Twin Cities Campus

Bioproducts and Biosystems Science, Eng and Mgmt M.S.B.B.S.E.M.

Bioproducts and Biosystems Engineering

College of Food, Agricultural and Natural Resource Sciences

Link to a list of faculty for this program.

- **Students will no longer be accepted into this program after Fall 2014. Program requirements below are for current students only.**
- **Students interested in this program should see Bioproducts and Biosystems Science, Eng and Mgmt M.S.**

Contact Information:
Department of Bioproducts and Biosystems Engineering, Biosystems and Agricultural Engineering Building, 1390 Eckles Avenue, St. Paul, MN 55108 (612-625-7733; fax: 612-624-3005)
Email: bbe@umn.edu
Website: http://www.bbe.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2019
- Length of program in credits: 30
- This program does not require summer semesters for timely completion.
- Degree: M S Bioproducts & Biosystems Science, Eng & Mgmt

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The master of science degree in the bioproducts and biosystems science engineering and management (BBSEM) graduate program provides a strong foundation in the basic sciences, engineering, and management in support of the renewable bio-resources utilization, environmental quality, and national security while improving our global competitiveness. The areas of specialization include bioproducts science and engineering, biosystems science and engineering, and bioproducts marketing and management.

Bioproducts science and engineering specialization focuses on the fundamental science and engineering of the various manufacturing processes used in the sustainable conversion of biomass into bio-based industrial and consumer products and their effective end-use applications. Bioproducts include "green" materials, chemicals and energy derived from bio-resources including biofuels, bioenergy, biocomposites, bio-based plastics, adhesives, pulp and paper, building materials, and more.

Biosystems science and engineering specialization is designed for students who seek to develop a strong foundation in physical sciences and engineering principles which are applied to important problems involving biological systems. Potential areas of interest include water and soil management and protection; livestock environment; food engineering and value-added processing; machinery systems design; grain quality; safety, health, and risk management; renewable energy systems; and waste management.

Bioproducts marketing and management specialization is designed for graduate students who seek to build on a strong diverse background encompassing liberal arts, basic sciences, communications and product development, and marketing and management of bioproducts.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

Other requirements to be completed before admission:
Students seeking a master's degree should have a bachelor's degree in engineering, mathematics, the physical or biological sciences, or a related field from a recognized U.S or international university. Applicants should have a performance level on previous academic work required for a degree of at least a 3.0 GPA (on a 4.0 grading scale).

Applicants must submit their test score(s) from the following:

- GRE

International applicants must submit score(s) from one of the following tests:

- TOEFL

- Internet Based - Total Score: 79
- Internet Based - Writing Score: 21
- Internet Based - Reading Score: 19
- Paper Based - Total Score: 550

- IELTS
  - Total Score: 6.5
- MELAB
  - Final score: 80

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan A: Plan A requires 14 major credits, 6 credits outside the major, and 10 thesis credits.The final exam is oral.

Plan B: Plan B requires 20 major credits and 6 credits outside the major.The final exam is oral. A capstone project is required.
Capstone Project: Students complete a smaller project or projects that involve a total of about 120 hours of work and write Plan B papers on their projects.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 2.80 is required for students to remain in good standing.

At least 1 semesters must be completed before filing a Degree Program Form.

All master's level students must take BBE 8001 - Seminar I (1 cr) and BBE 8002 - Seminar II (1 cr). All master's level students must take BBE 8013 - Parameter Estimation (3 cr) unless they can demonstrate to the BBE 8013 instructor that they have already mastered the course material or have justified the selection of a suitable alternative.

Degree programs are expected to include mostly 5xxx and 8xxx courses. If the degree program contains more than three 4xxx courses, students and their advisers are asked to include a letter of explanation when the degree program is submitted for approval.
If a master's degree program includes more than 4 credits of special problems or advanced problems courses, students and their advisers are asked to include a letter of explanation when the degree program is submitted for approval.