

Mechanical Engineering and Biomedical Engineering

September 2024 (for students who entered first year in September 2022 or later)

Year 2

Term A

NMM 2270A	Applied Mathematics for Engineering II
BME 3201A	Fundamentals of Biomedical Engineering Design
MME 2202A	Mechanics of Materials
MME 2204A	Thermodynamics I
MME 2259A	Product Design and Development
MME 2260A	Industrial Materials

Term B

NMM 2276B	Applied Mathematics for Electrical & Mechanical Eng. III
MME 2200S	Engineering Shop Safety Training
MME 2221B	Computational Methods for Mechanical Engineers
MME 2213B	Engineering Dynamics
MME 2273B	Introduction to Fluid Mechanics and Heat Transfer
MME 2285B	Engineering Experimentation
SS 2143B	Applied Statistics and Data Analysis for Engineers

Year 3

Term A

MME 3325A	Mechanical Vibrations
Biol 1001A	Biology for Sciences I
MME 3374A	Introduction to Electronics for Mechanical Engineering (the former ECE 3374A)
MME 3303A	Fluid Mechanics II
MME 3348A	Manufacturing Processes
MME 3381A	Kinematics and Dynamics of Machines

Term B

Biol 1002B	Biology for Sciences II
MME 3307B	Heat Transfer II
MME 3350B	System Modelling and Control
MME 3360B	Finite Element Methods in Mechanical Engineering
MME 3380B	Mechanical Components Design
One 0.5-credit non-technical elective*	

Year 4

Term A

Biochem 2280A	Biochemistry and Molecular Biology
BME 3301A	Neural Systems Engineering
ECE 4455A	Biomedical Systems Analysis
Physiol 2130	Human Physiology
One 0.5-credit Biomedical Science technical elective	
One 0.5-credit Healthcare non-technical elective	

Term B

BME 3303B	Cellular Systems Engineering
MME 4469B	Biomechanics of the Musculoskeletal System
Physiol 2130	Human Physiology
Two 0.5-credit Biomedical Science electives	
One 0.5-credit Healthcare non-technical elective	
One 0.5-credit Open elective (taken in either term)**	

Non-technical Electives

Students are required to complete 1.5 credits of non-technical electives as part of the program.

- *The first 0.5 credit can come from the approved non-technical elective list (<https://www.eng.uwo.ca/undergraduate/upper-year/electives.html>).
- The remaining 1.0 credits must come from the following Healthcare Non-technical Elective list.

Students must pay attention when selecting the first 0.5 credit to ensure appropriate prerequisite courses are completed for the non-technical electives below.

Healthcare Non-technical Electives

Anthropology 2290F/G	Cultures of Health and Healing
Economics 2169F/G	Economics of Health Care
History 2195A/B	Epidemics in North America
Law 3101A/B	Healthcare Law
Philosophy 2071E	Biomedical Ethics
Philosophy 2072F/G	Bioethics and Disability
Philosophy 2715F/G	Health Care Ethics
Political Science 2276F/G	The Politics of Health Care
Religious Studies 2239F/G	Christian Bioethics
Sociology 2179A/B	Promotion of Community Health
Sociology 2180A/B	Development of Health Inequalities
Women's Studies 2244	Women and Health

Technical Elective List:

Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing. Courses that do not appear on the list below require special permission from the Department.

Biomedical Sciences Electives

Biochemistry 3385A/B	Human Biochemistry
Biochemistry 3386A/B	Clinical Biochemistry
Biology 2382A/B	Cell Biology
Biology 2581A/B	Genetics
Chemistry 2213A/B	Organic Chemistry
Chemistry 2283F/G	Organic Chemistry II
Communication Sciences and Disorders 4417A/B	Hearing Science
Health Science 2300A/B	Systemic Approach to Functional Anatomy
Health Science 3300A/B	Anatomy of the Human Body
Medical Science 4931F/G	Selected Topics in Medical Science
Physiology 3140A/B	Cellular Physiology

Year 5

Term A

BME 4400 Biomedical Engineering Research Thesis (1.5-credit course)
 ELI 4410F Engineering Ethics, Sustainable Development and the Law
 MME 4499 Mechanical Engineering Design Project
 One 0.5-credit BME technical elective
 One 0.5-credit MME technical elective

Term B

BME 4400 Biomedical Engineering Research Thesis (1.5-credit course)
 ELI 3200B Engineering Innovation I: New Venture Creation
 MME 3334B Thermodynamics II
 MME 4499 Mechanical Engineering Design Project
 Two 0.5-credit BME technical electives
 One 0.5-credit MME technical elective

Psychology 2220A/B	Intro. to Behavioural & Cognitive Neuroscience
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Biomedical Engineering (BME) Electives

CBE 4421A/B	Intro. to Biomaterials Engineering
Medical Biophysics 3507F/G	Analysis of Oxygen Transport
Medical Biophysics 3645A/B	Intro. to Biomedical Optics
Medical Biophysics 4475A/B	Medical Imaging
Medical Biophysics 4535A/B	Hemodynamics

****Open Electives**

For the course credit designated as an "open elective", students may select any course from the lists of: Biomedical Science electives; BME technical electives; MME technical electives; Healthcare non-technical electives; or Faculty of Engineering approved non-technical electives.