## Integrated Engineering

**September 2024** (students who entered first year in September 2023 or later)

### Year 2:

#### Term A
- **IE 2298** Integrated System Engineering & Design
- **NMM 2270a** Applied Mathematics for Engineering II
- **CEE 2220a** Introduction to Structural Theory
- **CBE 2220a** Chemical Process Calculations
- **ECE 2277a** Digital Logic Systems
- **MSE 2214a** Thermodynamics I

#### Term B
- **IE 2298** Integrated System Engineering & Design
- **NMM 2276b** Applied Mathematics for Elect. and Mech. Engineering III
- **CBE 2221b** Fluid Flow
- **MME 2285b** Engineering Experimentation
- **SS 2143b** Applied Statistics and Data Analysis for Engineers
- One 0.5 non-technical elective*

### Year 3:

#### Term A
- **ELI 3000a** Managing the Innovation Process
- **CBE 3322a** Heat Transfer Operations
- **CEE 2202a** Mechanics of Materials
- **MME 3374a** Electrical Eng. Foundations for Mechanical Engineering
- **MSE 3301a** Materials Selection & Manufacturing Processes
- One 0.5 technical elective

#### Term B
- **ELI 3100b** Engineering Planning and Project Management**
- **CEE 221b** Structural Theory and Design II
- **MSE 3360b** Finite Element Methods in Mechanical Engineering
- One 0.5 technical elective

### Year 4:

#### Term A
- **IE 4499** Interdisciplinary Engineering Design Project
- **ELI 4100a** Engineering Leadership
- **ELI 4110f** The Ethical Engineer***
- Two 0.5 technical electives

#### Term B
- **IE 4499** Interdisciplinary Engineering Design Project
- **ELI 4200b** The Entrepreneurial Environment**
- Three 0.5 technical electives

The technical electives listed here are recommended technical electives from each department. Other courses may be taken if prerequisite requirements are satisfied, some requiring instructor permissions (consult your Academic Advisor and/or Program Director).

### Important:
Students are responsible for ensuring they have the correct courses required for their degree. If you are unsure which courses you still need or if you see courses listed on the progression sheet that are no longer offered or are not offered in the term you see listed here, please contact your Academic Advisor.

*Non-technical Electives:
[http://www.eng.uwo.ca/undergraduate/upper_year/electives.html](http://www.eng.uwo.ca/undergraduate/upper_year/electives.html)

Non-technical electives may be taken in a later year in order to complete pre-requisites for desired technical electives in the final year.

**ELI 3200 New Venture Creation and ELI 4300 Risk Assessment and Management are acceptable alternatives to ELI 3100 and ELI 4200.

***ELI 4110 may be taken in a different semester in order to accommodate desired technical electives and their pre-requisites.

### Technical Elective List:

#### Chemical and Biochemical Engineering:
- **CBE 2290a/b** Fundamentals of Biochemical and Environmental Engineering
- **CBE 3310a/b** Process Dynamics and Control
- **CBE 3324a/b** Mass Transfer Operations
- **CBE 4409a/b** Wastewater Treatment
- **CBE 4421a/b** Introduction to Biomaterials Engineering

#### Civil and Environmental Engineering:
- **CEE 3348a/b** Project Management and Engineering Cases
- **CEE 3362a/b** Drinking Water Quality and Treatment
- **CEE 4405a/b** Air Pollution
- **CEE 4408a/b** Systems Approach for Civil and Environmental Engineering
- **CEE 4458a/b** Risk Analysis and Decision Making in Engineering
- **CEE 4465a/b** Environmental Design for Waste Disposal
- **CEE 4477a/b** Environmental Applications of Nanotechnology

#### Electrical and Computer Engineering:
- **ECE 3349a/b** Introduction of VLSI
- **ECE 3375a/b** Microprocessors and Microcomputers
- **ECE 4436a/b** Networking: Principles, Protocols, and Architecture
- **ECE 4468a/b** Systems Optimization
- **SE 3314a/b** Computer Networks Applications

#### Integrated Engineering:
- **IE 4490a/b** Integrated Engineering Undergraduate Research
- **IE 4491a/b** Integrated Engineering Undergraduate Research

#### Mechanical and Materials Engineering:
- **MME 3348a/b** Manufacturing Processes
- **MME 3381a/b** Kinematics and Dynamics of Machines
- **MME 4452a/b** Robotics and Manufacturing Automation
- **MME 4473a/b** Computer Integrated Manufacturing (CIM)
- **MME 4487a/b** Mechatronic System Design
- **MME 4492a/b** Production Management for Engineers

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The official version of the academic calendar can be found at: [www.westerncalendar.uwo.ca](http://www.westerncalendar.uwo.ca)