

Do you want
to be part of
the solution?



Master of Engineering – Biosystems Engineering

Humanity's growing demand for food, fibre and fuel within the earth's capacity for sustainable production is often viewed as a "wicked challenge" – a challenge that requires an understanding of both technology and biological systems. The discipline of Biosystems Engineering is founded on the application of engineering principles applied to problems involving biological systems. For Canada to contribute to a sustainable future for our planet, there is an increasing need for engineers educated in the fundamentals of the Biosystems Engineering discipline.



Flexible Study Options

Program Requirements

The M.Eng. degree offered by the Department of Biosystems Engineering (University of Manitoba) is a course-based degree intended for individuals desiring an advanced degree with an emphasis on the practice of engineering involving biological systems. A minimum of 30 credit hours of coursework must be completed, with at least 18 credit hours taken at the graduate level. The program has sufficient flexibility to allow an individual to tailor the proportion of technical courses to courses developing professional skills. An academic advisor is available to assist with structuring a program to suit your interests. The M.Eng. program can be completed in 8 months of full-time study.

Sample Program #1 – focus on technical content

BIOE 3320 Engineering Properties of Biological Materials

BIOE 3590 Mechanics of Materials in Biosystems

BIOE 4600 Design of Water Management Systems

BIOE 7110 Grain Storage

BIOE 7180 Bioprocessing

BIOE 7300 Food Process Engineering

BIOE 7350 Bioresource Engineering & Sustainability

BIOE 7360 Biological Systems: Behaviour, Modeling & Simulation

BIOE 7380 Biomaterials Science and Engineering

Sample Program #2 – balance of technical content & professional skills

BIOE 4440 Bioprocessing for Biorefining

BIOE 7350 Bioresource Engineering & Sustainability

BIOE 7360 Biological Systems: Behavior, Modeling & Simulation

BIOE 7370 Engineering Properties of Fibre for Industrial Uses

BIOE 7380 Biomaterials Science and Engineering

BIOE 7240 Professional Engineering Practice in Manitoba

BIOE 7290 Biosystems Engineering Seminar

ENG 4100 Decolonizing and Indigenizing Engineering

MECH 3170 Project Management

Admission

Applicants must normally have a four-year bachelor's degree in engineering (any discipline) to qualify for the Master of Engineering in Biosystems Engineering program.

The application deadline is January 15 for a Fall Term (September) start.

For more information about the Department of Biosystems Engineering at the University of Manitoba, please visit <https://umanitoba.ca/engineering/biosystems>

To access the online application, please visit <https://umanitoba.ca/explore/programs-of-study/biosystems-engineering-meng#admission-requirements>

