (1 cr; Stdnt Opt)

Introduction to Air Force heritage/leaders, Quality Air Force concepts, ethics/values, leadership problems. Applying communication skills.

**AS 2120s. Evolution of USAF Air and Space Power II (NDSU).** (1 cr; Stdnt Opt. Prereq–AS 2110)

Introduction to Air Force heritage/leaders, Quality Air Force concepts, ethics/values, leadership problems. Applying communication skills. Prepares cadets for field training. Continuation of 2110.

**AS 3210f. Air Force Leadership/Management I (NDSU).** (3 cr; A-F or Aud)

Introduction to management within USAF. Communication skills (oral/written Air Force formats), interpersonal skills, Quality Air Force concepts.

**AS 3220s. Air Force Leadership/Management II (NDSU).** (3 cr; A-F or Aud. Prereq–3210)

Study of leadership from military perspective. Situational leadership. Contemporary issues, including change management, professional ethics. Officer professional development topics. Case studies. Continuation of 3210.

**AS 4100f,s. Leadership Laboratory (NDSU).** (1 cr [max 4 cr]; S-N only)

Practical development of leadership skills. Students instruct, supervise, lead junior cadets participating in 2100, perform higher-level management functions within cadet corps organization. Supervised lab.

**AS 4410f. Preparation for Active Duty I (NDSU).** (3 cr; A-F or Aud)

National security process, regional studies, advanced leadership ethics, Air Force doctrine, military as profession, officership, military justice, civilian control of military, current issues. Applying communication skills.

**AS 4420s. Preparation for Active Duty II (NDSU).** (3 cr; A-F or Aud. Prereq–4410)

Military as profession, officership, military justice, civilian control of military, current issues. Applying communication skills. Preparation for new officer's first active-duty assignment. Continuation of 4410.

## Agricultural Business (AGBU)

**AGBU 1005s. World Agricultural Food Systems.** (3 cr; Stdnt Opt)

Historical preferences, consumer trends in diverse geographic regions. How global/national policies affect food trade.

**AGBU 3050. Cereal Processing.** (3 cr; Stdnt Opt)

Cereal food systems. Wheat, barley, oats, rye, corn storage. Milling/processing. Baking. Snack foods. Packaging commodities. Other cereals, their processing. Malting/brewing.

**AGBU 3052f,s. Meat and Dairy Processing.** (3 cr; Stdnt Opt)

Packaging/processing dairy/meat. Effects of hygiene/sanitation on product quality. Types of spoilage. Microbial ecology within the industry.

**AGBU 3053s. Product Development Management.** (3 cr; Stdnt Opt. Prereq—Instructor consent)  
Product formulation, ingredient interaction, packaging, analysis, consumer testing, results, data interpretation. Dynamics between new product development, sales, marketing, production.

## Agricultural Economics (AGEC)

**AGEC 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq—Instructor consent)  
Current topics not covered in regularly offered courses.

**AGEC 2530f,s,su. Professional Agriselling.** (3 cr; A-F or Aud)  
Use of technical and agricultural knowledge in agricultural sales. Need-satisfaction approach to selling. Planning and conducting informational meetings, exhibiting at farm and trade shows, importance of service and timeliness in agribusiness, and practice in making agrisales presentations.

**AGEC 3050s. Economics for AgriBusiness Management.** (5 cr; A-F or Aud. Prereq—ECON 2101, ECON 2102 or instructor consent)  
Gathering, organizing, assimilating, applying information applicable to current economic environment. Behavior of individual consumers, resource owners, business firms, market operation in a free enterprise economy. Applying basic economic principles that govern profit. Elements and effects of government policy. Real-world forecasting and planning.

**AGEC 3430f,s. Agricultural Commodity Marketing.** (3 cr; A-F or Aud. Prereq—ECON 2101)  
Process of taking raw agricultural products from the place of initial production to the hands of the consumer. Prices and marketing costs. History and influence of government programs. Cooperatives' roles in agriculture. Marketing strategies of crops and livestock. Using the commodity futures market. Hedging and options.

**AGEC 3540f,s. Farm Business Management.** (4 cr; A-F or Aud. Prereq—ECON 2101, CA 1010)  
Principles of farm accounting. Financial statements, income statements, cash flow statements, depreciation methods, farm income tax, enterprise analysis, farm management decision making, budgeting and planning, computer analysis of farm business.

**AGEC 3640f,s. Agricultural Finance and Valuation.** (4 cr; A-F or Aud. Prereq—[3540 or ACCT 2101], ECON 2101, CA 1010)  
Analysis of investment strategies and financing policies for farm and agribusiness firms and their effect on liquidity, solvency, and profitability. Financial documents, legal aspects of credit, financial intermediaries serving agriculture, property valuation, estate planning.

**AGEC 3804f,s. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq—Jr, Instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**AGEC 4460. International Marketing Problems and Practices.** (4 cr; Stdnt Opt)  
Problems/practices facing companies in international trade. Import/export regulations, exchange rates, business practices/policies.

**AGEC 4750f. Agribusiness Marketing.** (3 cr; Stdnt Opt. Prereq—2530 or instructor consent)  
Role of marketing in agribusiness. Marketing systems/strategies for competitiveness in a rapidly changing marketplace. Identifying strengths/opportunities to create competitive advantage.

**AGEC 4760s. Agribusiness Market Plan Development.** (3 cr; Stdnt Opt. Prereq—4750)  
Students work with agribusiness firm to assess current situation, future challenges/opportunities. Student teams conduct research, analyze results, formulate marketing plan. Findings/recommendations are presented to the business. Capstone course.

**AGEC 4800. Rural Economic Development Practicum.** (3 cr; Stdnt Opt)  
Students develop strategies/program to promote economic development for a real rural community, including implementation/financing plans.

## Agricultural Systems Management (ASM)

**ASM 1021f. Introduction to Agricultural Systems Management.** (2 cr; Stdnt Opt)  
Overview of agricultural mechanization systems (engines, machinery, structures, processes).

**ASM 1034f,s. Facility Maintenance and Safety.** (4 cr; Stdnt Opt)  
Safe operation, working environment for power equipment, structures, utilities, metal fabrication.

**ASM 1044f,s. Computer-Aided Drafting.** (3 cr; Stdnt Opt)  
Sketching/dimensioning architectural/landscape projects. Use of CAD program to develop plan views, floor plans, elevations, pictorials, mechanical drawings.

**ASM 1333. Agricultural Building Construction.** (3 cr; Stdnt Opt)  
Selection/application of wood, concrete, steel building materials. Construction techniques using portable, stationary, hand construction tools. Criteria for quality building construction.

**ASM 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt)  
Current topics not covered in regularly offered courses.

**ASM 2043f,s. Welding and Manufacturing Processes.** (3 cr; Stdnt Opt)  
Arc/gas welding of ferrous/nonferrous metals. TIG/MIG welding. Designs for welding, economics, cost estimating. Project design/construction. Basic metal machining.

**ASM 2053s. Electricity, Controls, and Sensors in Agriculture.** (3 cr; Stdnt Opt)  
Theory and practical application of electricity and electrical controls in agriculture. Selection/maintenance of electrical motors, heating/light/control devices, and sensors.

**ASM 2250f. Agricultural Machinery Management.** (3 cr; Stdnt Opt)  
Mechanical principles. Application of field machinery/power units to varying crop, soil, climatic conditions. Farm management decisions. Introduction to precision agriculture.

**ASM 3002s. Agricultural Mobile Power Systems.** (3 cr; Stdnt Opt. Prereq—PHYS 1001)  
Selecting, testing, maintaining power units for drawbar, PTO, hydraulic applications. Spark/compression ignition systems, drive trains, DC electrical systems, air conditioning systems.

**ASM 3005s. Facilities Planning and Selection.** (3 cr; Stdnt Opt. Prereq—1034, MATH 1031, PHYS 1012)  
Planning facility design. Selecting materials/equipment used in manufacturing and production operations.

**ASM 3009f. Surveying.** (4 cr; Stdnt Opt)  
Principles, statistical methods, theory, applications. Measurement of distance, angles, directions using theodolites, electronic distance measurement, transits, total stations. Exercises in leveling, profiling, topographic mapping, traversing, land/construction surveying. Introduction to photogrammetry, GPS, GIS.

**ASM 3360f. Applications in Precision Agriculture.** (3 cr; Stdnt Opt. Prereq—ITM 1010, SOIL 1293)  
Introduction to applications of precision agriculture. Hands-on practice of mapping fields. Grid sampling techniques. Variable rate applications. Yield mapping/interpretation. Map information.

**ASM 3511s. Yield Monitoring and Data Interpretation.** (1 cr; A-F or Aud. Prereq—ASM 3360)  
Calibration of commercially available yield monitoring equipment. Operation fundamentals of various yield sensors. Interfacing sensors, data loggers, global position devices. Saving, storing, retrieving, pooling yield data. Working with data from multiple vendor models/formats. Use of commercially available software to make yield map interpretation.

**ASM 3512s. Remote Sensing Applications in Precision Agriculture.** (1 cr; Stdnt Opt. Prereq—ASM 3360)  
Fundamentals of remote sensing and satellite imaging in monitoring/managing cropping system variability. Applications of commercial mapping and GIS software in processing/interpreting production scale economic variables.

**ASM 3513s. Precision Farming Data.** (1 cr; Stdnt Opt. Prereq—3360)  
Cropping systems data in precision agriculture. On-farm input/output record keeping, profit analysis using commercial software. On-farm trials/testing of agronomic variables using precision agriculture technologies.

### Course Numbers

**0xxx** ..... Courses that do not carry credit toward any University degree.  
**1xxx** ..... Courses primarily for undergraduate students in their first year of study.  
**2xxx** ..... Courses primarily for undergraduate students in their second year of study.  
**3xxx** ..... Courses primarily for undergraduate students in their third year of study.  
**4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.  
**5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

### Course Abbreviations

Letters following course numbers indicate what term(s) the course is taught:

f ..... Fall semester  
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m ..... May session  
su ..... Summer term

Abbreviations in parentheses following a course name indicate the university that offers the course:

BSU ..... Bemidji State University  
NDSU ..... North Dakota State University  
UMTC ..... University of Minnesota, Twin Cities  
UND ..... University of North Dakota

### Other abbreviations

Prereq ..... Course prerequisites  
cr ..... credit  
equiv ..... equivalent  
fr, soph, jr, sr ..... freshman, sophomore, junior, senior

A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means "and."

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**Course Numbers**

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- 5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

**Course Abbreviations**

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**ASM 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr or instructor consent)  
Topic related to student’s major, not covered in regularly offered courses.

## Agricultural, Food, and Environmental Education (AFEE)

*The following courses are required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers these courses via ITV.*

**AFEE 1001f,s. Intro to Agricultural Education and Extension (UMTC).** (1 cr; A-F or Aud)  
Historical development of agricultural education. Orientation to career opportunities. Areas/expectations of specialization. Issues.

**AFEE 1002s. Principles of Career Planning for Agricultural Professional (UMTC).** (1 cr; A-F or Aud)  
Self-assessment/analysis of interests, skills, abilities. Analysis of occupations, employment potential, employee expectations. Information interviews to examine career options, employment portfolio.

**AFEE 2096s. Professional Practicum in Agricultural Education: Early Experience (UMTC).** (1 cr; A-F or Aud)  
Observe schools, extension offices, agricultural-oriented businesses to learn about work/workplace in agricultural education.

**AFEE 5111f. Agricultural Education: Methods of Teaching (UMTC).** (4 cr; Stdnt Opt)  
Use of teaching resources. Principles of teaching/learning. Problem-solving techniques, lesson plan construction for large group, small group, individual investigations. Student management. Assessment.

**AFEE 5112s. Agricultural Education Program Organization and Curriculum for Youth (UMTC).** (3 cr [max 4 cr]; Stdnt Opt)  
Development of community school program in agriculture, agribusiness, and environmental science that meets graduation outcomes and determines student needs.

**AFEE 5114s. Agricultural Education Teaching Seminar (UMTC).** (1 cr; Stdnt Opt)  
Reflective learning on teacher preparation experience. Issues/problems facing the discipline. Needs for continual preparation, program adjustment.

**AFEE 5116. Coordination of SAE Programs: Work-Based Learning (UMTC).** (2 cr; Stdnt Opt)  
Principles/techniques for coordinating work-based learning and supervised agricultural experience (SAE) in agricultural education. Roots of experiential learning integrated with classroom instruction and coordination.

**AFEE 5118. Strategies for Managing and Advising the FFA Organization (UMTC).** (2 cr; Stdnt Opt)  
Principles/techniques to advise an FFA chapter. Historical/philosophical basis of FFA, organization/structure. Integration with classroom instruction, public relations, recruitment, and administration of FFA chapters.

## Agronomy (AGRO)

**AGRO 1030f,s. Crop and Weed Identification.** (3 cr; A-F or Aud)  
Morphological characteristics used in mature plant, seedling, and seed identification. Identifying economically important crops and weeds throughout the United States in all stages of growth.

**AGRO 1183f,s. Field Crops: Production Principles.** (3 cr; Stdnt Opt)  
Principles and cultural practices used in growing certain row crops, small grains, oil crops, and specialty crops.

**AGRO 1540s. Seed Conditioning and Technology.** (4 cr; A-F or Aud. Prereq–PIM 1030)  
Seed laws and certification standards, purity analysis, germination tests, vigor tests, principles of seed conditioning, and handling equipment. Tours of facilities processing small grains, sunflowers, grasses, and legumes.

**AGRO 2640f. Applied Agriculture Chemicals.** (3 cr; Stdnt Opt. Prereq–1030)  
Applied use of agriculture chemicals. Safety, toxicity, efficacy, phytotoxicity, recommendations, environmental interactions.

**AGRO 2840s. Grain and Seed Evaluation.** (4 cr; A-F or Aud. Prereq–1063)  
Analytical techniques, procedures, and practices used in interpreting official U.S. grain standards. Identifying seeds of crops, weeds, and diseases. Lab practice in grading grain according to the U.S. Standards for Grain. Lab practice in determining grain quality.

**AGRO 3130f. Forages.** (3 cr; A-F or Aud)  
Characteristics, distribution, preservation, and uses of forage crops for pasture, silage, hay, and soil improvement. Cultural practices, disease and insect control, seed production, forage storage. Interrelationships between animals and plants as they relate to selection, production, and utilization of forage crops.

**AGRO 3441s. Topics in Specialty Crop Production.** (1 cr [max 3 cr]; Stdnt Opt. Prereq–PIM 1030)  
Lecture/discussion on one economically important or emerging specialty crop such as potato or sugar beet. Specific crop varies. Land selection, soil fertility, pest control, harvest, storage, quality, marketing.

**AGRO 3444f. Crop Production.** (4 cr; A-F or Aud. Prereq–1183)  
Principles, including best cultural practices for crops of particular economic importance to the region. Oilseed, small grain, and specialty crops.

**AGRO 3620f. Advanced Identification, Seed Analysis, and Grain Grading.** (3 cr; Stdnt Opt. Prereq–[1030, 2840] or instructor consent)  
Advanced techniques in identification, seed analysis, and grain grading.

**AGRO 3640s. Weed Science.** (3 cr; Stdnt Opt. Prereq–[BIOL 1009, CHEM 1401, SOIL 1293] or instructor consent)  
Mechanical, cultural, biological, and chemical weed control practices. Factors affecting control. Classification and modes of action of herbicides, insecticides, fungicides, and plant growth regulators.

## Animal Science (ANSC)

**ANSC 1004f,s. Introduction to Animal Science.** (4 cr; A-F or Aud)  
Survey of the meat animal, dairy, and equine industries. Emphasis on general management principles, health care, breeding, behavior, feeding, and care of dairy cattle, beef cattle, horses, sheep, and swine.

**ANSC 1033f. Introduction to Companion Animals.** (3 cr; Stdnt Opt)  
Companion animal industry. Emphasizes identification, general management principles, health care, breeding, behavior, feeding, and humane care of companion animals.

**ANSC 1101f. Animal Evaluation.** (1 cr [max 3 cr]; Stdnt Opt)  
Conformation, breed characteristics, type, and their importance in evaluation. Techniques of evaluation and interpretation of evaluation data.

**ANSC 1201s. Advanced Animal Evaluation.** (1 cr [max 3 cr]; Stdnt Opt. Prereq–1101)  
Advanced techniques in evaluating and selecting dairy or beef cattle, sheep, and swine. Preparing and delivering oral reasons.

**ANSC 1205s. Beef and Dairy Production Techniques.** (2 cr; Stdnt Opt)  
Skills necessary for successful/economical beef and dairy production.

**ANSC 1206s. Sheep and Swine Production Techniques.** (2 cr; Stdnt Opt)  
Skills necessary for successful/economical sheep/swine production.

**ANSC 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)  
Current topics not covered in regularly offered courses.

**ANSC 2001. Artificial Insemination.** (1 cr; Stdnt Opt)  
Anatomy/physiology, heat detection, hormone function/synchronization, semen storage/handling, AI technique, record keeping, sire selection. Practical technical skills to run AI programs.

**ANSC 2104f. Feeds and Feeding.** (4 cr; Stdnt Opt. Prereq–1004, high school chem or CHEM 1001)  
Identification and use of feed grains, forages, supplemental feeds, and additives. Bushel weights, price, and cost per unit calculations. Moisture content calculations. Factors influencing feed quality, feed value, price, and storage. Digestion, ration formulation, and feed processing methods.

**ANSC 3004f. Livestock Facilities and Environmental Systems.** (3 cr; Stdnt Opt. Prereq–1205 or 1206, MATH 1031, or instructor consent) Effects of environment on animal production. Principles of environmental control. Planning open, partial, and total environmentally controlled systems for livestock. Functional, economic, and environmental considerations. Feed handling systems, waste management alternatives.

**ANSC 3023f. Animal Breeding.** (3 cr; Stdnt Opt. Prereq–BIOL 3022 [may be taken concurrently])

Application of qualitative genetic principles to animal breeding. Introduction to quantitative genetics. Concepts of livestock improvements through breeding/selection systems.

**ANSC 3104s. Applied Animal Nutrition.** (4 cr; Stdnt Opt. Prereq–2104, CHEM 1004 or 1401)

Continuation of digestion/metabolism to include modifications/control. Application of nutritional principles to economical feeding of different farm animal species. Nutrient requirements/modifications due to weather, stress, feeding objectives, environment, and metabolic limitations. Computer formulation of rations.

**ANSC 3203f. Animal Anatomy and Physiology.** (3 cr; Stdnt Opt. Prereq–1004, BIOL 1009)

Anatomy/physiology of several species. Organization of body from cells into tissues/organs. Identification, comparison, and contrast of different species. Growth development/function of selected bodily systems.

**ANSC 3204f. Dairy Production.** (4 cr; A-F or Aud. Prereq–1205 or 1206, 2104)

Growth/development of dairy cattle. Genetics/breeding, dairy nutrition, growth/development of heifer to first calving. Getting cows into production and their subsequent management, including milking management skills.

**ANSC 3205f. Dairy Management Practicum.** (3 cr; Stdnt Opt. Prereq–Sr or instructor consent)

Management and clinical skills, including those unique to large dairy herds.

**ANSC 3303f. Beef Production.** (3 cr; Stdnt Opt. Prereq–ANSC 1205 or 1206, 2104)

Application of technology and information to systems of managing beef operations. Incorporation of economics, farm management, records, and production science in management plans. Computer applications in management.

**ANSC 3304s. Reproduction, AI, and Lactation.** (4 cr; Stdnt Opt. Prereq–3203)

Functions of reproductive organs, fertilization, the estrous cycle and its endocrine control, reproductive efficiency and problems, principles of artificial insemination. Anatomy, physiology, and biochemistry of the mammary gland; mammary growth; initiation of and maintenance of lactation. Milk synthesis and factors influencing the lactation curve.

**ANSC 3441s. Current Topics in Animal Science.** (1 cr; Stdnt Opt. Prereq–ANSC 1203, 2104, 3304 or concurrent enrollment in 3304)

Focus on one economically important or emerging topic in animal science (e.g., swine, sheep, companion animal). Lecture/discussion.

**ANSC 3503s. Animal Health and Disease.** (3 cr; Stdnt Opt. Prereq–3203)

Concepts of health and disease with emphasis on prevention through health plans and enhancing immunity. Influence of environment and other stressors on health and disease.

**ANSC 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major not covered in regularly offered courses.

**ANSC 4204s. Animal Systems Management.** (4 cr; A-F or Aud. Prereq–1205 or 1206, 3004, 3204 or 3303 or instructor consent)

Planning, budgeting (cash, feed, machinery, etc.), and implementing programs; facilities; labor force; and other factors required for operation of modern animal operations. Field trips, planning for existing operations.

## Applied Business (ABUS)

*The following courses are bachelor of applied health (B.A.H.) requirements or offerings. The B.A.H. is a partnership degree with the College of Continuing Education, University of Minnesota Twin Cities campus, which offers these courses via distance delivery.*

**ABUS 4012f,s,su. Problem Solving in Complex Organizations (UMTC).** (3 cr; Stdnt Opt)

Develops open systems perspective. Emphasizes importance of analyzing root causes, effects of problems, solutions across boundaries in the organization. Process analysis introduced as tool for problem solving.

**ABUS 4022f,s,su. Management in Organizations (UMTC).** (3 cr; Stdnt Opt)

Demands on today's managers. Techniques/ideas beyond traditional studies. Focuses on small- to medium-sized organizations. Applying management theory to all levels. Managing in global workplace. Organizational planning, decision making. Organizing resources. Leading/motivating people. Controlling/evaluating organizational activities.

**ABUS 4023f,s,su. Communicating for Results (UMTC).** (3 cr; Stdnt Opt)

Aspects of communication that are essential to being persuasive/influential. Organizing/presenting ideas effectively, strategies for audience analysis, choosing communication methods, appropriately using informal influence, handling dissent.

**ABUS 4104f,s,su. Management and Human Resource Practices (UMTC).** (3 cr; Stdnt Opt)

Overview of human resource practices in organizations, responsibilities of front-line managers. Emphasizes providing day-to-day leadership: organizing work, motivating employees, delegating, coordinating, achieving results.

## Applied Studies (APLS)

**APLS 3001f,s. Individual Program Development.** (.5 cr; Stdnt Opt. Prereq–Acceptance into Applied Studies degree program)

Developing degree outcomes relevant to career objectives and designing an individual program of study for the Applied Studies baccalaureate degree.

**APLS 3900f,s,su. Internship/Field Experience.** (1–3 cr [max 3 cr]; Stdnt Opt. Prereq–APLS 3001, adviser consent)

Supervised professional work experience in selected sites. Reports and consultation with faculty adviser and employer.

**APLS 4652f. Applied Studies Seminar.** (2.50 cr; Stdnt Opt. Prereq–APLS 3001, within 1 semester of graduation, adviser consent)

Capstone course. Students present projects demonstrating integration of fields of study, general education, work experience, and computer applications.

## Art (ART)

**ART 1152f,s. Drawing and Design.** (1–3 cr [max 3 cr]; Stdnt Opt)

Introduces foundations of drawing/design. Offered as 1-credit art appreciation lecture or as 3-credit studio lab/lecture. Lecture studies concepts/history of drawing/design. Studio work is practical application.

**ART 1252s. Color and Design.** (1–3 cr [max 3 cr]; Stdnt Opt)

Introduces foundations of color (painting) and design. Offered as 1-credit art appreciation lecture or as 3-credit studio lab/lecture. Lecture studies concepts/history of drawing/design. Studio work is practical application.

**ART 1352f,s. Art Design and Techniques.** (1–3 cr [max 3 cr]; Stdnt Opt)

Introduces foundations of art techniques (3-dimensional) and design. Offered as 1-credit art appreciation lecture or as 3-credit studio lab/lecture. Lecture studies concepts/history of drawing/design. Studio work is practical application.

**ART 2000f. Elementary Art.** (3 cr; Stdnt Opt)

How art can provide a means for children to develop their inherent creative abilities. Studio experience for putting methods into practice.

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**4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.

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### Other abbreviations

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cr ..... credit

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fr, soph, jr, sr ..... freshman, sophomore, junior, senior

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## Aviation (AVIA)

**AVIA 1103f. Introduction to Aviation.** (4 cr; Stdnt Opt)

Preparation for FAA private pilot written exam. FAA regulations, weather, radio navigation, flight safety, emergency procedures.

**AVIA 1104f,s. Introduction to Aviation Flight Lab.** (1 cr; Stdnt Opt)

Prereq-1103 or concurrent enrollment in 1103)  
Flight lab lessons leading to private pilot certificate. Flight lessons must be completed or private pilot certificate received before course credit is issued.

**AVIA 1221f. Basic Attitude Instrument Flying.** (3 cr; A-F or Aud.

Prereq-1103, 1104 or instructor consent)  
Operation, interpretation, and practical use of VOR, ADF, DME, RNAV, RMI, HSI, and GPS systems. Instrument charts required for IFR flight. Students must demonstrate adequate progress on flight lessons.

**AVIA 1222s. IFR Regulations and Procedures.** (3 cr; A-F or Aud.

Prereq-1221)  
Regulations, procedures, publications for operating IFR in national airspace system. Terminal/en route procedures. Students must demonstrate adequate progress on flight lessons.

**AVIA 1396f,s. Conventional Aircraft Operations.** (1 cr; A-F or Aud.

Prereq-1103, 1104 or instructor consent)  
Ground school, dual flight instruction for endorsement for operation of tail wheel airplanes on ground, in flight.

**AVIA 1803f,s,su. Directed Studies.** (1-3 cr [max 6 cr]; Stdnt Opt)

Prereq-Instructor consent)  
Current topics not covered in regularly offered courses.

**AVIA 3323f. Airplane Aerodynamics.** (3 cr; A-F or Aud. Prereq-1221,

1222)  
Aerodynamics, performance, stability, control, weight/balance, special flight conditions as appropriate for commercial pilots. Commercial maneuvers, flight computers, commercial regulations. Students must demonstrate adequate progress on flight lessons.

**AVIA 3324s. Aircraft Systems and Instruments.** (3 cr; A-F or Aud.

Prereq-1103, 1104 or instructor consent)  
Flight instruments, reciprocating engines. Propeller, electrical, environmental, hydraulic, pneumatic, fuel, ignition, lubrication, and pressurization systems. Commercial regulations, including FARs part 61, 91, 121, and 135.

**AVIA 3355f,s. Multiengine Systems and Procedures.** (2 cr; A-F or Aud.

Prereq-Instructor consent; offered on-demand)  
Operating light twin-engine airplanes. Pilot actions for managing normal/abnormal aircraft situations. Multiengine aircraft systems. Students must complete flight lessons.

**AVIA 3396f,s. Advanced Conventional Aircraft Operations (UND).** (1 cr;

A-F or Aud. Prereq-1396)  
Ground school, dual flight instruction for advanced pilot maneuvering, flight applications of tail wheel airplanes. Students must complete flight lessons.

**AVIA 3400f,s. Emergency Maneuver Training.** (1 cr; Stdnt Opt.

Prereq-1103, 1104, 1396)  
Introduction/exploration of high-angle of attack flight. Emphasizes recognition/recovery from unusual attitudes, control failures, and in-flight emergencies.

**AVIA 3412f,s. CFI Certification.** (4 cr; Stdnt Opt. Prereq-3323, 3324, or

instructor consent)  
Preparation for FAA Certified Flight Instructor written tests. Flight instructor responsibilities, teaching concerns, effective teaching methods, learning process, flight training syllabi, effective evaluations. Offered on demand.

**AVIA 3413f,s. CFI Certification Flight Lab.** (1 cr; Stdnt Opt. Prereq-3412)

Flight lab lessons leading to Certified Flight Instructor Certificate. Flight lessons must be completed or certificate received before course credit is issued.

**AVIA 3415f,s. Instrument CFI Certification.** (4 cr; A-F or Aud.

Prereq-3412, 3413; offered on demand)  
Instrument flight instructor responsibilities and techniques. Additional study of instrument flight, ATC system, charts, publications, and rules of IFR environment as they pertain to teaching. Practical teaching experience. Students must complete the instrument rating for a flight instructor certificate.

**AVIA 3602s. Natural Resources and Enforcement Applications.** (2 cr; A-F or Aud)

Mission specific knowledge/skills in natural resources and law enforcement aviation. History/purposes, authority, operations, safety, records. Equipment and best practices for natural resources and law enforcement aviators.

**AVIA 3603s. Aerial Application.** (3 cr; A-F or Aud. Prereq-3323, 3324)

State/federal regulations, aircraft performance, weight/balance determination, special techniques. Chemical precautions and rate calculations. Environmental issues. Flight training in aerial application procedures. Students must complete appropriate flight lessons.

**AVIA 3804f,su. Individual Studies.** (1-3 cr [max 6 cr]; Stdnt Opt.

Prereq-Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

## Bachelor of Manufacturing (BM)

**BM 3005s. Facilities Planning and Selection.** (3 cr; Stdnt Opt.)

Planning facility design. Selecting materials/equipment used in manufacturing and production operations.

**BM 3006. Maintenance and Safety Management.** (3 cr; Stdnt Opt.

Prereq-MATH 1150)  
Reliability, predictive techniques, non-destructive testing, equipment effectiveness, operator/employee education, maintenance project management, failure analysis, troubleshooting methods, workplace safety.

**BM 3007s. Metrology.** (3 cr; Stdnt Opt)

Instrument calibration, reading engineering standards, precision measurement, geometric dimensioning/tolerancing, graphical inspection analysis, measuring tools, surface plate inspection methods.

**BM 3008. Regulations and Compliance.** (3 cr; Stdnt Opt)

Contributions by Demming, Juran, Ishikawa, Feigenbaum, Crosby, and Taguchi. Global quality. International standards, including ANSI and ISO. Strategic quality planning, six-sigma management tools.

**BM 3009. Quality Auditing Certification.** (1 cr; Stdnt Opt)

Key steps in audit process. Quality system audits, audit teams, conducting an audit, reporting, corrective action.

**BM 3011f,s. Manufacturing Operations and Logistics.** (3 cr; Stdnt Opt.

Prereq-BIOL 1020, MATH 1031, PHYS 1012)  
Flow/handling of material through storage/production. Focuses on processing lines, equipment characteristics, and design.

**BM 3012f. Applied Engineering Principles.** (3 cr; Stdnt Opt)

Overview of electrical systems, motors, lighting, floors, walls, drains, boilers, heat transfer systems, and hydraulic systems in manufacturing/food industry facilities.

**BM 3020f,s. Industrial Safety.** (3 cr; A-F or Aud. Prereq-PMTC 2800

[Northwest Technical College])  
Comprehensive approach to safety problems in the workplace, including OSHA standards, attitude development, safety auditing, and hazard analysis.

**BM 3034f,s. Quality Management Systems.** (3 cr; Stdnt Opt)

Managing responsibilities of a quality standards department. Development of grades/standards of quality, acceptance sampling/inspection, recording, reporting/use of control charts.

**BM 3053s. Product Development Management.** (3 cr; Stdnt Opt)

Quality assurance aspects of development process. Methods to identify opportunities for improvement. Dynamic input from consumers via sales/marketing. Designing/manufacturing a product/service with quality parameters that consumers would purchase.

**BM 3804f,s,su. Individual Studies.** (1-3 cr [max 6 cr]; A-F or Aud.

Prereq-Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**BM 3900s,su. Internship.** (1-3 cr [max 3 cr]; A-F or Aud. Prereq-Jr)

Supervised professional work experience in manufacturing plant situations to help students gain an in-depth understanding of their field of study. Reports and consultations with faculty advisers and employers.



## Biology (BIOL)

**BIOL 1001f. Nature of Life.** (1 cr; Stdnt Opt. Prereq–Biology major)  
Introduction to biology program, faculty, coursework, and expectations.

**BIOL 1009f,s. General Biology.** (4 cr; Stdnt Opt. Prereq–High school science courses)

Major concepts of modern biology. Molecular structure of living things, energy recruitment/utilization, flow of genetic information through organisms/populations. Principles of inheritance, ecology, and evolution. Includes lab.

**BIOL 1020f,s,su. Microbiology.** (3 cr; Stdnt Opt. Prereq–High school biology)

Morphology, classification, growth requirements, transmission, control, and culturing of bacteria and other microorganisms of economic importance.

**BIOL 2012s. General Zoology.** (4 cr; Stdnt Opt. Prereq–1009)

Major animal groups (phyla). Applications of morphological, physiological, and developmental characteristics to define evolutionary relationships. Parasitic forms affecting human welfare. Lab requires dissection, including mammals.

**BIOL 2022f,s. General Botany.** (3 cr; Stdnt Opt. Prereq–1009)

Principles of plant biology. Organization, function, growth/development, and reproductive biology of plants and plant-like organisms. Lab included.

**BIOL 2032f. General Microbiology.** (4 cr; Stdnt Opt. Prereq–BIOL 1009 or 1464, CHEM 1001 or 1021)

Fundamental principles of microbiology. Bacterial metabolism, growth, and genetics. Biology of viruses/fungi. Microorganisms and disease. Applied microbiology.

**BIOL 2103f. Human Anatomy and Physiology I.** (4 cr; Stdnt Opt. Prereq–1009)

Systems approach to anatomical structures and physiological functions of human body. Key concepts at chemical, cellular, tissue, and organ levels. Emphasizes spatial relationships of structures and their related functions within integumentary, skeletal, muscular, nervous and endocrine systems. Lab.

**BIOL 2104s. Human Anatomy and Physiology II.** (4 cr; Stdnt Opt. Prereq–1009)

Systems approach to anatomical structures and physiological functions of human body. Emphasizes spatial relationships of structures and their related functions within circulatory, lymphatic, respiratory, and digestive systems. Metabolism, nutrition, urinary/reproductive systems, human development. Genetics concepts. Lab.

**BIOL 3022s. Principles of Genetics.** (3 cr; Stdnt Opt. Prereq–BIOL 1009, CHEM 1021 or 1401, MATH 1031 or 1131 or 1150)

Basic principles of Mendelian, molecular, and population genetics. Computer simulations/models used to study aberrations and their implications.

**BIOL 3027f. Cell Biology.** (3 cr; Stdnt Opt. Prereq–1009, [1401 or CHEM 1021])

Structure/function of prokaryotic/eukaryotic cells, including cell surface, membranes, organelles, cytoskeleton, cell growth, cell physiology, experimental methods used in cell studies. Lab includes contemporary cell biology research techniques, hypothesis testing, and communication of results.

**BIOL 3122s. Evolution.** (3 cr; Stdnt Opt. Prereq–1009)

Origin, history, opposition, and evidence supporting evolutionary ideas. Origin of life, phylogeny, biological history, mechanisms of evolutionary change, population genetics, speciation, tempo of evolution, macroevolution, extinction, biogeography.

**BIOL 3131s. Plant Physiology.** (3 cr; Stdnt Opt. Prereq–2022, CHEM 1401)

Plant functions with emphasis on higher plants. Growth and development, mineral nutrition, translocation, water relations, photosynthesis, and nitrogen metabolism.

**BIOL 3140f. Histology.** (4 cr; Stdnt Opt. Prereq–1474 or 3027 or consent of instructor)

Microscopic examination of morphological characteristics of human tissues, organs, and blood cells. Lab.

**BIOL 3420su. Aquatic Toxicology.** (3 cr; Stdnt Opt. Prereq–1009, CHEM 1401, PHYS 1012, [1131 or 1150 or MATH 1031])

Principles of aquatic toxicology. Focuses on environmental, industrial, and natural chemicals. Fate/interactions of chemicals with organisms and the aquatic environment. Insecticides, endocrine disruptors, biomarkers/bioassays, risk assessment.

**BIOL 3464f. Mammalogy.** (3 cr; Stdnt Opt. Prereq–2012)

Classification, reproduction, physiology, behavior, ecological adaptations, zoogeography of mammals. Emphasizes techniques used in field/laboratory studies.

**BIOL 3466s. Ornithology.** (3 cr; Stdnt Opt. Prereq–2012)

Classification, reproduction, physiology, behavior, ecological adaptations, zoogeography of birds. Emphasizes techniques used in field/laboratory studies.

**BIOL 3720f. Plant Form and Function.** (3 cr; Stdnt Opt. Prereq–2022)

Structure, function, and development of vascular plants. Interrelationships between anatomical structures and physiological processes. How plants cope with environmental challenges. Lecture, lab.

**BIOL 3722s. Limnology.** (3 cr; Stdnt Opt. Prereq–BIOL 2022, CHEM 1001, PHYS 1012, MATH 1031 or 1131 or 1150)

Description/analysis of events in lakes, streams, and ponds, beginning with their origins and progressing through their physics, chemistry, and biology. These parameters interrelated with population of aquatic environment.

**BIOL 3822s. Techniques in Molecular Biology.** (4 cr; Stdnt Opt.

Prereq–2032, 3022, [CHEM 3021 or concurrent registration in CHEM 3021]) Basic recombinant DNA techniques. Methods for growing, isolating, and purifying recombinant DNA and cloning vectors. DNA sequencing, sequence analysis. Gene expression. Polymerase chain reaction (PCR). Other current techniques. Lab.

**BIOL 3899f,s,su. Pre-Internship Seminar.** (.5 cr; Stdnt Opt)

Expectations/responsibilities of internships. Preparing for a job search. Presentations about internship experiences by those who have recently completed 3900. Discussions between students, staff, and invited guests.

**BIOL 3900f,s,su. Internship.** (1-2 cr [max 2 cr]; Stdnt Opt. Prereq–3899, department approval, consent of instructor)

Credit given for professional work experience outside an academic department.

**BIOL 3901f,s,su. Post-Internship Seminar.** (.5 cr; Stdnt Opt. Prereq–3900)

Students who have recently completed internships prepare/deliver PowerPoint presentation on experience/knowledge gained. Discussions between post-/pre-internship students, staff, and invited guests.

**BIOL 3994f,s,su. Undergraduate Research.** (1–3 cr [max 3 cr]; Stdnt Opt. Prereq–instructor consent)

Advanced independent work in special fields.

**BIOL 4101f,s. Biology Seminar.** (1 cr; Stdnt Opt. Prereq–Sr)

Survey of current literature. Preparation/presentation of selected topics. Evaluation of seminars. Utilizing contemporary research/presentation technologies.

## Chemistry (CHEM)

**CHEM 992f. Basic Chemistry.** (0 cr; A-F or Aud. Prereq–High school algebra)

Measurements, metric system. Atomic/molecular structure, nomenclature, balancing chemical equations.

**CHEM 1001f,s. Introductory Chemistry.** (4 cr; Stdnt Opt. Prereq–High school algebra, high school chem)

For students who do not need professional-level general chemistry. Atomic and molecular structure, inorganic nomenclature, chemical equations, quantitative relationships, behavior of gases, phases of matter, solution chemistry, chemical dynamics, acid/base chemistry, oxidation-reduction process, nuclear processes, introduction to organic and biochemistry.

**CHEM 1021f,s. Chemical Principles I.** (4 cr; Stdnt Opt. Prereq–CHEM 1001)

Concepts of inorganic chemistry, atomic theory/structure, periodicity of elements. Basic rules of oxidation and chemical combination. Molecular structure (hybridization, molecular orbitals). Thermochemistry, gases, solution process, colligative properties.

**CHEM 1022s. Chemical Principles II.** (4 cr; Stdnt Opt. Prereq–CHEM 1021 minimum C grade)

Behavior of gases, thermodynamics, properties of solutions, solution equilibria, and oxidation/reduction reactions. Rigorous course: develops chemical foundations required in some agriculture, environmental, and preprofessional programs.

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**CHEM 1401f. Elementary Bioorganic Chemistry.** (4 cr; Stdnt Opt. Prereq=1001 or 1022)  
Organic chemistry as applied to important biochemical molecules.

**CHEM 2301f. Organic Chemistry I.** (3 cr; Stdnt Opt. Prereq=1022)  
Important classes of organic compounds, their structures/reactions. Relation between structure, reactivity, and properties. Spectroscopic characterization of organic molecules.

**CHEM 2302s. Organic Chemistry II.** (3 cr; Stdnt Opt. Prereq=2301)  
Reactions, synthesis, and characterization of organic compounds and biologically significant classes of organic compounds (lipids, carbohydrates, amino acids, proteins, nucleic acids).

**CHEM 2310f. Organic Chemistry Laboratory I.** (2 cr; Stdnt Opt. Prereq=2301 or concurrent registration)  
Laboratory techniques in synthesis, purification, and characterization of organic compounds.

**CHEM 2311s. Organic Chemistry Laboratory II.** (2 cr; Stdnt Opt. Prereq=2310, concurrent enrollment in 2302)  
Lab techniques in synthesis, purification, and characterization of organic compounds.

**CHEM 3021s. Biochemistry.** (3 cr; Stdnt Opt. Prereq=BIOL 1009, CHEM 2301)  
Fundamentals of biochemistry. Structure/function of proteins, nucleic acids, lipids, and carbohydrates. Metabolism, regulation of metabolism. Quantitative treatments of chemistry equilibria, enzyme catalysis, and bioenergetics. Chemistry basis of genetic information.

## Communication (COMM)

**COMM 2002f. Interpersonal and Group Processes.** (3 cr; Stdnt Opt)  
Interpersonal/group dynamics/relationships.

**COMM 2223f,s,su. English Grammar and Usage.** (3 cr; Stdnt Opt. Prereq=COMP 1013)  
Grammar, grammatical concepts. Analysis of processes and structural rules that describe how words combine with each other to form sentences. Practice in sentence diagraming.

**COMM 2334f. Communication Topics.** (3 cr; A-F or Aud. Prereq=COMP 1013)  
Applying writing process to professional communication situations. Dissemination products containing text/visuals meeting professional community standards.

**COMM 2434f. Oral Interpretation and Performance Techniques.** (3 cr; Stdnt Opt)  
Analyzing prose, poetry, and drama. Preparing material for presentation. Giving stimulating oral readings to an audience. Critical appreciation of literature, use of voice/gesture. Critiquing performances.

**COMM 3000s. Communication Theory.** (3 cr; Stdnt Opt. Prereq=COMP 1013, SPCH 1101)  
Identifying, defining, synthesizing, applying, and critiquing communication theories. Focuses on relationship between theory/practice within interpersonal, group, organizational, and societal settings.

**COMM 3001f. Communication in Human Relationships.** (3 cr; Stdnt Opt)  
Anti-relational/relational communication, interpersonal/group processes, conflict management, collaboration, team building, and leadership.

**COMM 3008s. Business Writing.** (3 cr; Stdnt Opt. Prereq=COMP 1013, SPCH 1101)

Practical application of writing effective business letters, memos, e-mails, faxes. Tables, other graphics. Informal/formal informational/analytical reports. Professional oral/Web presentations. Development of personal writing style. Practice of appropriate business tone, etiquette.

**COMM 3258s. Research Methods in Communication.** (3 cr; Stdnt Opt. Prereq=COMP 1013, MATH 1150, SPCH 1101)

Elements/methods of communication research. Use of quantitative/qualitative research methodologies, basic research design, and data collection methods to inform decision making within organizations.

**COMM 3303f,s. Writing in Your Profession.** (3 cr; A-F or Aud. Prereq=COMP 1011, 1013)

Writing about subjects related to students' academic disciplines and future professions. Developing persuasive writing skills for academic, personal, and professional purposes. Effective communication principles, audiences, formats, and technologies.

**COMM 3431f,s,su. Persuasion.** (3 cr; Stdnt Opt. Prereq=SPCH 1101)  
Persuasion in interpersonal, organizational, intra-/inter-cultural relationships. Contemporary persuasion with historical segments. Focuses on argumentative claims and how to analyze and respond coherently to them.

**COMM 3537s. Visual Communication.** (3 cr; Stdnt Opt. Prereq=CA 1030, 1040, COMP 1013, SPCH 1101)

Visual delivery of end-products in professional communication. Classical/contemporary theories of visual delivery. Designing visual delivery to reflect personal philosophy of communication. Integrating visual delivery system with text to meet professional/client standards.

**COMM 3704f. Business and Professional Speaking.** (3 cr; Stdnt Opt. Prereq=COMP 1013, SPCH 1101)

Developing proficiency in communication/presentation skills in business contexts. Preparing, selecting, organizing, designing, and delivering oral messages in business situations. Meeting/group facilitation, interviewing, and professional presentations.

**COMM 3804f,s,su. Individual Studies.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq=Jr or instructor consent)

Topic related to student's major, not covered in regularly offered courses.

**COMM 3855f,s. Topics in Communication.** (3 cr; Stdnt Opt. Prereq=Jr)

Current trends/practices in communication. Editing, training, event planning, political communication.

**COMM 3900f,s,su. Internship.** (3 cr [max 6 cr]; A-F only)

Internship sites may include a university, industry, or government agency. Internship proposal, progress report, and final report with letter from internship supervisor are required.

**COMM 4703f. Communication Ethics.** (3 cr; Stdnt Opt. Prereq=COMP 1013, SPCH 1101)

Literature pertaining to ethics in organizations. Relativism, subjectivism, objectivism, utilitarianism, Kantianism, virtue ethics, existentialism.

**COMM 4704s. Organizational Communication.** (3 cr; Stdnt Opt. Prereq=3000, COMP 1013, SPCH 1101)

Using communication processes to create/maintain organizations (e.g., meetings, employee assimilation, interpersonal relationships, decision making, leadership, etc.). Recognizing/identifying communication issues in organizations and applying organizational communication concepts, models, tools, and theories to resolve them.

**COMM 4800f. Crisis Communication.** (3 cr; Stdnt Opt. Prereq=COMP 1013, SPCH 1101)

Organizational crises, disasters, and emergency situations. Existing academic literature, everyday media literature. Focuses on appropriate communication strategies, written composition, and delivery of speeches.

**COMM 4802s. Publication Design and Management.** (3 cr; Stdnt Opt. Prereq=CA 1030, 1040, COMP 1013, SPCH 1101)

Applying project management principles to manage a publication from concept to final product. Design principles, desktop publishing software, audience analysis, usability testing, production. Using table presentations to communicate process and final product to clients/guests.

**COMM 4900s. Public Relations.** (3 cr; Stdnt Opt. Prereq=COMP 1013, SPCH 1101)

Overview of theory, practice, roles, and techniques used in public relations within organizations. Writing news releases, conducting news conferences, planning/implementing events, responding to challenging questions from audience members, and conducting public relations audit of an organization.

## Composition (COMP)

**COMP 1000f,s. College Writing Laboratory.** (1 cr; Stdnt Opt. Prereq=Concurrent enrollment in 1011)

Supplemental instruction in writing. Small group activities, individual conferencing.

**COMP 1011f,s. Composition I.** (3 cr; A-F or Aud)

Process of clear, concrete, and convincing writing. Generation and discovery of subjects, revisions, editing.

**COMP 1011Hf. Honors: Composition I.** (3 cr; Stdnt Opt. Prereq=Admittance in the Honors Program)

Process of clear, concrete and convincing writing. Generation and discovery of subjects, revisions, editing.

**COMP 1013f,s. Composition II.** (3 cr; Stdnt Opt. Prereq–1011)

Writing a research paper/s. Formulating/answering a research question. Developing an organizational/argument strategy for topic/audience. Supporting research question/argument with scholarly sources.

**COMP 1013Hs. Honors: Composition II.** (3 cr; Stdnt Opt. Prereq–[1011 or 1011H], admittance to Honors Program)

Writing summaries, writing to synthesize material from several sources, evaluating readings and other materials, research writing

**Computer Applications (CA)****CA 1010f,s. Introduction to Computer Technology.** (1 cr; Stdnt Opt)

Introduction to computer literacy, care of laptop, policies, e-mail and word processing essentials, PALS and portfolio development.

**CA 1011f,s. Introduction to Computer Systems Architecture.** (2 cr; Stdnt Opt)

Foundations of computer hardware, software, telecommunications, systems design/deployment.

**CA 1012f. Application Suite Software.** (2 cr; Stdnt Opt)

Introduction to word processing, spreadsheet, and presentation graphics.

**CA 1015f,s. Word Processing Applications.** (2 cr; Stdnt Opt)

Creation, generation, and development of advanced/integrated word processing documents/publications.

**CA 1020f,s. Spreadsheet Applications.** (2 cr; Stdnt Opt)

Personal/presentation use of spreadsheets that include formulas, functions, what-if analysis, and charts.

**CA 1030f,s. Multimedia Graphics.** (2 cr; Stdnt Opt)

Developing advanced graphics, animation, and audio/video materials for personal/professional presentations.

**CA 1040f,s. Web Site Development.** (2 cr; Stdnt Opt)

Web site design. HTML/XML, scripting, graphics, Web services, user interface design.

**CA 1055f,s,su. Animation Software Applications With Flash MX.** (2 cr; Stdnt Opt)

Fundamentals of Flash MX Animation. Students create animated Flash page for Web sites and interactive learning components for E-learning.

**CA 1060f,s. Database Applications.** (2 cr; Stdnt Opt. Prereq–1010)

Techniques for creating, querying, reporting, and maintaining databases with MS Access.

**CA 1070f,s,su. Desktop Publishing.** (2 cr; Stdnt Opt)

Publishing software. Emphasizes layout, style, color, and message delivery in print and on the Internet.

**CA 1080s,su. Audio-Visual Production Applications.** (2 cr; Stdnt Opt)

Using editing/designing software in creating interactive streaming audio-video presentations for courseware, training modules, and marketing/management promotional products.

**CA 2190f,s,su. Topics in Computer Applications.** (1–3 cr [max 3 cr]; Stdnt Opt. Prereq–1010, 1012)

Topics related to advanced computer application certification in selected topics such as MOS, IC3, COMP TIA, Linux, and Oracle.

**Computer Software (CS)****CS 1500s. Discrete Structures I.** (3 cr; Stdnt Opt)

Foundations of discrete mathematics as they apply to software engineering. Functions, relations, sets, simple proof techniques, boolean algebra, propositional logic, digital logic, elementary number theory, fundamentals of counting.

**CS 1600f. Discrete Structures II.** (3 cr; Stdnt Opt. Prereq–1500)

Predicate logic, recurrence relations, graphs, trees, matrices, computational complexity, elementary compatibility, discrete probability.

**CS 2090f. Data Structures and Algorithms.** (3 cr; Stdnt Opt)

Recursion, underlying philosophy of object-oriented programming. Fundamental data structures (including stacks, queues, linked lists, hash tables, trees, graphs). Algorithmic analysis. Principles of language translation.

**CS 2100f. Microcomputer Systems Architecture.** (3 cr; Stdnt Opt)

Computer organization/machine architecture. Overview of computer system organization. Digital logic level, register level, operating system program interface. May use assembly language of an available machine for programming assignments.

**CS 2200f. Introduction to Software Engineering.** (3 cr; Stdnt Opt. Prereq–ITM 2050, 2060)

Software development methodologies. Emphasizes object-oriented methodologies. Risk analysis, testing techniques/strategies, project management, architectural/user interface design, technical metrics for software.

**CS 2300s. Software Construction.** (3 cr; Stdnt Opt. Prereq–2200)

Low-level software design issues, including formal approaches.

**CS 2400s. Software Engineering Approach to Human Computer Interaction.** (3 cr; Stdnt Opt)

Topics relating to designing/evaluating user interfaces. Psychological background needed to understand people.

**CS 3200f. Software Design and Architecture.** (3 cr; Stdnt Opt. Prereq–2200)

Formal methods of software analysis/design. Requirement analysis, definition. Specification, including formal methods, prototyping. Design, including object/function oriented design.

**CS 3300f. Software Quality Assurance and Testing.** (3 cr; Stdnt Opt. Prereq–2200)

Software quality assurance. Reviews/inspections, testing, formal verification methods, process management/improvement, defect prevention.

**CS 3400s. Software Requirements Analysis.** (3 cr; Stdnt Opt. Prereq–2200)

Discovering/eliciting requirements, languages and models for representing requirements, analysis/validation techniques, specifying/measuring external qualities, requirements in agile processes, requirements change management.

**CS 3700f,s. Software Project Management.** (3 cr; Stdnt Opt. Prereq–2200, MGMT 3200)

Procedures, team leadership skills, and resource management using computer software. Application/evaluation involving identifying a project and carrying out all steps necessary to achieve satisfactory completion in a team environment.

**CS 3820. Gaming: Real-Time Systems.** (3 cr; Stdnt Opt. Prereq–3050, MATH 1272, PHYS 1102)

Mathematical foundations/modeling techniques, mapping, anti-aliasing, real-time rendering, binary space partition trees, object control issues.

**CS 3900f,s,su. Internship.** (3 cr [max 6 cr]; Stdnt Opt)

Students identify employment opportunities in the field.

**CS 4500f. Senior Project I.** (3 cr; Stdnt Opt. Prereq–3500)

First of a full year, individual project/research course. Students pursue projects or research (applied in nature), with a faculty adviser, within their area of specialization.

**CS 4510f. Senior Project II.** (3 cr; Stdnt Opt. Prereq–4500)

Second of a full year, individual project/research course. Students pursue projects or research (applied in nature), with a faculty adviser, within their area of specialization.

**Continuing Education (CNED)**

*Continuing Education (CNED) special classes in general, adult, and continuing education offered in response to student and community needs and interests.*

**CNED 1000–1999. Selected Topics. (Cr vary)****Criminal Justice (CRJS)**

*These courses are delivered by the criminal justice department at Bemidji State University. Due to this agreement, the semester each course is offered is subject to change.*

**CRJS 1120s. Criminal Justice and Society (BSU).** (4 cr; Stdnt Opt)

Philosophies, principles, social aspects that underlie formulation of law and administration of justice in the United States. Agencies that constitute the criminal justice system.

**CRJS 2200s. Criminal Justice Dynamics (BSU).** (3 cr; Stdnt Opt. Prereq–1120)

Systems dynamics, its applications. How all parts of an organization interact with one another. Feedback loops.

**Course Numbers**

**0xxx** ..... Courses that do not carry credit toward any University degree.

**1xxx** ..... Courses primarily for undergraduate students in their first year of study.

**2xxx** ..... Courses primarily for undergraduate students in their second year of study.

**3xxx** ..... Courses primarily for undergraduate students in their third year of study.

**4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.

**5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

**Course Abbreviations**

Letters following course numbers indicate what term(s) the course is taught:

f ..... Fall semester

s ..... Spring semester

m ..... May session

su ..... Summer term

Abbreviations in parentheses following a course name indicate the university that offers the course:

BSU ..... Bemidji State University

NDSU ..... North Dakota State University

UMTC ..... University of Minnesota, Twin Cities

UND ..... University of North Dakota

**Other abbreviations**

Prereq ..... Course prerequisites

cr ..... credit

equiv ..... equivalent

fr, soph, jr, sr ..... freshman, sophomore, junior, senior

A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means "and."

Courses beginning with 09 cannot be used for credit toward graduation or transfer.

**Course Numbers**

- 0xxx** ..... Courses that do not carry credit toward any University degree.
- 1xxx** ..... Courses primarily for undergraduate students in their first year of study.
- 2xxx** ..... Courses primarily for undergraduate students in their second year of study.
- 3xxx** ..... Courses primarily for undergraduate students in their third year of study.
- 4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.
- 5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

**Course Abbreviations**

Letters following course numbers indicate what term(s) the course is taught:

- f ..... Fall semester
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Abbreviations in parentheses following a course name indicate the university that offers the course:

- BSU ..... Bemidji State University
- NDSU ..... North Dakota State University
- UMTC ..... University of Minnesota, Twin Cities
- UND ..... University of North Dakota

**Other abbreviations**

- Prereq ..... Course prerequisites
- cr ..... credit
- equiv ..... equivalent
- fr, soph, jr, sr ..... freshman, sophomore, junior, senior

A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means "and."

Courses beginning with 09 cannot be used for credit toward graduation or transfer.

**CRJS 3201f. Criminal Justice Statistics (BSU).** (3 cr; Stdnt Opt)  
Application of analytical techniques to address criminal justice issues. Technical requirements for various statistical techniques, their interpretation.

**CRJS 3202s. Criminal Justice Research Methods and Practicum (BSU).** (3 cr; Stdnt Opt)  
Process of social scientific inquiry into criminal justice issues. Students apply their knowledge of statistical analysis while designing/implementing a research project.

**CRJS 3304f. Police Process (BSU).** (3 cr; Stdnt Opt. Prereq-1120)  
Function of law enforcement, roles of police, in modern society. Police organizations, police officers, police work. Critical police-problems.

**CRJS 3305s. Judicial Process (BSU).** (3 cr; Stdnt Opt. Prereq-1120)  
Criminal justice judicial process. Judicial involvement: from pre-arrest warrant issuance to appellate court review. Role/behavior of prosecutors, defense attorneys, judges.

**CRJS 3306f. Correctional Process (BSU).** (3 cr; Stdnt Opt. Prereq-1120)  
Function as major part of criminal justice system. Focuses on principles, assumptions, and processes pertaining to achieving correctional goals/objectives.

**CRJS 3320f. Juvenile Delinquency and Justice (BSU).** (3 cr; Stdnt Opt)  
Historical responses to delinquents, definition of delinquency, theories of correction, juvenile justice system.

**CRJS 3334f. Criminal Justice Planning (BSU).** (3 cr; Stdnt Opt. Prereq-1120, 3304, 3305)  
Overview of crime prevention. Presented within a framework of a planned, proactive response to crime by all components of the criminal justice system. Principles of planning, research, and evaluation as applied to crime prevention.

**CRJS 3345s. Criminal Justice Administration (BSU).** (3 cr; Stdnt Opt. Prereq-[3304, 3305] or 3306)  
Principles of organization and management of criminal justice agencies. Line/nonline functions, personnel administration, planning, budgeting, goals, control.

**CRJS 3358f. Criminal Law (BSU).** (3 cr; Stdnt Opt)  
Basic concepts of criminal law and of elements of criminal offenses in Minnesota in particular. Crimes against persons, against property, against administration of justice. Case method is used to define contours of judicial interpretation of criminal law.

**CRJS 3359f. Criminal Investigation (BSU).** (3 cr; Stdnt Opt)  
Problems, concepts, principles, techniques involved in investigation of crime. Rules of evidence.

**CRJS 3360s. Criminal Procedure (BSU).** (3 cr; Stdnt Opt)  
Rights of criminally accused, primarily those in pre-trial stages of criminal process. Bill of Rights as it pertains to criminally accused.

**CRJS 3366f. Criminal Evidence (BSU).** (3 cr; Stdnt Opt)  
Collection/presentation of criminal evidence. Rules of evidence defining types/use of criminal evidence allowed in court. Sources of law of evidence. Various presumptions and legal burdens involved in a criminal trial.

**CRJS 3900f,s,su. Internship (BSU).** (12 cr; Stdnt Opt. Prereq-Instructor consent)  
Full-time supervised field instruction in a public or private criminal justice agency. Students apply knowledge/skills to criminal justice practice.

**CRJS 4100f. Applied Ethics (BSU).** (3 cr; Stdnt Opt. Prereq-1120)  
Ethical issues in criminal justice. Ethical dilemmas facing practitioners in the field. Emphasizes students' own ethical questions pertaining to their area of interest in criminal justice and the development of solutions to dilemmas they may encounter.

**CRJS 4103f. Criminal Justice Diversity (BSU).** (3 cr; Stdnt Opt)  
Dynamics of class, race, and gender as they intersect with social realities of crime/justice in the U.S. How class, race, and gender operate separately and in combination to influence the criminal justice system. Reforms to reduce bias in crime control.

**CRJS 4480s. Policing People (BSU).** (3 cr; Stdnt Opt. Prereq-1120, 3304)  
Addresses several Minnesota Board of Police Officer Standards and Training learning objectives: victimization, dealing with the mentally disturbed, police/minority relations, police/community relations.

**CRJS 4920s. Senior Seminar (BSU).** (3 cr; Stdnt Opt. Prereq-Sr or instructor consent)  
Advanced study in theories, philosophies, and practices in criminal justice. Extensive review of writings. Emphasizes recent developments in practice of criminal justice.

## Curriculum and Instruction (CI)

**CI 5452f. Reading in the Content Areas for Initial Licensure Candidates.** (1 cr; A-F only. Prereq-Concurrent enrollment in AFEE 5111)  
Designed to meet requirements of Minnesota statute requiring teachers receiving an initial license to have preparation in "scientifically-based reading instruction."

## Early Childhood Education (ECE)

*All 3xxx and 4xxx courses are restricted to students who have been admitted to and retained in the teacher education licensure program in the early childhood education degree program. In this collaborative degree and licensure program with Bemidji State University (BSU), the courses are offered by UMC faculty and may be delivered through ITV for BSU students.*

**ECE 2100f,s. Child Development and Learning.** (3 cr; A-F only)  
Child development/learning from prenatal through eight years of age. Emphasizes major developmental domains/learning: physical (including health practice), cognitive, language, emotional, social (including cultural), and creative. Assessment of development/learning. Field experiences in child observation/assessment.

**ECE 3410s. Learning Environments for Infants and Toddlers.** (4 cr; A-F only. Prereq-2100, ED 3110, minimum GPA of 2.50)  
Designing, organizing, and maintaining learning environment. Arrangement of physical setting, provision of materials, construction of curriculum, implementation of learning experiences. Assessment of child's learning and of teaching/learning environment. Field Experiences.

**ECE 3420s. Nurturing and Collaborative Relationships for Infants and Toddlers.** (3 cr; A-F only. Prereq-2100)  
Understanding/applying practices to promote emotional/social development in infancy/toddlerhood. Principles of caregiving. Relationship to teaching/learning environment. Developmentally appropriate guidance, collaborative parent/staff relationships, respecting family/cultural values/experiences.

**ECE 3672s. Promoting Children's Physical Health.** (2 cr; A-F only. Prereq-ED 3100)  
Establishing healthy and safe learning environments. Procedures/practices for optimum health, safety and nutrition. Introduction to curriculum resources.

**ECE 3804f,s. Individual Studies.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Jr, instructor consent)  
Topic related to student's major and not covered in regularly offered courses.

**ECE 3901f,s. The Professional Teacher I.** (.5 cr; A-F only. Prereq-GPA of at least 2.50)  
Role of student teacher in planning for full-time teaching. Orientation to student teaching handbook with related assignments. Development of standards based student teaching notebook.

**ECE 3902f,s. The Professional Teacher II.** (.5 cr; A-F only. Prereq-3901)  
Completion/evaluation of professional standards-based portfolio, teacher licensure application. Taken concurrently with last student teaching experience.

**ECE 4440f,s,su. Infant and Toddler Student Teaching.** (6 cr; A-F only. Prereq-3410, 4750, 3901, minimum GPA of 2.50)  
Students integrate theory/practice as member of teaching team with placement in infant or toddler classroom. Portfolio-based student-teaching experience. Focuses on selected INTASC/BOT indicators. University approved placement.

**ECE 4500f. Young Children With Special Needs.** (3 cr; A-F only. Prereq-3410, 4700, ED 3201, minimum GPA of 2.50)  
Introduction to teaching young children with special needs. Important aspects of teaching in special-education/inclusive settings. Students interrelate experiences working with children with developing an educational philosophy.

**ECE 4700f. Developmentally Appropriate Preprimary Education I.** (3 cr; A-F only. Prereq–2100, ED 3110 or concurrent enrollment, ED 3670, minimum GPA of 2.50)

Students integrate theory/practice related to preprimary (preschool, kindergarten) education. Development related to learning environment, curriculum, and teaching methods. Developmentally appropriate approaches to subject matter in language arts, literacy, and expressive arts. Field experiences.

**ECE 4702s. Developmentally Appropriate Preprimary Education II.** (3 cr; A-F only. Prereq–4700)

Students integrate theory/practice related to preprimary education (preschool, kindergarten). Development related to learning environment, curriculum, and teaching methods. Developmentally appropriate approaches to subject matter in mathematics and in physical/social sciences.

**ECE 4730f. Understanding and Supporting Parenting.** (3 cr; A-F only. Prereq–3420, ED 3677, ED 3110, minimum GPA of 2.50)

Parent-child relationships, adult development, family systems theory, parental authority, child compliance, developmental interaction during child rearing years. Parenting in diverse family configurations, in diverse cultures/lifestyles, and in high-risk families. Emphasizes knowledge of research for application.

**ECE 4750s. Family, School, and Community Relations.** (3 cr; A-F only. Prereq–4730, minimum GPA of 2.50)

Emphasizes family involvement as essential to successful education. Patterns in family-school relations, trends, problems that inhibit parent involvement, strategies for productive family involvement. Community/cultural considerations.

**ECE 4811f,s,su. Preprimary Student Teaching I.** (4 cr; A-F only. Prereq–3901, 4702, 4750, ED 3110, minimum GPA of 2.50)

Students integrate theory/practice as member of teaching team. Portfolio-based student-teaching experience. Focuses on selected BOT competencies and indicators. University approved classroom placement in preschool-aged setting.

**ECE 4812f,s. Preprimary Student Teaching II (K).** (4 cr; A-F only. Prereq–3901, 4702, 4750, ED 3110, minimum GPA of 2.50)

Students integrate theory/practice as member of teaching team. Portfolio-based student-teaching experience. Focuses on selected BOT competencies/indicators. University approved classroom placement in a kindergarten classroom.

**ECE 4880f. Administration of Early Childhood Programs.** (3 cr; A-F only. Prereq–3410, 4700, 4750, minimum GPA of 2.50)

Application of developmental theory, human ecological systems framework, management theory. Survey of management processes, principles, tasks. Emphasizes government regulations, community relations, staff development, advocacy, financial resource management.

## Economics (ECON)

**ECON 2101f,s. Microeconomics.** (3 cr; Stdnt Opt. Prereq–MATH 0991 or 2 yrs high school algebra or equiv)

Basic economic principles of pricing, resource allocation, and consumption. Supply/demand, cost of production, consumer behavior. Competition and influences of market structure.

**ECON 2102f,s. Macroeconomics.** (3 cr; Stdnt Opt. Prereq–ECON 2101) “Big picture” of economy. Determinants of national income, national income accounting, unemployment, inflation, economic growth. Classical, Keynesian, and more recent theoretical approaches to modifying economic activity. Monetary/fiscal policies. International economic relations.

## Education (ED)

*The following courses are restricted to students who have been admitted to and retained in the teacher education licensure program in the early childhood education degree program. Most courses are offered by Bemidji State University (BSU) faculty in this collaborative degree and licensure program and typically are delivered through ITV for UMC students.*

**ED 3100f. Introduction to the Foundations of Education.** (3 cr; A-F only. Prereq–Completion of Pre-Professional Skills Test [PPST]; Minimum GPA of 2.50)

Roles, responsibilities, duties, functions, routines, requirements of public school teachers. Historical, social, political foundations of public education. Role of education in a pluralistic society. Issues affecting education in American public schools.

**ED 3110f. Educational Psychology.** (3 cr; A-F only. Prereq–3100, ECE 2100, minimum GPA of 2.50)

Teaching/learning process: (1) planning/effective instruction; (2) behavioral/cognitive views. Emphasizes how learning is affected by development, individual differences, motivation.

**ED 3201s. Language Arts in the Primary Grades.** (4 cr; A-F only. Prereq–3110, ECE 4700, GPA of at least 2.50)

Various approaches and multiplicity of tasks involved in teaching primary language arts. At least 15 hours of observing and assisting in primary classroom.

**ED 3301f. Creative Expression in Elementary Education (BSU).** (3 cr; A-F only. Prereq–3670, ART 2000, concurrent enrollment in ED 3110, MUS 3604, minimum GPA of 2.50)

Children’s literature as vehicle for teaching primary-grade learners confidence/competence in expressive arts. Emphasizes theme-oriented literature-extension approach. Listening, speaking, reading/writing. Aesthetic expression in visual art, music, movement, creative drama. Field experiences.

**ED 3670f. Foundations of Early Childhood Education (BSU).** (3 cr; A-F only. Prereq–Completion of Pre-Professional Skills Test [PPST]; Minimum GPA of 2.50)

Philosophical, historical, pedagogical, societal, institutional foundations of infant/toddler, preprimary, primary grade education. Efforts of modern programs to adapt instruction to developmental levels and experience backgrounds of young children and to work in partnership with parents. Field experience.

**ED 3677s. Relations and Management in Early Childhood Education (BSU).** (3 cr; A-F only. Prereq–Completion of Pre-Professional Skills Test [PPST]; ED 3670; Minimum GPA of 2.50)

Students study, gain skills in relations with young children, parents, coworkers. Guidance, group management techniques for working effectively with prekindergarten and young school-age children. Experience in early childhood classrooms.

**ED 3870s. Mathematics in the Primary Grades (BSU).** (3 cr; A-F only. Prereq–3110, 3670, concurrent enrollment in MATH 1011, minimum GPA of 2.50)

Mathematical background including teaching aids, games, projects, activities that relate to K–3 level. Set theory, numeration, systems of whole/rational numbers. Basic mathematical operations presented from concrete standpoint.

**ED 3877f. Social Studies and Sciences in the Primary Grades (BSU).** (4 cr; A-F only. Prereq–3670, concurrent enrollment in ED 3110, minimum GPA of 2.50)

Concepts/tools for teaching physical/social sciences. Ability to wonder, curiosity, respect for world/environment/life. Emphasizes integrated approach to sciences: classroom, neighborhood, community, world. Basic skills of scientific inquiry: asking questions, qualified conclusions.

**ED 4827f,s. Primary Student Teaching.** (8 cr; A-F only. Prereq–3110, 3201, 3301, 3870, 3877, ECE 3901, 4750, minimum GPA of 2.50)

Students teach in public school classroom with guidance/supervision by University supervisors/assigned school personnel. Classroom placement in first, second, or third grades. Portfolio-based student teaching experience. Focuses on selected INTASC/BOT indicators.

## Educational and Human Development (EDHD)

*The following courses are required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers these courses via ITV.*

**EDHD 5001s. Learning, Cognition, and Assessment in the Schools (UMTC).** (3 cr; Stdnt Opt)

Learning, cognitive development, classroom management, motivation, instruction, assessment. Behaviorism, cognitive/social constructivism, human information processing theory. Intelligence, knowledge acquisition, reasoning, scholastic achievement, standardized testing, reliability, validity, evaluation, performance assessment, portfolios, demonstrations. Applications to instruction/organization of curricular materials.

**EDHD 5003s. Developmental and Individual Differences in Educational Contexts (UMTC).** (3 cr; Stdnt Opt)

Overview of developmental/individual differences of children/adolescents in educational contexts. Emphasizes dynamic systems perspective. Developmental transitions. Interactions between student, environment, task. Accommodations/adaptations for students in special education.

### Course Numbers

**0xxx** ..... Courses that do not carry credit toward any University degree.

**1xxx** ..... Courses primarily for undergraduate students in their first year of study.

**2xxx** ..... Courses primarily for undergraduate students in their second year of study.

**3xxx** ..... Courses primarily for undergraduate students in their third year of study.

**4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.

**5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

### Course Abbreviations

Letters following course numbers indicate what term(s) the course is taught:

f ..... Fall semester

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Abbreviations in parentheses following a course name indicate the university that offers the course:

BSU ..... Bemidji State University

NDSU ..... North Dakota State University

UMTC ..... University of Minnesota, Twin Cities

UND ..... University of North Dakota

### Other abbreviations

Prereq ..... Course prerequisites

cr ..... credit

equiv ..... equivalent

fr, soph, jr, sr ..... freshman, sophomore, junior, senior

A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means “and.”

Courses beginning with 09 cannot be used for credit toward graduation or transfer.

**Course Numbers**

- 0xxx** ..... Courses that do not carry credit toward any University degree.
- 1xxx** ..... Courses primarily for undergraduate students in their first year of study.
- 2xxx** ..... Courses primarily for undergraduate students in their second year of study.
- 3xxx** ..... Courses primarily for undergraduate students in their third year of study.
- 4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.
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**Course Abbreviations**

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**Other abbreviations**

- Prereq ..... Course prerequisites
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A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means "and."

Courses beginning with 09 cannot be used for credit toward graduation or transfer.

**EDHD 5005s. School and Society (UMTC).** (2 cr; Stndt Opt)  
Readings in history, philosophy, social sciences, law that reveal diverse educational values in a pluralistic society. Multiple expectations of schools. Civil liberties, rights, community. Varying cultural backgrounds of students, family circumstances, exceptional needs.

**EDHD 5007s. Technology for Teaching and Learning (UMTC).** (1.5 cr; Stndt Opt)  
Diverse educational technology in K–12 classrooms. Effective use of technology. Computer technologies to stimulate personal productivity/communication, enhance teaching/learning processes.

**EDHD 5009s. Human Relations: Applied Skills for School and Society (UMTC).** (1 cr; Stndt Opt)  
Issues of prejudice/discrimination in terms of history, power, social perception. Knowledge/skills acquisition in cooperative learning, multicultural education, group dynamics, social influence, leadership, judgment/decision making, prejudice reduction, conflict resolution, teaching in diverse educational settings.

## Educational Policy and Administration (EDPA)

*The following course is required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers this course via ITV.*

**EDPA 5341f. American Middle School (UMTC).** (3 cr; Stndt Opt)  
Uniqueness of the early adolescent. Appropriate learning situations for educators working with middle-level students.

## English as a Second Language (ESL)

**ESL 100f,s,su. English Reading and Vocabulary I.** (0 cr; Stndt Opt. Prereq—ESL test score of 50-100)  
Identify topics, thesis, main idea, and supporting details in paragraphs. Vocabulary building activities. "Signals" such as transitional words/phrases. Referents to follow structure of paragraphs. Summarize/paraphrase sentences/paragraphs. Improving reading speed/fluency through timed readings. Emphasizes comprehension.

**ESL 120f,s,su. English Writing.** (0 cr; Stndt Opt. Prereq—ESL test score of 50–100)  
Elements of academic writing process. Unified/coherent writing, paragraph structure, short essays, journal writing, proofreading, editing.

**ESL 130f,s,su. English Grammar and Vocabulary.** (0 cr; Stndt Opt. Prereq—ESL test score of 50-100)  
Review English grammar through written/oral practice. Vocabulary building. Use of correct grammar/pronunciation.

**ESL 210f,s,su. English Reading and Vocabulary II.** (0 cr; Stndt Opt. Prereq—ESL test score of 100-130)  
Reading comprehension. Active/systematic vocabulary building. Critical readings from multiple sources/genres. Summarize/paraphrase paragraphs/essays orally and in writing. Improvement in reading speed and fluency through timed readings. Stresses comprehension.

**ESL 220f,s,su. English Writing and Research.** (0 cr; Stndt Opt. Prereq—ESL test score of 100-130)  
Introduction to research writing. Summarizing/paraphrasing, short essays. Research project.

**ESL 230f,s,su. English Grammar and Speaking.** (0 cr; Stndt Opt. Prereq—ESL score of 100-130)  
English grammar through written/oral practice. Use of correct grammar in conversation.

**ESL 310f,s,su. Oral Communication.** (0 cr; Stndt Opt. Prereq—ESL test score of 130-165)  
Conversation, listening comprehension, pronunciation, presentation skills.

**ESL 320f,s,su. Research Writing and Presentation.** (0 cr; Stndt Opt. Prereq—ESL test score of 130-165)  
Introduction to college-level research writing/presentation. Research topics in a variety of disciplines. Argumentative and critical thinking abilities. Oral communication/presentation. Final research paper and oral presentation.

## Entrepreneurship (ENTR)

**ENTR 2200f,s. Introduction to Entrepreneurship and Small Business.** (3 cr; Stndt Opt)  
Entrepreneurship and the economy. Traits/skills of entrepreneurs, opportunities in entrepreneurship, legal forms of business establishment, self-analysis/fitness for entrepreneurship.

**ENTR 3200f,s. Business Plan Development.** (3 cr; Stndt Opt. Prereq—MGMT 3100, 3200, MKTG 3300)  
Business start-up/development phase. Planning related to opportunity recognition, product development, marketing, and financing. Students research/write a basic business plan.

**ENTR 3400s. Entrepreneurial and Small Business Finance.** (3 cr; Stndt Opt. Prereq—MGMT 3100)  
Start-up/expansion financing, requirements for economic development groups. SBA loan guarantees, venture capitalists, small business valuation techniques. Cessation, related tax planning strategies.

**ENTR 4100s. International Entrepreneurship.** (3 cr; Stndt Opt. Prereq—MKTG 3260)  
Opportunities in international expansion/development, including import-export and franchising. International risk assessment, financial/legal implications, cultural issues.

**ENTR 4200f. Field Studies in Entrepreneurship and Small Business.** (3 cr; Stndt Opt. Prereq—3200, 3400)  
Students, in tandem with faculty adviser, consult with local small business or entrepreneurs to solve problems or capitalize on new opportunities. Guest speakers provide insight on philosophies/practices.

**ENTR 4800s. Entrepreneurship and Small Business Strategies.** (3 cr; Stndt Opt. Prereq—3200, 3400)  
Capstone course. Students prepare/present comprehensive business plan for entrepreneurial venture, including comprehensive financials, marketing plan, business formation and management plan, and growth strategy.

## Equine Science (EQSC)

**EQSC 1000s. Light Horse Driving.** (2 cr; Stndt Opt)  
Types of driving vehicles and harness, including fine harness, heavy harness, and competitive driving. Hitching/driving the fine harness horse. Techniques for training the fine harness horse to drive. Negotiating obstacles while driving.

**EQSC 1100f,s. Western Equitation.** (3 cr; Stndt Opt)  
Grooming, handling, safety, identification of equipment, saddling, mounting, correct body position (equitation), cues and their proper use, various riding techniques. Focus on developing proper equitation skills and techniques for riding and showing.

**EQSC 1200f,s. Hunt Seat & Dressage Equitation.** (3 cr; Stndt Opt)  
Developing hunt seat skills and techniques, including how to ride a course of jumps. "Centered riding" techniques. Basic dressage maneuvers and riding lower-level dressage tests.

**EQSC 1202s. Equine Evaluation.** (2 cr; Stndt Opt)  
Conformation, breed characteristics, and type and their importance in evaluation. Performance evaluation, criteria, and scoring methods. Preparation and delivery of oral reasons.

**EQSC 1300f. Saddle Seat Equitation.** (3 cr; Stndt Opt. Prereq—1100 or 1200 or instructor consent)  
Saddling, mounting, seat/hands, other saddle seat techniques. Developing equitation skills for saddle seat riding/showing.

**EQSC 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stndt Opt. Prereq—Instructor consent)  
Current topics not covered in regularly offered courses.

**EQSC 2102f. Horse Production.** (4 cr; Stndt Opt. Prereq—ANSC 1004)  
Fundamentals of horse care. Equine nutrition, behavior, diseases. Hoof care. First aid, health care, disease prevention. Parasites.

**EQSC 2112f,s. Riding Instructor Training.** (2 cr; Stndt Opt. Prereq—Any two of the following: EQSC 1100, EQSC 1200, EQSC 1300)  
Formulating lesson plans. Teaching methods for individuals or group. Safety, insurance, liability, management. Student's teaching methods are evaluated.

**EQSC 2202f. Advanced Equine Evaluation.** (1 cr [max 3 cr]; Stndt Opt. Prereq—1202 or instructor consent)  
Advanced equine evaluation techniques. Judging of halter/performance events. Preparation/delivery of oral reasons.

**EQSC 3305s. Equine Reproductive Techniques.** (3 cr; Stdnt Opt. Prereq–2101, ANSC 3203, 3304 or instructor consent)  
Breeding management practices/techniques. Gestation, fetal development, endocrinology, estrus manipulation, artificial insemination, embryo transfer, cooled and cryopreservation of semen, teasing, and foaling. Lab emphasizes skills required in equine industry. Lecture emphasizes reproductive theory.

**EQSC 3403s. Equine Exercise Physiology.** (3 cr; Stdnt Opt. Prereq–ANSC 3203, EQSC 2102)

Skeletal, muscular, cardiovascular, and regulatory systems of the horse. Effect of work-related stress (mental and physical) using physiological measures and how the systems relate to one another; how various types of conditioning can affect the systems separately and as a whole.

**EQSC 3413f,s. Horse Training and Showing.** (3 cr [max 6 cr]; Stdnt Opt. Prereq–6 crs of equitation courses [from 1100, 1200, 1300, 3441, 3442, 3443], [3412 or concurrent enrollment in 3412])

Work with untrained young horse or older show horse to correct problems or maintain the horse.

**EQSC 3441f. Topics in Advanced Western Equitation.** (1.5 cr; Stdnt Opt. Prereq–Instructor consent)

Experience in reining maneuvers. Students refine skills.

**EQSC 3443f. Topics in Advanced Equitation Over Fences.** (1.5 cr; Stdnt Opt. Prereq–Instructor consent)

Experience in riding more challenging course of jumps.

**EQSC 3804f,s, su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major not covered in regularly offered courses.

**EQSC 4102s. Equine Management.** (3 cr; Stdnt Opt. Prereq–ECON 1101)  
Fundamentals of horse management. Record keeping (traditional, computer based). Marketing, sales techniques. Legal aspects (e.g., contracts, zoning, liability, insurance). Management project that involves establishing, maintaining, improving an equine business.

## Food Science and Nutrition (FSCN)

**FSCN 1123f,s, su. Fundamentals of Nutrition.** (3 cr; Stdnt Opt)  
Fundamentals of nutrition and metabolism, including the nutrients: carbohydrates, proteins, fats, minerals, vitamins, and water. Assessment of health risks, health promotion, and disease prevention.

**FSCN 1273f. Medical Nutrition Therapy.** (4 cr; Stdnt Opt)  
Modifying diet in disease. Calculating diets for common conditions (e.g., hypertension, obesity, diabetes, diverticular disease). Measuring/calculating body composition.

**FSCN 1313f,s, su. Life Cycle Nutrition.** (3 cr; Stdnt Opt. Prereq–FSCN 1123)

Influence of age, growth, and normal development on nutritional requirements.

**FSCN 1654s. Nutritional Care: Practices and Procedures.** (3 cr; Stdnt Opt)

Application of nutritional practices and procedures in health care facilities, including medical terminology, medical charting, and diet histories. State and federal guidelines and regulations.

**FSCN 1803f,s, su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)

Current topics not covered in regularly offered courses.

**FSCN 1999f,s, su. Dietetic Practicum.** (1–3 cr [max 6 cr]; Stdnt Opt)  
Supervised experience in various health care and nutrition settings. Application of classroom theories to actual operations.

**FSCN 3203f,s. Community Nutrition.** (3 cr; Stdnt Opt. Prereq–FSCN 1123)  
Nutrition programs in the community, including those serving infants, children, and the elderly. Sociocultural and ethnic food consumption issues. Instructional methods for individuals and groups.

**FSCN 3211s. Professional Issues in Dietetics.** (1 cr; Stdnt Opt)  
Food nutrition laws and policies and current issues in health care legislation. Students review research in dietetics and make presentations to groups.

**FSCN 3310s. Elements of Food Science.** (3 cr; Stdnt Opt)  
Food properties and changes caused by heat, cold, and mechanical and chemical processes used in food preparation. Composition of food and effects of cooking on food. Functions of specific ingredients in recipes.

**FSCN 3804f,s, su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major not covered in regularly offered courses.

**FSCN 3900f,s, su. Internship.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)

Supervised professional work experience at selected sites. Reports/consultation with faculty adviser/employer.

## General Agriculture (GNAG)

**GNAG 1012f. Introduction to Applied Agricultural Chemistry.** (2 cr; Stdnt Opt. Prereq–CHEM 1001 or [concurrent enrollment in CHEM 1001, instructor consent])

Common chemical processes, their application to production agriculture. Application of pH in soil/feed systems. Dilution principles, units of weights/measures. Basic applied theories used in agriculture.

**GNAG 1803f,s, su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)

Current topics not covered in regularly offered courses.

**GNAG 2899f. Pre-Internship Seminar.** (.5 cr; A-F or Aud)

Expectations/responsibilities of internships. Preparing for a job search. Presentations about internship experiences by those who have recently completed 3900. Discussions between students, staff, and invited guests.

**GNAG 3203s, su. AG Products and Processing.** (3 cr; S-N or Aud. Prereq–Jr)

Survey of raw agricultural products produced in the Upper Midwest, transport, processing, packaging, wholesale and retail distribution and sales. Quality factors, food laws and regulations, sanitation, food safety, and environmental concerns.

**GNAG 3804f,s, su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major not covered in regularly offered courses.

**GNAG 3899f. Pre-Internship Seminar.** (.5 cr; A-F or Aud)

Expectations/responsibilities of internships. Preparing for a job search. Presentations about internship experiences by those who have recently completed 3900. Discussions between students, staff, and invited guests.

**GNAG 3900f,s, su. Internship.** (1–4 cr [max 4 cr]; A-F or Aud. Prereq–GNAG 2899 or 3899, soph or sr)

Supervised professional work experience in agricultural business, governmental agency. Report/consultation with faculty adviser/employer.

**GNAG 3901f. Post Internship Seminar.** (.5 cr; A-F or Aud. Prereq–GNAG 3900)

Student who have recently completed internships prepare/deliver a PowerPoint presentation of experience/knowledge gained. Discussions between post/pre-internship students, staff, and invited guests.

**GNAG 4652f,s. Senior Seminar.** (1 cr; A-F only. Prereq–Sr or instructor consent)

Survey of current literature. Preparation/delivery of special topics. Preparation of abstracts, papers, and visual aids. Evaluation of seminars. Use of library and other resources, including computer information search. Use of new technology.

## General Business (GBUS)

**GBUS 1005f,s, su. Orientation to Online Programs.** (1 cr; Stdnt Opt)

Introduction to UMC policies, e-mail, virtual private network, online library resources, writing scholarly reports, APA referencing, netiquette, networking in an online environment, group work in an online environment.

**GBUS 1010f. Global Trade.** (3 cr; Stdnt Opt)

Overview of ecological/demographic factors influencing current agricultural, industrial, and environmental development issues in every world region.

**GBUS 1111f. Personal Finance.** (3 cr; Stdnt Opt)

Various strategies, techniques, and resources useful in managing/planning personal finances. Budgeting, investments, housing, insurance, taxation. Credit and its use. Job selection, planning for retirement, installment buying.

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**3xxx** ..... Courses primarily for undergraduate students in their third year of study.

**4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.

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**GBUS 1603s. Principles of Insurance.** (3 cr; Stdnt Opt)  
Principles and fundamentals of insurance of various types, risk of retailing, managing retail risks, buying insurance, handling claims.

**GBUS 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt.  
Prereq—Instructor consent)  
Current topics not covered in regularly offered courses.

**GBUS 1981s. Internship Seminar.** (1 cr; Stdnt Opt)  
Planning for securing and successfully completing an internship. Internship policies and objectives; samples of forms.

**GBUS 3107f,s. Legal Environment in Business.** (3 cr; A-F or Aud)  
Fundamental concepts of business law, with emphasis on the legal system, contracts, bailments, agency, business organizations, and the fundamentals of commercial law.

**GBUS 3190f,s,su. Topics in Business.** (1–3 cr [max 6 cr]; Stdnt Opt)  
May include varied emerging topics in business.

**GBUS 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt.  
Prereq—Jr, instructor consent)  
Topic related to student’s major not covered in regularly offered courses.

**General Education (GNED)**

**GNED 1000f,s. Seminar for New Students.** (1 cr; Stdnt Opt)  
Skills for adjusting to college-level academics.

**GNED 1001f,s. Effective Reading for a Changing World.** (2 cr; Stdnt Opt)  
Developing comprehension/study strategies for reading college texts and related materials.

**GNED 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt.  
Prereq—Instructor consent)  
Current topics not covered in regularly offered courses.

**GNED 1900f,s. Chancellor’s Academic Success Seminar.** (.5 cr; Stdnt Opt.  
Prereq—Student must be on academic contract)  
Comprehensive study program to help strengthen learning skills. Includes some monitoring of contract requirements.

**GNED 3000su. Global Seminar.** (1–3 cr [max 6 cr]; Stdnt Opt)  
Interdisciplinary approach to a specific culture and its current local/global issues. In-depth experiences in a discipline area of student’s choice. Required international travel for one to three weeks, led by a faculty member.

**GNED 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt.  
Prereq—Jr, instructor consent)  
Topic related to student’s major not covered in regularly offered courses.

**GNED 3809f,s. Teaching and Learning Assistance.** (1 cr [max 4 cr]; Stdnt Opt.  
Prereq—Jr, instructor consent, minimum GPA 3.00 in subject matter)  
Skills/techniques in disciplinary content associated with college teaching. Supervised by faculty monitor and site supervisor.

**Geography (GEOG)**

**GEOG 1104f,s. World Regional Geography.** (3 cr; Stdnt Opt)  
Theme of socioeconomic development, broadly defined, used to organize and present a variety of geographic concepts in relationship to selected major regions of the world. By using a geographic perspective in the study of cultures, development, and human-environment interaction, the course concerns itself with who has what, where, and how.

**Geology (GEOL)**

**GEOL 1001f,s. Introductory Geology.** (3 cr; A-F or Aud)  
Survey of Earth, including its composition, structure, and dynamics; internal and surface processes related to theories of sea floor and continental movement; summary of geological history and development of life.

**Health (HLTH)**

**HLTH 1062f,s. First Aid and CPR.** (2 cr; Stdnt Opt)  
American Red Cross course that follows guidelines set by the ARC and UMC for certification and grading. Prepares students to carry out the Emergency Action Principles and grants certification in Responding to Emergencies (an inclusive first aid and CPR course) if the ARC standards are successfully met.

**HLTH 1072f,s. Wellness.** (3 cr; Stdnt Opt)  
Students develop a personal wellness plan.

**Health Science (HSCI)**

**HSCI 3804f,s,su. Individual Studies.** (1–3 cr [max 3 cr]; Stdnt Opt)  
Individualized study, related to student’s interest, in health care topic not covered in regular courses.

**HSCI 3899f,s,su. Pre-Internship Seminar.** (.5 cr; Stdnt Opt)  
Expectations/responsibilities of internship. Preparing for a job search. Presentations about internship experiences by those who have recently completed 3900 (internship). Discussions between students, staff, and invited guests.

**HSCI 3900f,s,su. Internship.** (1-2 cr [max 2 cr]; Stdnt Opt. Prereq—3899)  
Supervised professional work experience in health care facility. Report/consultation with faculty adviser/employer.

**HSCI 3901f,s,su. Post-Internship Seminar.** (.5 cr; Stdnt Opt. Prereq—3900)  
Students who have recently completed internships prepare/deliver a PowerPoint presentation of experience/knowledge gained. Discussions between post/pre-internship students, staff, and invited guests.

**Health Systems Management (HSM)**

**HSM 1010s. Medical Terminology.** (2 cr; Stdnt Opt)  
Prefixes, suffixes, and roots used to compose medical terms. Pronouncing and defining terminology related to body structure, disease, diagnosis, and treatment.

**HSM 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt.  
Prereq—Instructor consent)  
Current topics not covered in regularly offered courses.

**HSM 2010f. Introduction to Health Services Organizations.** (2 cr; A-F or Aud)  
Major developments in the evolution of health care in the United States. Education and training of health care personnel. Service providers. Public, private, voluntary agency initiatives. Major stakeholders; rural and urban priorities.

**HSM 3020s. Quality Improvement and Risk Management.** (4 cr; Stdnt Opt. Prereq—3100, 3200)  
Quality assessment activities in health care facilities. Emphasizes case management, utilization review, patient care evaluation, risk management activities. Methodologies/strategies, including quantitative/qualitative analysis of data. Students generate or update a quality assurance plan.

**HSM 3030f,s. Health Care and Medical Needs.** (2 cr; Stdnt Opt. Prereq—HSM 1010; BIOL 1464)  
Common health conditions, diseases, disabilities. Intervention/treatment issues. Health care and medical needs across age continuum. Medical/pharmacologic terminology.

**HSM 3100f,s. Essentials of Managed Care.** (3 cr; Stdnt Opt. Prereq—HSM 2010)  
Major economic forces affecting U.S. health care delivery system. Methods for addressing access, cost, and quality. Types of managed care organizations, management control and governance structures, closed and open panels, contracting and reimbursement, carve outs, special market segments; Medicaid, Medicare; rural, urban populations.

**HSM 3130s,su. Health Management Information Systems.** (3 cr; Stdnt Opt. Prereq—ITM 1010)  
Data accumulation, storage, integration, manipulation, and presentation. Strategic uses of data. Information access/security, their relation to patient confidentiality.

**HSM 3200f. Health Care Leadership and Planning.** (4 cr; Stdnt Opt. Prereq—2010)  
Organizational management characteristics for modern health care settings. Management process/roles addressing resource allocation, delivery of clinical services, governance, patient satisfaction, and outcome evaluation.

**HSM 3230f,s. Administration of Continuum Care Facilities.** (3 cr; Stdnt Opt)  
Programs/services to meet the needs of an aging population. Physical, social, and psychological aspects of aging. Role, organization, function, and management characteristics of long-term health care facilities. Administrative structures, staffing, and changing work force. Governance, operations oversight.



**HSM 3240f,s. Health Care Policy and Comparative Systems.** (3 cr; Stdnt Opt)

Analysis/comparison of world health problems and delivery systems. Geographic, political, and economic relationships affecting health care system.

**HSM 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major not covered in regularly offered courses.

**HSM 3900f,s,su. Internship.** (1–3 cr [max 3 cr]; Stdnt Opt. Prereq–3200, 3230, 4210, 4212, instructor consent)

Ten-week field experience under direction of a faculty member in a health care organization or agency. Internship plan must be coordinated with and approved in advance by HSM program director. Students complete agency/organization assessment and major project. May be repeated in different health care setting.

**HSM 4100s. Health Care Finance.** (3 cr; Stdnt Opt. Prereq–ACCT 2101, ACCT 2102)

Finance structure of U.S. health care system. Reimbursement mechanisms. Financial information in management decision making. Financial planning/control. Analysis of financial statements/budgets in health care system.

**HSM 4210f,s. Health Care Law and Biomedical Ethics.** (4 cr; Stdnt Opt. Prereq–3200)

Legal/bioethical issues in health care management. Professional licensing, certification, and reporting. Liability, negligence, malpractice. Patient rights/responsibilities. Clinical outcomes assessment/measurement.

**HSM 4212f,s,su. Regulatory Management.** (3 cr; Stdnt Opt. Prereq–3200)

Health care funding/reimbursement processes. Compliance/regulatory mechanisms. Federal/state surveys.

## History (HIST)

**HIST 1021f,s. World Civilization I.** (3 cr; Stdnt Opt)

Ancient Near East, Greece, Egypt, Rome, and Medieval Europe.

**HIST 1022f,s. World Civilization II.** (3 cr; Stdnt Opt)

Renaissance and Modern Europe from Reformation to present.

**HIST 1301f. American History I.** (3 cr; Stdnt Opt)

Colonial era and early national period from the Revolution through the Civil War and Reconstruction.

**HIST 1302f,s. American History II.** (3 cr; Stdnt Opt)

Gilded Age to present with emphasis on foreign involvements and wars, New Deal, civil rights, and economic developments.

**HIST 3054f,s. Topics in History.** (3 cr [max 6 cr]; Stdnt Opt)

Topics of regional, national, or international importance, such as Minnesota history, U.S. Civil War, Japanese history.

## Horticulture (HORT)

**HORT 1010f,s. Introduction to Horticulture.** (3 cr; Stdnt Opt)

Environmental considerations, planting, propagation, pruning, and protection of horticultural crops. Greenhouse/field experience.

**HORT 1021f. Woody Plant Materials.** (4 cr; A-F or Aud. Prereq–1010 or instructor consent)

Identification, ecology, and use of deciduous and evergreen trees, shrubs, and vines.

**HORT 1091f. Indoor Flowering and Foliage Plants.** (2 cr; Stdnt Opt)

Identification, culture, and propagation of foliage plants used in interior decoration.

**HORT 1092s. Floral Design.** (2 cr; Stdnt Opt)

Principles for design related to floral arrangement, identification, use, and care of cut flowers common to florist industry.

**HORT 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt)

Topics not covered in regularly offered courses.

**HORT 3030s. Landscape Design.** (4 cr; A-F only. Prereq–1021)

Application of aesthetic, environmental, and functional design principles to creative planning/development of residential/commercial landscapes. Emphasizes low impact and sustainability.

**HORT 3031f. Herbaceous Perennial Plant Materials.** (2 cr; Stdnt Opt)

Identification, classification, ecology, and landscape uses of perennial flowers, bulbs, ground covers, and wildflowers.

**HORT 3033f. Commercial Floriculture Crops-Fall.** (4 cr; Stdnt Opt. Prereq–1010)

Identification and culture of holiday pot plants and major cut flower crops. Soil preparation, artificial mixes, soil testing, applying soil test results; greenhouse pests, life cycle, control and management.

**HORT 3034s. Commercial Floriculture Crops-Spring.** (4 cr; Stdnt Opt. Prereq–1010)

Fundamentals of greenhouse structure and management. Heating and cooling requirements, lighting photoperiod control, soil sterilization, production of winter grown greenhouse crops such as mums, azaleas, cineraria. Identification and culture of annual bedding plants. Wholesale production, use of annual flowers in residential and commercial landscape design.

**HORT 3036s. Plant Propagation.** (4 cr; Stdnt Opt. Prereq–1010, BIOL 2022)

Plant propagation techniques for the commercial and home propagator. Mist system construction and operation. Propagation of plants by tissue culture, seed, cutting, layering, grafting, and division.

**HORT 3040f. Landscape Installation and Maintenance.** (3 cr; Stdnt Opt)

Applied horticulture practices in planting landscape materials, installing hardscapes, and maintaining residential/commercial landscapes. Proper use/maintenance of equipment. Emphasizes environmental/sustainability considerations.

**HORT 3093f. Advanced Floral Design and Florist Operations.** (2 cr; Stdnt Opt. Prereq–1092)

Advanced floral design. Management/business issues unique to floral industry.

**HORT 3804f,s. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt)

Topics related to student's major not covered in regularly offered courses.

## Hotel, Restaurant, and Institutional Management (HRI)

**HRI 1001f. Introduction to Hospitality and Tourism.** (1 cr; Stdnt Opt)

Managerial careers/opportunities in food service, lodging, and tourism. Historical developments, industry leaders. Students develop strategies for academic/career-related success and participate in Hospitality Association.

**HRI 1111f,s,su. Introduction to Food Preparation.** (3 cr; Stdnt Opt)

Fundamentals of food preparation and equipment use. Culinary vocabulary, cooking methods, and recipe development. Stocks, soups, sauces, seafood, poultry, meats, vegetables, salads, baking, and desserts.

**HRI 1112s,su. Sanitation and Safety.** (2 cr; Stdnt Opt)

Introduction to sanitation and safety concerns in a food service establishment and to Hazard Analysis Critical Control Points (HACCP). Can lead to Serve Safe certification from the National Restaurant Association.

**HRI 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)

Current topics not covered in regularly offered courses.

**HRI 2124f,s. Quantity Foods Systems Management.** (4 cr; Stdnt Opt. Prereq–1111, 1112)

Comprehensive overview of food management within an institutional setting. Hands-on management of quantity food production. Applies principles of menu planning, food preparation, personnel management, sanitation/safety, food distribution, human resources, and equipment management.

**HRI 2211f. Rooms Division Operational Management.** (3 cr; Stdnt Opt)

Operational procedures/principles pertaining to Rooms Division. Emphasizes issues related to management of front office and housekeeping operations.

**HRI 2231f,su. Menu Design and Analysis.** (3 cr; Stdnt Opt. Prereq–1111)

Principles of menu design, pricing, and analysis. Menus for varied establishments of the hospitality industry.

**HRI 3241s. Hospitality Selection and Procurement.** (3 cr; Stdnt Opt. Prereq–1111)

Purchasing, receiving, storing, and issuing of products. Formulating specifications, judging quality, selecting products to meet specific needs, and developing security measures.

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**5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

### Course Abbreviations

Letters following course numbers indicate what term(s) the course is taught:

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UMTC ..... University of Minnesota, Twin Cities

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### Other abbreviations

Prereq ..... Course prerequisites

cr ..... credit

equiv ..... equivalent

fr, soph, jr, sr ..... freshman, sophomore, junior, senior

A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

In prerequisite listings, comma means "and."

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**HRI 3311f,s. Restaurant Operational Management.** (3 cr; Stdnt Opt. Prereq-1111)  
Students compare/contrast types of service (e.g., modified American, French, Russian) and develop/apply menu planning techniques, cost controls, and personnel organization. Gueridon preparation/service with product merchandising.

**HRI 3332f. Global Tourism and Marketing.** (3 cr; Stdnt Opt)  
Tourism as a product, its effect on local/international economy. Destination trends, marketing strategies, analysis, motivations. Development of a destination marketing plan.

**HRI 3411s. Facility Management.** (3 cr; Stdnt Opt. Prereq-1111, 2231)  
Concepts/issues related to planning, design, and maintenance of hospitality facility. Factors affecting universal design, work-flow, product selection, space utilization, human factors, ergonomics, environmental concerns, and guest comfort/expectations.

**HRI 3804f,s,su. Individual Studies.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**HRI 3900f,s,su. Internship.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Instructor consent)  
Supervised professional work experience at selected sites. Reports/consultation with faculty adviser/employer.

**HRI 4321s. Food, Beverage, and Labor Control.** (3 cr; Stdnt Opt. Prereq-ACCT 2101; HRI 3241)  
Food service operations cost calculations. Relationship between cost volume and profit. Management processes used in food service to keep costs at realistic levels and achieve desired goals. Implementing electronic spreadsheets to track profit/loss.

**HRI 4421f,s,su. Hospitality Law.** (3 cr; Stdnt Opt. Prereq-Sr)  
Laws/cases applicable to operation of hotels, restaurants, motels, and other hospitality establishments.

**HRI 4431s. Wine, Beverage, and Food Pairing.** (3 cr; Stdnt Opt. Prereq-Sr)  
Principles/practices regarding production, selection, storage, and service of beverages. Beverage sensory perception, food pairings.

**HRI 4441s. Catering On and Off Premise.** (3 cr; Stdnt Opt. Prereq-1111, 2231, 3311)  
Theory/application of operational/managerial principles for off- and on-premise catering for banquets, buffets, weddings, ceremonies, teas, and other special events. Working with tallow and other selected products.

**HRI 4451s. Cases and Trends in Hospitality Management.** (3 cr; Stdnt Opt. Prereq-Sr)  
Hospitality topics explored using a critical incident approach, which encourages thorough analysis of a prominent issue rather than superficial analysis of a complicated case. UPS show attendance required.

## Humanities (HUM)

**HUM 1301f,s. Introduction to Humanities.** (3 cr; Stdnt Opt)  
The arts as a reflection of our search for understanding of the human condition. Beliefs and attitudes presented through creative expressions from around the world.

**HUM 3310f,s. Culture and Technology.** (3 cr; Stdnt Opt)  
Analysis of historical and cultural factors shaping technology. Synthesis of integrated relationships among technology, the arts, societal practices, and values.

## Information Technology Management (ITM)

**ITM 1803f,s,su. Directed Studies.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Instructor consent)  
Current topics not covered in regularly offered courses.

**ITM 2050f,s. Introduction to Programming I.** (3 cr; Stdnt Opt. Prereq-MATH 1031 or equiv of 2 yrs high school algebra or ACT score of 20)  
Structured and object oriented programming with current industry accepted languages. Basic data, selection, and iteration structures. Input/output operations, class definitions, interfaces, exception handling, inheritance, composition, polymorphism.

**ITM 2060f,s,su. Database Management Systems.** (3 cr; A-F or Aud)  
Introduction to database design management/implementation. Data modeling, normalization, DML, DDL. Use of common DBMSs and modeling tools.

**ITM 2070s. Introduction to Programming II.** (3 cr; Stdnt Opt. Prereq-2050)  
Java programming language and development process. Objects, classes, packages, applets.

**ITM 3110f,s. Microcomputer Operating Systems.** (3 cr; A-F or Aud)  
Introduction to DOS, Windows 3.1, Windows 95, Windows NT, and UNIX operating systems. Single-user vs. multi-user systems, control operations, utilities, hardware, application software specifications.

**ITM 3120f,s. Networking and Telecommunications.** (3 cr; A-F or Aud. Prereq-ITM 3110)  
Design, implementation, and management of an enterprise network. Introduces building blocks of network design such as servers, routers, bridges, gateways, transmission media, communications protocols, network security, and performance tuning.

**ITM 3130f,s. Messaging Systems.** (3 cr; Stdnt Opt. Prereq-ITM 3110, 3120)  
Unified messaging types such as electronic mail, fax, and voice. Server software such as Microsoft Exchange, Lotus Notes, and Novell Groupwise. Internet standards for messaging.

**ITM 3145f,s. HTML/XML.** (3 cr; Stdnt Opt. Prereq-ITM 2060, 2070)  
Students create well-formed XML documents, enforce rules through document type definitions/schemas, and manipulate XML documents through document object model and simple API for XML. Complementary technologies, including XSL, CSLT, XPath, XLink, HTML, and CSS.

**ITM 3190f,s. Topics in Information Technology Management.** (3 cr [max 9 cr]; Stdnt Opt. Prereq-2050, 2060)  
Topics may include cold fusion, asp, net, and other emerging platforms.

**ITM 3200f,s. Internet Standards and Protocols-TCP/IP.** (3 cr; Stdnt Opt. Prereq-3110)  
Overview of computer connectivity through the Internet. Internetworking hardware/software, system design considerations, protocols, security, management.

**ITM 3215f,s. Information Assurance and Systems Security.** (3 cr; Stdnt Opt. Prereq-3110, 3120)  
Hacking culture. Impact of computer crime and Internet fraud. How a network/systems administrator can design/implement countermeasures to defend/protect systems assets.

**ITM 3804f,s,su. Individual Studies.** (1-3 cr [max 6 cr]; A-F or Aud. Prereq-Jr, instructor consent)  
Topic related to student's major, not covered in regularly offered courses.

**ITM 3900f,s,su. Internship.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Jr or instructor consent)  
Supervised experience in an information or networking entity within a business firm or agency. Reports/consultations with faculty advisers and employers.

**ITM 4020f,s. Analysis and Design of Information Systems.** (3 cr; Stdnt Opt. Prereq-ITM 2050, 2060, 3110)  
Systems development life cycle. Needs assessment, hierarchical diagramming, entity-relationships, data-flow diagramming. Project-focused review.

**ITM 4900s. Senior Project in Information Technology Management.** (3 cr; Stdnt Opt. Prereq-Sr)  
Students complete an extensive IT design/development project under guidance of faculty member and present the project to ITM faculty and senior peers.

## Literature (LIT)

**LIT 1005f,s. Introduction to Literature.** (3 cr; A-F or Aud)  
Major forms of literature from various cultures and historical periods. Developing an informed, personal response to literature and interpretive skills required for an appreciation of literature.

**LIT 1016f,s. Readings in American Life.** (3 cr; A-F or Aud)  
American literature from Puritans to present. Developing an informed, personal response to that literature. Major concerns of American writers in different eras. Introduction to interpretive skills required for an appreciation of literature.

**LIT 3001s. World Literature.** (3 cr; A-F or Aud)  
Representative works from various cultures from around the globe. Relevant historical contexts and social movements. Intensified interpretive skills for the appreciation of diverse genres.

## Management (MGMT)

**MGMT 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)  
Current topics not covered in regularly offered courses.

**MGMT 3100f,s. Managerial Finance.** (3 cr; A-F or Aud. Prereq–ACCT 2102, ECON 2102, MATH 1150, or instructor consent)  
Principle financial considerations and ratio analysis of a business. Cost of capital, asset management, capital structure planning, financial statement analysis, working capital management, short-term financing, budgeting. Integrates theory and applications.

**MGMT 3200f,s. Principles of Management.** (3 cr; A-F or Aud. Prereq–PSY 1001 or instructor consent)  
Theories, concepts, skills relevant to professional manager role. Basic functions of a manager: planning, organizing, leading, controlling. Decision making, motivation, staffing, international management, basic ethics, social responsibility, change. Integrates theory and applications.

**MGMT 3210f,s,su. Supervision and Leadership.** (3 cr; A-F or Aud)  
Emphasis on organizational environment and human behavior. Human resource systems, motivating employees, leadership, managing change, job satisfaction, communication, group processes, interpersonal and group dynamics within an organization. Participative learning approach complements traditional teaching methods with role playing and case studies.

**MGMT 3220f. Human Resource Management.** (3 cr; A-F or Aud. Prereq–MGMT 3200)  
Focuses on management of people at work with emphasis on recruitment, selection, training, compensation, and evaluation. Changing nature of the world of work, labor market, labor relations, emerging legal issues, discrimination in pay and employment, and effects of technological change on jobs and employment performance.

**MGMT 3250f,s,su. Operations Management.** (3 cr; A-F or Aud. Prereq–MGMT 3200, MATH 1150 or instructor consent)  
Concepts, procedures, and technologies used by managers, administrators, and employees in operation of an organization. Levels of planning, material/inventory management, improving products/systems, project management.

**MGMT 3260f,s. Current Topics.** (3 cr; Stdnt Opt. Prereq–3200; MKTG 3200 or instructor consent)  
Emerging trends in business theory/applications. Introduction to major trends, their implications.

**MGMT 3270f,s. Fundamentals of E-Business.** (3 cr; Stdnt Opt. Prereq–3200, MKTG 3300)  
Emerging trends/technologies defining rules of business in emerging information economy. Business-to-consumer, business-to-distribution channel, and business-to-supply-chain software. Skills in HTML/XML.

**MGMT 3600f,su. Management Case Studies.** (3 cr; Stdnt Opt. Prereq–MGMT 3100, MGMT 3200, MKTG 3300 or instructor consent)  
Specialized studies/cases covering management situations faced by businesses. Facilitates student research, analysis, and decisions in different business situations. Students work individually and as a management team member in making decisions.

**MGMT 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; A-F or Aud. Prereq–Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**MGMT 3900f,s,su. Internship.** (1–3 cr [max 3 cr]; Stdnt Opt. Prereq–Jr)  
Students are employed as interns in a business firm, institution, or agency to gain an in-depth understanding of their field of study. Reports and consultations with faculty and employers required.

**MGMT 4200f,s. Project Management.** (3 cr; Stdnt Opt. Prereq–3200)  
Procedures, team leadership skills, and resource management using computer software. Application/evaluation involving identifying a project and carrying out all steps necessary to achieve satisfactory completion in a team environment.

**MGMT 4800s. Strategic Management.** (3 cr; A-F or Aud. Prereq–Final sem sr in [business management, management emphasis] or instructor consent)  
Capstone, integrative course. Students chart future direction of organizations by formulating, implementing, evaluating strategies. Individual/group creative problem-solving exercises. Students make objective strategic decisions and justify them through oral/written communication.

## Marketing (MKTG)

**MKTG 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)  
Current topics not covered in regularly offered courses.

**MKTG 3200f,s. Personal Selling.** (3 cr; A-F or Aud)  
Introduction to selling principles and processes, industrial vs. ultimate consumer selling, persuasive communication, selling vs. buying process, and time management of the sales professional. Emphasis on developing long-term buying and selling relationships.

**MKTG 3250f,s. Promotional Strategies.** (3 cr; A-F or Aud. Prereq–MKTG 3200, MKTG 3300)  
Principles involved in developing and managing advertising, personal selling, public relations, and sales promotion programs. Introduction to promotional strategies through studying the promotional mix, marketing communications, theory, research, and marketing management. Students develop and present a promotional campaign for an actual company.

**MKTG 3300f,s. Principles of Marketing.** (3 cr; A-F or Aud. Prereq–ECON 2101 or 2102, PSY 1001 or instructor consent)  
Introduction to marketing and strategic marketing process. Team development of marketing plan that implements product, pricing, distribution, and promotional strategies.

**MKTG 3310f,s. Buyer Behavior.** (3 cr; A-F or Aud. Prereq–MKTG 3300)  
Fundamentals of buyer behavior. Behavior of individuals and groups; social and environmental factors that influence a buyer's purchase decision. Group projects outside the classroom.

**MKTG 3360f,s. Global Business.** (3 cr; A-F or Aud. Prereq–MGMT 3200, MKTG 3300)  
Factors affecting marketing of goods and services and managing the organization in the international environment. Students complete a team marketing plan for a product being marketed internationally.

**MKTG 3804f,s. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**MKTG 4200f. Marketing Research.** (3 cr; A-F or Aud. Prereq–MATH 1150, MKTG 3300)  
Research process from marketing perspective. Problem formulation, scientific research methods, analysis/interpretation of marketing data, research report writing, decision-making process derived from market research.

**MKTG 4800s. Marketing Strategies.** (3 cr; A-F or Aud. Prereq–[3250, final sem sr] or instructor consent)  
Analysis of marketing decisions, creative problem-solving exercises, presentation of case analyses and marketing plans. Individual/group projects. Students critique current marketing articles. Case studies, readings.

## Mathematics (MATH)

**MATH 981f,s. Basic Math.** (0 cr; Stdnt Opt)  
Operations on whole numbers, fractions, mixed numbers, decimals, order of operations, problem solving, calculator use, formulas, real numbers, exponents, scientific notation, linear equations, applications, introduction to geometry.

**MATH 991f,s. Elementary and Intermediate Algebra.** (0 cr; Stdnt Opt. Prereq–0981 or equiv)  
Signed numbers, first-degree equations/inequalities, fractional equations, exponents, polynomials, factoring, rational expressions, radical expressions, graphing, systems of equations, functions.

**MATH 992f,s. Intermediate Algebra.** (0 cr; Stdnt Opt)  
Review of elementary algebra, polynomials, factoring, rational expressions, radical expressions, graphing systems of equations. Introduction to functions.

**MATH 1001f,s. Technical Math.** (3 cr; Stdnt Opt. Prereq–MATH 0981 or equiv; Will not satisfy math/sci distribution requirements for baccalaureate degrees; no credit granted if taken after 1031 or 1150;)  
Signed numbers, calculator use, percentage problems, graphing, exponents, formulas, area/volume, solving linear equations, unit conversions, agriculture/business examples.

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**MATH 1011f,s. Mathematics for Elementary School Teachers (BSU).** (3 cr; Stdnt Opt. Prereq—Education major or instructor consent) Background for education majors before enrollment in Ed 3770. Emphasizes use of mathematics manipulatives for modeling basic operations. Set theory, numeration. Systems of whole numbers, integers, rational numbers, real numbers.

**MATH 1031f,s. College Algebra.** (3 cr; Stdnt Opt. Prereq—0991 or 0992) Basic algebraic operations, linear/quadratic equations/inequalities, variation. Functions and their graphs. Theory of equations. Exponential/logarithmic functions. Systems of equations. Matrices, determinants.

**MATH 1142f,s. Survey of Calculus.** (3 cr; Stdnt Opt. Prereq—MATH 1031) Derivatives, integrals, differential equations, maxima and minima, partial differentiation, applications.

**MATH 1150f,s. Elementary Statistics.** (3 cr; Stdnt Opt. Prereq—MATH 0991, 0992 or 2 years high school algebra) Descriptive statistics, elementary probability, normal distribution, binomial distribution, confidence intervals, tests of hypotheses, correlation, regression, chi-square, ANOVA.

**MATH 1250f,s,su. Precalculus.** (4 cr; Stdnt Opt. Prereq—MATH 1031 or placement exam) Review of algebra, functions, polynomial, rational, exponential, logarithmic, and trigonometric functions, trigonometric identities/equations, systems of equations, determinants/matrices, sequences/series, topics from analytic geometry.

**MATH 1271f. Calculus I.** (4 cr; Stdnt Opt. Prereq—MATH 1250 or placement exam) Limits, differential calculus of functions of a single variable, applications. Introduction to integral calculus of a single variable.

**MATH 1272s. Calculus II.** (4 cr; Stdnt Opt. Prereq—MATH 1271) Techniques of integration, calculus involving transcendental functions, polar coordinates, Taylor polynomials, vectors/curves in space, cylindrical/spherical coordinates.

**Music (MUS)**

**MUS 1011f,s. University Singers.** (1 cr [max 6 cr]; Stdnt Opt) Performing group provides experience in many areas of choral music.

**MUS 1021f. Introduction to Music.** (3 cr; Stdnt Opt) Music from Renaissance to present. Styles, forms, expressions. Some examples of music from various cultures compared with western art music.

**MUS 1041f,s. Private Music Instruction.** (1 cr [max 6 cr]; Stdnt Opt) Individual music lessons in voice or instruments. One half-hour lesson per week.

**MUS 1042f,s. Private Instruction: Class Piano.** (1 cr [max 6 cr]; Stdnt Opt) Study of piano technique/musicianship in classroom setting using multiple electronic keyboards. Musical concepts, including melody, harmony, rhythm, repertoire.

**MUS 1051f,s. Band/Pep Band.** (1 cr [max 6 cr]; Stdnt Opt) Ensemble of musicians play brass, woodwind, percussion instruments at concerts on/off campus and at selected UMC athletic events.

**MUS 1071s. Musical Theater.** (1 cr [max 6 cr]; Stdnt Opt) Involvement in a musical theatre presentation. May include musical accompaniment, acting, singing, technical support.

**MUS 1111f. Music Theory I: Foundations of Tonal Music.** (3 cr; Stdnt Opt) Theory and notation, two-part counterpoint; consonance and dissonance; melodic contours; music fundamentals (key signatures, scales, rhythms, chordal construction). Writing and analyzing basic diatonic tonal structures.

**MUS 1121s. Music Theory II: Diatonic Tonality, Harmony and Voice Leading.** (3 cr; Stdnt Opt. Prereq—MUS 1111) Basic harmonic and contrapuntal relationships. Sonata, rondo, variation, minuet, and other standard categories of tonal composition. Chromatic tonal practices; expanded choral vocabulary, voice leading analysis. Basic theories of 20th-century music.

**MUS 3011f,s. University Singers (Choir).** (1 cr [max 6 cr]; Stdnt Opt. Prereq—1011, audition demonstrating skill in [sight-reading, accuracy of pitch, basic musicianship]) Performing group that provides experience in many areas of choral music. Students serve as section leaders, are required to review music to be rehearsed by ensemble before the music is "handed out."

**MUS 3029s. Music of the Twentieth Century.** (3 cr; Stdnt Opt. Prereq—MUS 1021 or instructor consent) Compares various styles of 20th-century music to develop an understanding of human expression; compares musical forms and trends.

**MUS 3041f,s. Private Instruction.** (1 cr [max 6 cr]; Stdnt Opt. Prereq—Instructor consent) Advanced music instruction.

**MUS 3051f,s. Band/Pep Band.** (1 cr [max 6 cr]; Stdnt Opt. Prereq—Audition) Students serve as section leaders, are required to review music to be rehearsed by ensemble before the music is "handed out."

**MUS 3091s. Instrumental and Choral Conducting.** (2 cr; Stdnt Opt. Prereq—At least 2 cr of MUS 1011 and/or 1051, instructor consent) Conduct UMC ensembles to develop score reading skills, conducting techniques.

**Natural Resources (NATR)**

**NATR 1226f. Environmental Science and Sustainability.** (3 cr; Stdnt Opt) Interdisciplinary survey course. Applying ecological principles to social systems, food/fiber production. Economic considerations of land use and rural communities, pollution, global warming, energy production/use, and biodiversity.

**NATR 1233f. Introduction to Natural Resources.** (3 cr; A-F or Aud) Survey of our natural resource heritage with emphasis on North America. Various fields within natural resources examined in terms of conservation practices, employment opportunities, and importance to sustainable societies.

**NATR 1244s. Elements of Forestry.** (4 cr; A-F or Aud. Prereq—1233) Forest management: ecology, silviculture, protection, and multiple-use decision-making processes. Woody forest plants: identification, growth requirements, and management techniques. Compass use and map reading. Survey of the lake states forest products industry.

**NATR 1663s. Principles of Fisheries Management.** (3 cr; A-F or Aud. Prereq—1233) Fisheries management and fish species of Minnesota. Identification, ecology, population assessment, application of appropriate management techniques.

**NATR 1803f,s. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq—Instructor consent) Current topics not covered in regularly offered courses.

**NATR 2573f. Entomology.** (3 cr; A-F or Aud. Prereq—HORT 1010 or AGRO 1183) Insect taxonomy, anatomy, and physiology. Emphasis on insects of economic importance, especially in the Upper Midwest. Control methods, including integrated pest management.

**NATR 2630s. Introduction to Geographic Information Systems.** (3 cr; A-F or Aud. Prereq—1244, MATH 1031) Application/use of computer-based information systems, data delivery, and geographic information systems in natural resource management and regional planning. Labs focus on developing basic competence using current suite of ArcGIS software and finding, retrieving and utilizing data currently available from public resource management agencies.

**NATR 2899f. Pre-Internship Seminar.** (.5 cr; Stdnt Opt) Expectations/responsibilities of internship. Preparing for a job search. Presentations about internship experiences by those who have recently completed internship. Discussion between students, staff and invited guests.

**NATR 3203s. Park and Recreation Management.** (3 cr; A-F or Aud. Prereq—NATR 1233) Survey of park and recreational area management. The recreationist; federal and state legislation; the roles of federal, state, local, and private sector recreation managers; and management techniques as they affect the private and public recreational area manager.

**NATR 3296f,s,su. Special Topics in Wildlife Management.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Sr or instructor consent)

Offered on demand. Focused studies on wildlife-related topics. Seminars by students and guest speakers, field trips, global studies trips abroad.

**NATR 3297f,s. Spec Topics in Water Resources.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Sr or instructor consent)

Focused studies on water-related topics offered on demand. Seminars by students and guest speakers, field trips, global studies trips abroad.

**NATR 3344s. Land Use Planning.** (3 cr; Stdnt Opt. Prereq–Jr or sr status)

Ecological, economic, and legal principles applied to land use planning in relation to agricultural, industrial, residential, wild land, forestry, recreational, and transportation needs. Legislative, agency, and citizen involvement in environmental law formulation and enforcement. Case studies.

**NATR 3364s. Plant Taxonomy.** (3 cr; A-F or Aud. Prereq–BIOL 2022 or instructor consent)

Principles of plant taxonomy with emphasis on higher vascular plants of the Upper Midwest: family characteristics, floral structure, ecology, evolutionary relationships, values to human life, and importance as wildlife food and cover. Methods of field study and collection.

**NATR 3368su. Land Management Field School.** (1–4 cr [max 4 cr]; Stdnt Opt. Prereq–Jr or sr status)

Intensive field-oriented program of study. Application of land management techniques in field situations. Guest lectures, field trips to natural resource agency projects.

**NATR 3374f. Ecology.** (4 cr; A-F or Aud. Prereq–BIOL 1009, SOIL 1293)

Interactions among plants, animals, and the physical environment; structure and function of ecosystems; population dynamics, biotic communities; principles of biotic succession and ecosystem management.

**NATR 3376f. Wetland and Riparian Ecology and Management.** (3 cr; Stdnt Opt. Prereq–3374)

Ecology/management of wetland/riparian lands from global, continental, and Minnesota perspective. General ecology, structure/function, delineation, wetland plant identification, restoration/regulation programs.

**NATR 3464f. Mammalogy.** (3 cr; Stdnt Opt.)

Classification, reproduction, physiology, behavior, ecological adaptations, zoogeography of mammals. Emphasizes techniques used in field/laboratory studies.

**NATR 3466s. Ornithology.** (3 cr; Stdnt Opt.)

Classification, reproduction, physiology, behavior, ecological adaptations, zoogeography of birds. Emphasizes techniques used in field/laboratory studies.

**NATR 3468f. Wildlife Habitat Management Techniques.** (3 cr; Stdnt Opt)

Planning, ecological effects, application, monitoring of habitat management as used by conservation organizations: site preparation, planting, mowing, burning, grazing, herbicide use. Certification in prescribed burning, pesticide use. Wetland restoration, surface-mined land reclamation.

**NATR 3495s. Special Topics in Wilderness Management.** (1–3 cr [max 12 cr]; A-F or Aud. Prereq–NATR 3203)

Directed study offered once a year, with the following topics covered on a rotating basis: wilderness philosophy and ethic development, management of the wilderness resource, management of recreation resources, and wilderness management planning. Involves significant use of new communications technologies.

**NATR 3654f. Wildlife Ecology and Management.** (4 cr; A-F or Aud. Prereq–NATR 3374)

Application of ecological principles to studying and managing wildlife populations, with emphasis on habitat management. Management plan preparation. Field and lab techniques used by natural resource agencies.

**NATR 3660s. Prairie Ecosystem Management.** (2 cr; A-F or Aud. Prereq–NATR 3374)

Description of prairie biome of North America, ecological relationships. Uses by native American, European peoples as setting for art/literature and as habitat for wildlife/livestock, management, restoration. Identification of prairie plants.

**NATR 3699s. Integrated Resource Management.** (3 cr; A-F or Aud. Prereq–Sr or instructor consent)

Team study exploring synthesis of environmental, technical, economic, political, and administrative principles as applied to case studies and current management situations. Emphasis on decision-making process.

**NATR 3804f,s. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)

Topic related to student's major not covered in regularly offered courses.

**NATR 3899f. Pre-Internship Seminar.** (.5 cr; Stdnt Opt)

Expectations/responsibilities of internship. Preparing for a job search. Presentations about internship experiences by those who have recently completed internship. Discussion between students, staff, and invited guests.

**NATR 3900f,s,su. Internship.** (1–4 cr [max 4 cr]; Stdnt Opt. Prereq–2899 or 3899)

Supervised professional work experience in natural resource agencies, private companies, and businesses. Report/consultation with faculty adviser/employer.

**NATR 3901f. Post-Internship Seminar.** (.5 cr; Stdnt Opt. Prereq–3900)

Students who have recently completed internships, prepare/deliver a PowerPoint presentation of experience/knowledge gained. Discussions between post/pre-internship students, staff, and invited guests.

**NATR 4652f,s. Seminar.** (1 cr; A-F only. Prereq–Jr or sr)

Survey of current literature in horticulture, aviation, golf and turf, and natural resources. Preparation/delivery of special topics. Preparation of abstracts. Evaluation of seminars. Use of library and other resources, including computer information searches.

## Occupational Therapy (OT)

**OT 1003f,s. Orientation to Occupational Therapy.** (1 cr; S-N or Aud) Survey of profession. Lectures, films, demonstrations, tours.

## Philosophy (PHIL)

**PHIL 1001f,s,su. Introduction to Philosophy.** (3 cr; A-F or Aud)

Critical introduction to three fundamental questions of philosophy: What can I know? What can I believe? What ought I to do? Emphasis on developing ability to think, speak, and write critically.

**PHIL 3003f,s,su. Applied Ethics.** (3 cr; A-F or Aud. Prereq–PHIL 1001)

Interdisciplinary examination of four primary areas of contemporary ethical concern: research ethics, agricultural ethics, business ethics, and biomedical ethics.

## Physical Education and Recreation (PER)

**PER 1151f. Golf.** (1 cr; Stdnt Opt)

Introduction to and practice of the fundamentals of golf.

**PER 1201f. Dance (Folk, Social, Modern, Western).** (1 cr; Stdnt Opt)

An alternative for aerobic activity. Acquaints students with dance and dance variety. Recreational dance course.

**PER 1321f. Net Activities (Volleyball, Earthball, Cageball, Walleyball).** (1 cr; Stdnt Opt)

Introduces the fundamental skills, rules, and strategies of volleyball, earthball, cageball, and walleyball through class participation. On-line research into each of these activities.

**PER 1331f,s. Racquet Activities (Tennis, Badminton, Racquetball, Pickleball).** (1 cr; Stdnt Opt)

Introduces tennis, pickleball, racquetball, and badminton. Rules, fundamentals, and skills; helps students progress toward their optimum abilities.

**PER 1451f,s. Fitness for Better Health.** (1 cr [max 2 cr]; Stdnt Opt)

Individualized approach to designing and following through with a personalized fitness program. Exercise programs and activities in the fitness area. A form of wellness program, with emphasis on fitness.

**PER 1461f,s. Physical Training and Conditioning.** (1 cr; Stdnt Opt)

Promotion and development of lifetime fitness through weight training and conditioning.

**PER 1471s. Olympic Weight Training.** (1 cr; Stdnt Opt. Prereq–PER 1461) Techniques for advanced strengthening/conditioning.

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**4xxx** ..... Courses primarily for undergraduate students in their fourth year of study.

**5xxx** ..... Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

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NDSU ..... North Dakota State University

UMTC ..... University of Minnesota, Twin Cities

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A prerequisite course listed by number only (e.g., prereq 3322) is in the same department as the course being described.

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Courses beginning with 09 cannot be used for credit toward graduation or transfer.

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In prerequisite listings, comma means "and."

Courses beginning with 09 cannot be used for credit toward graduation or transfer.

**PER 1481f,s. Aerobic Exercise.** (1 cr [max 4 cr]; Stdnt Opt)  
Promotes overall fitness. Incorporates aerobic movement for cardiovascular workout plus light weight training for strength and endurance. Stretching, flexibility, and relaxation.

**PER 1601s. Aquatic Activities (Beg Swim, Adv Beg, Intermediate, Swimmer, Lifeguard Trng/WSI, Aqua Aerobics).** (1 cr [max 4 cr]; Stdnt Opt)  
Strokes, personal safety, and basic rescue skills in accordance with guidelines established by the American Red Cross.

**PER 1701f. Varsity Sports: Football.** (1 cr; Stdnt Opt)  
To study, practice, and participate in all individual and team skills of football.

**PER 1711f. Varsity Sports: Volleyball.** (1 cr; Stdnt Opt)  
Varsity collegiate volleyball experience.

**PER 1712s. Varsity Sports: Tennis (W).** (1 cr; Stdnt Opt)  
For students who wish to participate at the intercollegiate level.

**PER 1714f. Varsity Sports: Golf (W).** (1 cr; Stdnt Opt)  
Daily practice sessions, game competition. Evaluation based on satisfactory participation, completion of golf season.

**PER 1716f. Varsity Sports: Golf (M).** (1 cr; Stdnt Opt)  
Daily practice sessions, game competition. Evaluation based on satisfactory participation, completion of golf season.

**PER 1722f. Varsity Sports: Soccer (W).** (1 cr; A-F or Aud)  
Rules and basic strategies of soccer. Basic techniques of the major components of soccer. Appreciating and practicing the game of soccer.

**PER 1731s. Varsity Sports: Basketball (W).** (1 cr; A-F or Aud)  
Varsity collegiate basketball experience.

**PER 1741s. Varsity Sports: Basketball (M).** (1 cr; A-F or Aud)  
Varsity collegiate basketball experience.

**PER 1751s. Varsity Sports: Hockey.** (1 cr; A-F or Aud)  
Basic principles and participation; helps students progress toward optimum ability.

**PER 1761s. Varsity Sports: Equestrian.** (1 cr; Stdnt Opt)  
Students participate/compete in equestrian events at collegiate level.

**PER 1781s. Varsity Sports: Softball (W).** (1 cr; Stdnt Opt)  
For athletes who wish to compete at the intercollegiate level.

**PER 1791s. Varsity Sports: Baseball (M).** (1 cr; Stdnt Opt)  
To practice, study, and participate in all individual and team skills of baseball.

**Physics (PHYS)**

**PHYS 1001f,s,su. Elementary Physics.** (3 cr; A-F or Aud. Prereq-MATH 1031)  
Fundamental laws of mechanics, fluids, temperature, gas laws, electricity, wave motion, origins of modern physics, radioactivity.

**PHYS 1012f,s,su. Introductory Physics.** (4 cr; Stdnt Opt. Prereq-MATH 1031)  
Motion, forces, torque, energy, heat, sound, light, electricity, magnetism. Emphasizes applications.

**PHYS 1101f. Introductory College Physics I.** (4 cr; Stdnt Opt. Prereq-MATH 1031)  
First of two-semester sequence. Algebra-based introduction to physics and physics problem solving. Motion, forces, torque, momentum, energy, thermal energy/heat. Topics presented in applied context.

**PHYS 1102s. Introductory College Physics II.** (4 cr; Stdnt Opt. Prereq-MATH 1031, PHYS 1101)  
Second of two-semester sequence. Algebra-based introduction to physics and physics problem solving. Vibrations, light, sound, electricity, magnetism. Selected modern physics topics (e.g., radiation). Topics presented in applied context.

**Plant Industries Management (PIM)**

**PIM 1803f,s. Directed Studies.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Instructor consent)  
Current topics not covered in regularly offered courses.

**PIM 2573f. Entomology.** (3 cr; A-F or Aud. Prereq-AGRO 1183 or HORT 1010)  
Insect taxonomy, anatomy, and physiology. Emphasis on insects of economic importance, especially in the Upper Midwest. Control methods, including integrated pest management.

**PIM 3023f. Plant Breeding and Genetics.** (4 cr; A-F or Aud. Prereq-BIOL 1009)  
Principles of plant breeding. Emphasizes application of genetic principles to plant breeding. Genetic variation, selection methods, cultivar development. Examples from common field/horticultural crops.

**PIM 3030s. Research Techniques.** (3 cr; A-F or Aud. Prereq-Jr or sr)  
Experimental design and methodology in plant science research. Basic philosophy, data interpretation and analysis, and application of research information to practical management situations.

**PIM 3230f. Introduction to Plant Pathology.** (3 cr; A-F or Aud. Prereq-AGRO 1183 or HORT 1010, BIOL 1009)  
Nature, diagnosis, and management of plant diseases. Identification, control, and life cycles of representative plant diseases significant in the Upper Midwest that illustrate plant pathology principles.

**PIM 3630s. Integrated Crop Management (Capstone).** (3 cr; A-F or Aud. Prereq-PIM 1030, 1530, 2640, 3020, 3030, 3230, SOIL 3414)  
Capstone course. Students investigate, research, and study problems of agronomic crops and make recommendations. Students individually and in teams solve problems using scientific methods.

**PIM 3804f,s. Individual Studies.** (1-3 cr [max 6 cr]; Stdnt Opt. Prereq-Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**Political Science (POL)**

**POL 1001f,s. American Government.** (4 cr; Stdnt Opt)  
Introduction to politics/government in the United States. Constitutional origins/development, major institutions, parties, interest groups, elections, participation, public opinion. Ways of explaining politics. Nature of political science.

**POL 1054f,s. Comparative Government.** (3 cr; Stdnt Opt)  
Government systems of the United States, Soviet Union, Great Britain, Japan, and France. Third World and Middle Eastern countries' political and social impacts studied through current events.

**Psychology (PSY)**

**PSY 1001f,s,su. General Psychology.** (3 cr; Stdnt Opt)  
Overview of psychology as scientific study of human/animal behavior. Emphasizes goals of psychology: to describe, understand, predict, and control behavior. Biological, cognitive, affective, and social perspectives.

**PSY 1093f,s,su. Lifespan Development.** (3 cr; Stdnt Opt)  
Human life span perspective. Integrates developmental principles through research of social issues. Theories of major developmental theorists, recent challenges from changes in society/family interrelationships. Total environmental issues. Progress in genetics/medicines toward a better understanding of human development.

**PSY 3604f. Abnormal Psychology.** (3 cr; Stdnt Opt. Prereq-PSY 1001)  
Comprehensive study of abnormal behavior. Focuses on causal factors, treatment, and outcome of maladaptive behavior. Systematic study of biological, behavioral, and psychosocial therapies as modes of treatment and prevention of disorders. Lectures, case studies, videos, group discussions, oral presentations, term paper.

**Public Health (PUBH)**

*PUBH 3005 is required for the undergraduate early childhood education major and the agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers this course via ITV.*

**PUBH 1003f,s. Alcohol and College Life (UMTC).** (1 cr; Stdnt Opt. Prereq-Fr or soph or pseo)  
Facts about how alcohol affect college life. Personal prevention strategies. Maximizing student/campus safety. Web-based distance learning format.

**PUBH 3005s. Fundamentals of Alcohol and Drug Abuse (UMTC).** (1 cr; Stdnt Opt. Prereq–Jr or sr)

Scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems. Emphasizes incidence, high risk populations, prevention, intervention. Lecture, discussion, special readings.

## Scientific and Technical Communication (STC)

**STC 3701f,s. Rhetoric Theory: Persuasion and the Literature of Science.** (3 cr; Stdnt Opt. Prereq–COMP 1011 or 1013, SPCH 1101)

Principles/history of rhetorical theory/criticism. Classical theories, especially Aristotle's Rhetoric. Aristotelian concepts applied to examples of contemporary communication. Relation of classical theory to scientific discourse/technical communication.

## Sociology (SOC)

**SOC 1001f,s,su. Introduction to Sociology.** (3 cr; Stdnt Opt)

Culture, social institutions, socialization, groups, social class, race and ethnicity, collective behavior, and social deviance.

**SOC 1102f. Cultural Anthropology.** (3 cr; Stdnt Opt)

Human culture from advent of agriculture to present. Methods used in cultural anthropology; linguistics; general theories of culture; functions of religion, law, kinship, systems, and other major influences in selected cultures.

**SOC 3937f. Social Gerontology: Elders in American Society.** (3 cr; Stdnt Opt)

Survey of characteristics and concerns of older persons, including physical, social, psychological, and cultural factors associated with aging. Individual outside work with an older person.

## Soil and Water Management (SWM)

**SWM 3009s. Hydrology and Water Quality.** (4 cr; Stdnt Opt. Prereq–CHEM 1001, MATH 1031, SOIL 1293, jr, or instructor consent)

Principles/theory of surface/ground water quality, including but not limited to water budget, hydrologic cycle, water quantities, Darcy's Law, water quality units and flow rates, hydraulic conductivity/permeability, and laboratory tests for and maintenance of water quality.

**SWM 3103f. Meteorology and Climatology.** (2 cr; A-F or Aud. Prereq–PHYS 1012)

Fundamentals of weather/climate. Energy balance, weather chart analysis, composition/circulation patterns of atmosphere, climates of continents.

**SWM 3224f. Soil and Water Conservation.** (4 cr; Stdnt Opt. Prereq–SOIL 1293, jr, or instructor consent)

Management principles and practices used to increase productivity and conserve soil and water resources for agronomic crops. Maintaining wildland and environmental quality through use of shelterbelts.

**SWM 3225f. Watershed Management.** (3 cr; Stdnt Opt)

Precipitation, infiltration, evapo-transpiration, runoff from small watersheds. Application to design of structures, water/wind erosion practices. Design principles/techniques in constructing small impoundments and waste holding facilities, and in restoring wetlands. Selecting/applying irrigation/drainage systems.

## Soil Science (SOIL)

**SOIL 1293f,s. Soil Science.** (3 cr; Stdnt Opt. Prereq–CHEM 1001)

Formation, classification, and composition of soils, with emphasis on environmental quality, chemical and physical properties affecting growth and nutrition of plants, management principles and practices used to increase productivity and conserve soil and water resources for agronomic crops.

**SOIL 3414f,s. Soil Fertility and Plant Nutrition.** (4 cr; Stdnt Opt. Prereq–SOIL 1293, soph, or instructor consent)

Soil fertility management and its effect on crop growth. Uptake and use of specific important nutrients; use of fertilizers, their composition and characteristics; importance of residue management to maintain high productivity; environmental impact of certain agronomic practices.

## Spanish (SPAN)

**SPAN 1104f,s. Beginning Spanish I.** (4 cr; Stdnt Opt)

Conversational Spanish centered on day-to-day experiences. Emphasis on verb conjugation, rules of grammar, and vocabulary building. Cultural awareness and appreciation.

**SPAN 1204f,s. Beginning Spanish II.** (4 cr; Stdnt Opt. Prereq–SPAN 1104 or 2 years high school Spanish)

Emphasis on verb conjugation with the addition of compound tenses, indicative and subjective moods. Vocabulary building; dialogue concerning sports, travel, service information. Cultural and political dimensions of Spanish-speaking countries.

## Speech (SPCH)

**SPCH 1101f,s,su. Public Speaking.** (3 cr; A-F or Aud)

Topic selection, research, organization, rehearsal, and extemporaneous delivery of informative and persuasive speeches.

## Sport and Recreation Management (SRM)

**SRM 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Instructor consent)

Current topics not covered in regularly offered courses.

**SRM 2000s. Prevention and Care of Athletic Injuries.** (3 cr; A-F or Aud. Prereq–BIOL 2103)

Instruction/practice in fundamental athletic training skills. Historical perspective of athletic training as a career. Basic terminology of injuries. Prevention, taping, immediate care.

**SRM 2100s. Psychology of Sport.** (3 cr; Stdnt Opt)

Sport in terms of motivation/performance. Sport and human development.

**SRM 2200f. Sociology of Sport.** (3 cr; Stdnt Opt)

General relationship between sport and society. Ways sport is linked to other spheres of social life. Organization and behavior patterns that exist within sport settings. Cultural, structural, and situational factors and social processes related to sport.

**SRM 3000s. Foundations of Sport and Recreation Management.** (3 cr; Stdnt Opt)

Scope/extent of sport/recreation management. Accounting, career opportunities, composition, computer applications, facility/equipment management, fundraising, grant writing, health/wellness, human communication, law, multilevel scheduling, management principles, marketing, promotions.

**SRM 3001s. Sports Nutrition.** (3 cr; Stdnt Opt. Prereq–BIOL 1009 or CHEM 1001 or FSCN 1123)

Nutrition principles applied to fitness and sport. The six nutrients, body composition, training and conditioning, weight maintenance, nutrition in competitive sports.

**SRM 3002f. Sport and Recreation Law.** (3 cr; Stdnt Opt. Prereq–GBUS 3107)

Legal principles affecting managers, sponsors, and users of sport and recreation programs, including the vocabulary of contract negotiation and civil rights in planning, developing, maintaining, and managing sport and recreation organizations.

**SRM 3003s. Facility and Equipment Management.** (3 cr; Stdnt Opt)

Design, layout, and maintenance strategies for managing sports facilities. Purchasing, organizing, and maintenance strategies for managing equipment used for multiple sport and recreation activities.

**SRM 3005f. Sports Information and Newsletters.** (3 cr; Stdnt Opt. Prereq–CA 1070, COMP 3008 or COMP 3303, MATH 1150)

Media relations, public relations, data gathering/analysis, presenting information to public/media.

**SRM 3006f. Sports Marketing.** (3 cr; Stdnt Opt. Prereq–MKTG 3300)

Applying theories/principles of marketing to sport industry. How marketing is used in various SRM settings, from local sporting and amateur events to professional leagues.

**SRM 3010f,s. Topics in Coaching.** (2 cr [max 6 cr]; Stdnt Opt)

Philosophies, theories, methods, and techniques of coaching different sports.

**SRM 3020f,s,su. Coaching Practicum.** (1 cr; Stdnt Opt. Prereq–3010)

Students apply coaching technique in clinical setting.

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**SRM 3320f. Exercise Physiology.** (3 cr; Stdnt Opt. Prereq–BIOL 1464)  
Responses/adaptations of body's physiological systems to physical activity, biochemical foundations of these changes. Sport nutrition. Exercise and immune function. Body composition analysis, muscle metabolism, exercise bioenergetics.

**SRM 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt. Prereq–Jr, instructor consent)  
Topic related to student's major not covered in regularly offered courses.

**SRM 3900f,s,su. Internship in Sport and Recreation Management.** (1–3 cr [max 3 cr]; Stdnt Opt. Prereq–Jr, instructor consent)  
Field-based learning experience.

**SRM 4099s. Seminar in Sport and Recreation Management.** (1 cr; Stdnt Opt. Prereq–Sr, instructor consent)  
Capstone course emphasizing design, implementation, and evaluation of an entire sport or recreation program in terms of a virtual portfolio.

## Theatre (TH)

**TH 1121f,s. Theatre Production.** (1 cr [max 6 cr]; Stdnt Opt)  
Involvement in one or more of the following: acting, directing, costuming, set construction, makeup, publicity, coaching, lighting, sound.

## Turf (TURF)

**TURF 1072s. Principles of Turf Management.** (3 cr; Stdnt Opt)  
Species identification. Cultural requirements/principles for establishing, producing, and maintaining turf. Golf course turf care/maintenance.

**TURF 1803f,s,su. Directed Studies.** (1–3 cr [max 6 cr]; Stdnt Opt)  
Topics not offered in regularly scheduled courses.

**TURF 3074s. Turfgrass Pest Management.** (3 cr; Stdnt Opt. Prereq–3072 or instructor consent)  
Identification/control of turfgrass diseases, weeds, and insects. Emphasizes integrated cultural/chemical management methods.

**TURF 3076f. Turfgrass Management Systems.** (3 cr; Stdnt Opt. Prereq–3074)  
Advanced skills for establishment, maintenance, and renovation. Strategies for developing turfgrass management systems. Decision-making and problem-solving in applied-business context. Professional skills development.

**TURF 3077s. Turf and Landscape Irrigation Design and Installation.** (2 cr; A-F or Aud)  
Basic irrigation design, including pipe sizing/selection, pressure loss, sprinkler types/selection. Installation equipment, techniques. Lab.

**TURF 3804f,s,su. Individual Studies.** (1–3 cr [max 6 cr]; Stdnt Opt)  
Topics not included in regularly scheduled courses.

## Work and Human Resource Education (WHRE)

*The following courses are required for the undergraduate agricultural education major. This major is a collaborative agreement with the University of Minnesota, Twin Cities, which offers these courses via ITV.*

**WHRE 5697f. Teaching Internship: School and Classroom Settings (UMTC).** (2 cr; Stdnt Opt)  
Part-time supervised teaching experience in a school. Seminars on managing students' learning in work/community/family education programs in contemporary schools and on becoming a reflective educator.

**WHRE 5698s. Teaching Internship (UMTC).** (6 cr; Stdnt Opt)  
Teaching experience in school system that provides programs for grades 5-12.



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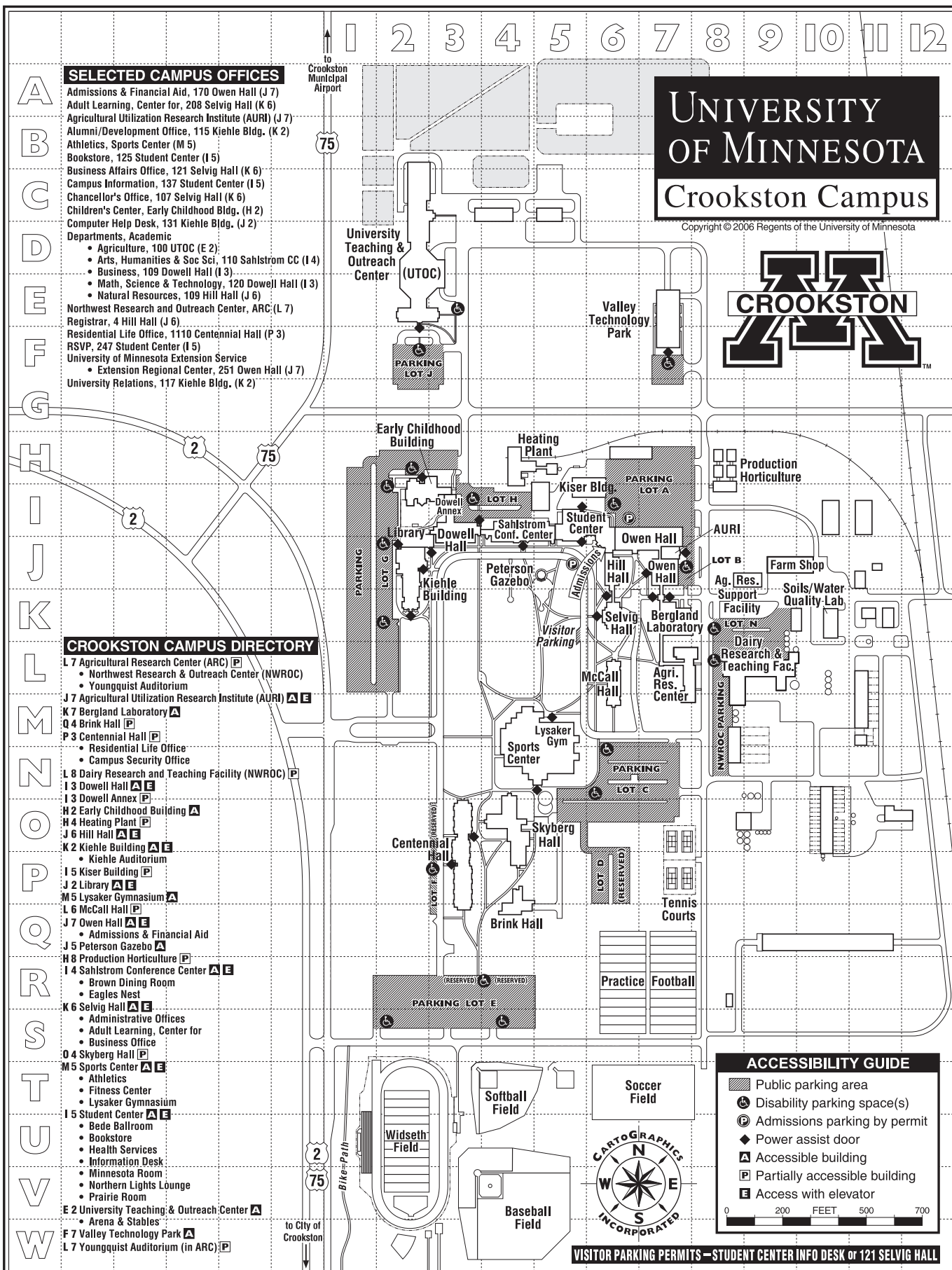
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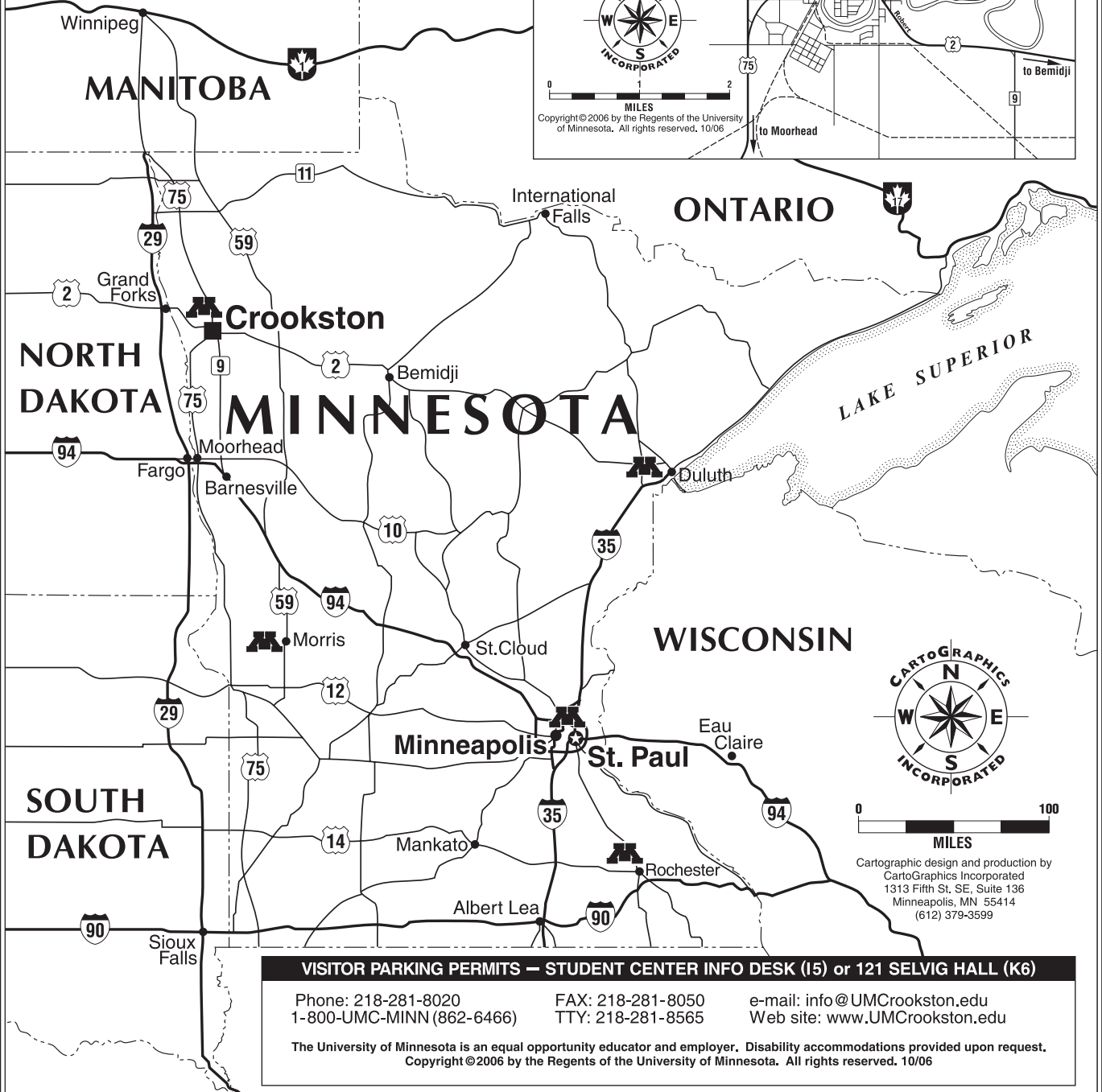
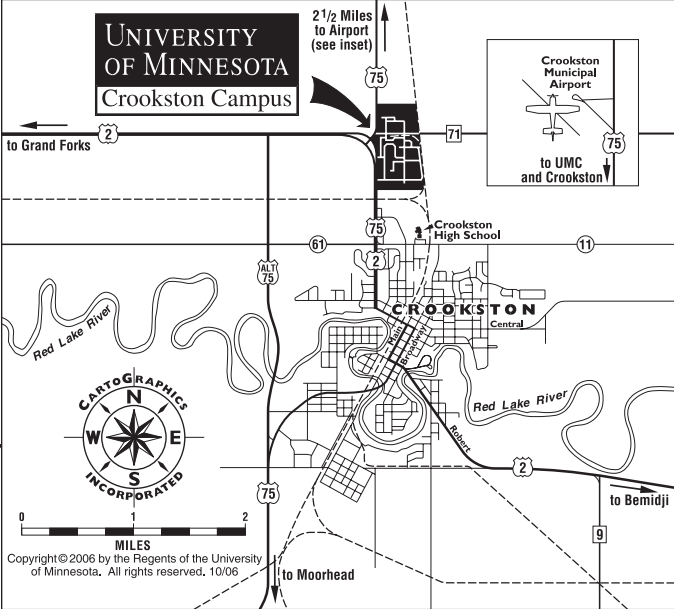
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165 miles	Morris, MN
370 miles	Rochester, MN
295 miles	St. Paul, MN
320 miles	Sioux Falls, SD
150 miles	Winnipeg, Manitoba



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**Postal Statement**

Volume XXII, Number 1  
August, 2007

University of Minnesota, Crookston

Standard Rate Postage paid at Crookston, Minnesota.  
POSTMASTER: Send address changes to the Office  
of the Registrar, University of Minnesota, 2900  
University Avenue, Crookston, MN 56716-5001.

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