TRANSLATIONAL BIOMEDICAL ENGINEERING (NON-THESIS) (M.SC.A.) (45 CREDITS)

Offered by: Biomedical Engineering (Faculty of Engineering)
Degree: Master of Science Applied
Program credit weight: 45

Program Description

The M.Sc.(Applied) in Translational Biomedical Engineering; Non-Thesis is a full-time specialized 13- to 16-month professional program in translation biomedical engineering. This is an intensive program that focusses on the biomedical engineering industry through a comprehensive curriculum covering essential skills and knowledge needed to translate biomedical engineering research into clinical and commercial solutions.

The program consists of three main components that are unique to the translational process in biomedical engineering, including: 1) translational course on intellectual property, regulatory affairs, quality management systems, clinical trials and reimbursement; 2) fundamental science courses in biomedical engineering; and 3) an experiential component, comprising of a closely supervised 4-month internship in the biomedical engineering industry.

None of the courses taken in the graduate certificate in Translational Biomedical Engineering can be credited towards the M.Sc.(Applied) once the graduate certificate has been awarded.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Required Courses (30 credits)

Expand allContract all

Course	Title	Credits
BMDE 653	Patents in Biomedical Engineering.	3
BMDE 654	Biomedical Regulatory Affairs - Medical Devices.	3
BMDE 655	Biomedical Clinical Trials - Medical Devices.	3
BMDE 656	Medical Device Development Process.	3
BMDE 657	Biomedical Engineering Industry Internship.	18

Complementary Courses (15 credits)

15 credits to be chosen listed from courses below, or other relevant 500-, 600- or 700-level courses chosen in consultation and with approval of the Program Director and the concerned offering unit/ department.

General Biomedical Engineering

Expand allContract all

Course	Title	Credits
BMDE 501	Selected Topics in Biomedical Engineering.	3

Biomedical Signals and Systems

Expand allContract all

Course	Title	Credits
BMDE 502	BME Modelling and Identification.	3
BMDE 503	Biomedical Instrumentation.	3
BMDE 512	Finite-Element Modelling in Biomedical Engineering.	3
BMDE 519	Biomedical Signals and Systems.	3

Medical Imaging

Expand allContract all

Course	Title	Credits
BMDE 610	Functional Neuroimaging Fusion.	3
BMDE 650	Advanced Medical Imaging.	3
BMDE 660	Advanced MR Imaging and Spectroscopy of the Brain.	3
MDPH 607	Medical Imaging.	3

Biomaterials and Tissue Engineering

Expand allContract all

Course	Title	Credits
BMDE 503	Biomedical Instrumentation.	3
BMDE 508	Introduction to Micro and Nano-Bioengineering.	3

Rehab Engineering

Expand allContract all

Course	Title	Credits
BMDE 525D1	Design of Assistive Technologies: Principles and Praxis.	3
BMDE 525D2	Design of Assistive Technologies: Principles and Praxis.	3