

## Application Form for Biomedical Engineering Option in Mechanical Engineering

The Biomedical Engineering Option program is available to all students in Mechanical Engineering who are approved by the Department. This option will help to prepare students for careers in Biomedical Engineering or Medicine. Students interested in pursuing a career in Medicine should consult with the Assistant Dean in the Faculty of Science about what other courses, such as Biology and Chemistry, would be required in order to apply for admission to a medical school; an appropriate individual study program would then be prepared in consultation with the Director of Undergraduate Studies in the Mechanical Engineering Department and the Option Coordinator.

<b>Surname</b>		<b>Given Names in Full</b>		<b>Student No.</b>
<b>School Phone</b> (   )	<b>Home Phone</b> (   )	<b>Expected Date of Graduation:</b>	<b>E-mail Address</b>	
<b>Student signature:</b>			<b>Date:</b>	

### Requirements:

**APSC 3953** Basis of Biomedical Engineering (3 ch)

**ME 4860** or **ENGG 4000** or **TME 4025**, Senior Project selected to be a biomedical engineering related project (8 ch).

Plus at least seven credit hours of Mechanical Engineering Electives from the list below:

- ME 4173 Design and Analysis of Robots (4 ch)
- ME 4622 Human Factors Engineering (3 ch)
- ME 4703 Mechanical Measurements (4 ch)
- ME 5173 Advanced Kinematics of Manipulators (3 ch)
- ME 5223 Finite Element Analysis (3 ch)
- ME 5622 Human Factors Engineering (3 ch)
- ME 5653/ME 6003 Predictive Control and Intelligent Sensors (4 ch)
- ME 5913 Biomechanics I (4 ch)
- ME 6003 (Special Topics) Biomaterials: Synthesis, Characterization, and Applications (3 ch)
- ME 6003 (Special Topics) Fatigue, Failure, and Fracture of Materials (3 ch)

Plus ten additional credit hours which can be from the list below:

- CS 3025 Human-Computer Interaction (3 ch)
- ECE 4343 Haptics (4 ch)
- KIN 3041 Disability Awareness (3 ch)
- KIN 3061 Advanced Biomechanics (4 ch)
- KIN 3161 Human Factors in Ergonomic Design (3 ch)
- KIN 4041 Movement Disorders (3 ch)
- KIN 4063 Biomechanical Instrumentation and Data Acquisition (3 ch)
- KIN 4161 Occupational Biomechanics (3 ch)
- KIN 4162 Occupational Health and Safety Ergonomics (3 ch)
- KIN 4163 Workplace Ergonomic Design and Analysis (3 ch)
- PHYS 5993 Magnetic Resonance Imaging (3 ch)
- STAT 5293 Applied Statistics (3 ch)

Other courses may be substituted with the permission of the Director of Undergraduate Studies or the Option Coordinator.

Some electives may require additional prerequisite courses to be taken. Students are responsible for ensuring any prerequisite requirements are met.

Not all courses are offered each year.

The Biomedical Engineering Option raises the minimum path for Mechanical Engineering from 164 ch's to 174 ch's and will typically require at least 9 terms to complete. This version of the option takes effect in January 2017.

The courses not selected from list A could be added to list B. Some electives may require additional prerequisite courses to be taken. Other courses may be selected with the permission of the Director of Undergraduate Studies or the Option Coordinator. Other courses approved by the Department (Indicate which courses): \_\_\_\_\_

**Department Approval:**

**Date:** \_\_\_\_\_

**Approval:** \_\_\_\_\_

**January 2021**

**Copy to Faculty Option Coordinator**