### 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)**

### 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

### 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 (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

<table>
<thead>
<tr>
<th>Anthropology 2290F/G</th>
<th>Cultures of Health and Healing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics 2169F/G</td>
<td>Economics of Health Care</td>
</tr>
<tr>
<td>History 2195A/B</td>
<td>Epidemics in North America</td>
</tr>
<tr>
<td>Law 3101A/B</td>
<td>Healthcare Law</td>
</tr>
<tr>
<td>Philosophy 2071E</td>
<td>Biomedical Ethics</td>
</tr>
<tr>
<td>Philosophy 2072F/G</td>
<td>Bioethics and Disability</td>
</tr>
<tr>
<td>Philosophy 2715F/G</td>
<td>Health Care Ethics</td>
</tr>
<tr>
<td>Political Science</td>
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<tr>
<td>2276F/G</td>
<td></td>
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<tr>
<td>Religious Studies</td>
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<tr>
<td>2239F/G</td>
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<tr>
<td>Sociology 2179A/B</td>
<td>Promotion of Community Health</td>
</tr>
<tr>
<td>Sociology 2180A/B</td>
<td>Development of Health Inequalities</td>
</tr>
<tr>
<td>Women’s Studies 2244</td>
<td>Women and Health</td>
</tr>
<tr>
<td>Writing 3222F/G</td>
<td>Advanced Healthcare Communication</td>
</tr>
</tbody>
</table>

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*The official version of the academic calendar can be found at: www.westerncalendar.uwo.ca*
<table>
<thead>
<tr>
<th>Year 5</th>
<th>Psychological and Cognitive Neuroscience (1.5-credit course)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Term A</strong></td>
<td><strong>Biomedical Engineering</strong> Research Thesis (1.5-credit course)</td>
</tr>
<tr>
<td>BME 4400</td>
<td>Biomedical Engineering Research Thesis (1.5-credit course)</td>
</tr>
<tr>
<td>ECE 4416</td>
<td>Electrical/Computer Engineering Project</td>
</tr>
<tr>
<td>ECE 4429A</td>
<td>Advanced Digital Signal Processing</td>
</tr>
<tr>
<td>ECE 4437A</td>
<td>Communications Theory</td>
</tr>
<tr>
<td>ECE 4445A</td>
<td>Introduction to Digital Image Processing</td>
</tr>
<tr>
<td>ES 4498g</td>
<td>Engineering Ethics, Sustainable Development and the Law</td>
</tr>
</tbody>
</table>

**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 |

(https://www.eng.uwo.ca/undergraduate/upper-year/next.html)

**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.