## Year 2
### Term A
- AM 2270A: Applied Mathematics for Engineering II
- BME 3201A: Fundamentals of Biomedical Engineering Design
- CS 1027A: Computer Science Fundamentals II
- ECE 2205A: Electric Circuits I
- ECE 2240A: Electrical Laboratory
- ECE 2277A: Digital Logic Systems

### Term B
- AM 2276B: Applied Mathematics for Electrical & Mechanical Eng. III
- ECE 2231B: Introduction to Electronics
- ECE 2233B: Circuits and Systems
- ECE 2236B: Magnetic Circuits and Transmission Lines
- ECE 2242B: Principles of Design in Electrical Engineering
- Writ 2130G: Building Better (Communication) Bridges

One 0.5-credit non-technical elective *

## Year 3
### Term A
- AM 3415A: Advanced Applied Mathematics for Electrical Engineering
- Biol 1001A: Biology for Sciences I
- ECE 3330A: Control Systems
- ECE 3332A: Electric Machines
- ECE 3337A: Electronic Circuits
- SS 2141A: Applied Probability and Statistics for Engineers

### Term B
- Biol 1002B: Biology for Sciences II
- ECE 3331B: Introduction to Signal Processing
- ECE 3336B: Electromagnetic Theory
- ECE 3370B: Communication Electronics I
- ECE 3375B: Microprocessors and Microcomputers
- ECE 3399B: Principles and Practices of Design of Electronic Systems

## Year 4
### Term A
- Biochem 2280A: Biochemistry and Molecular Biology
- BME 3301A: Neural Systems Engineering
- ECE 4455A: Biomedical Systems Analysis
- Physiol 2130: Human Physiology

0.5 credit Biomedical Science elective
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)**

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

a) *The first 0.5 credit can come from the approved non-technical elective list ([link](https://www.eng.uwo.ca/undergraduate/upper-year/electives.html)).

b) 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
- Writing 3222F/G: Advanced Healthcare Communication

### 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

The official version of the academic calendar can be found at: www.westerncalendar.uwo.ca
### Year 5

#### Term A
- **BME 4400** Biomedical Engineering Research Thesis (1.5-credit course)
- **ECE 4416** Electrical/Computer Engineering Project
- **ECE 4429A** Advanced Digital Signal Processing
- **ECE 4437A** Communications Theory
- **ECE 4445A** Introduction to Digital Image Processing
- **ES 4498g** Engineering Ethics, Sustainable Development and the Law

#### Term B
- **BME 4400** Biomedical Engineering Research Thesis (1.5-credit course)
- **ECE 4416** Electrical/Computer Engineering Project
- **ES 3330A** Engineering Innovation I: New Venture Creation
- Two 0.5-credit BME technical electives
- One 0.5-credit ECE technical elective

### Biomedical Engineering (BME) Electives
- **CBE 4421A/B** Intro. to Biomaterials Engineering
- **ECE 4438A/B** Advanced Image Processing & Analysis
- **Medical Biophysics 3507F/G** Analysis of Oxygen Transport
- **Medical Biophysics 3645A/B** Intro. to Biomedical Optics
- **Medical Biophysics 4475A/B** Medical Imaging
- **Physics 4662A/B** Magnetic Resonance Imaging
- **Physics 4672A/B** Radiological Physics

### **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; ECE technical electives; Healthcare non-technical electives; or Faculty of Engineering approved non-technical electives.

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