Western Engineering

H. CIVIL ENGINEERING AND ARTIFICIAL INTELLIGENCE SYSTEMS ENGINEERING, SMART CITIES AND STRUCTURAL ENGINEERING OPTION H (students who entered *first year* in September 2023 or later)

Year 2:

Term A

NMM 2270A	Applied Math for Engineering II
AISE 2205A	Algorithms & Data Structure for Object-Oriented Design
CEE 2202A	Mechanics of Materials
CEE 2217A	Introduction to Environmental Engineering
CEE 2220A	Introduction to Structural Engineering
CEE 2224	Engineering Fluid Mechanics

Term B

NMM 2277B	Applied Mathematics for Chem & Civil Eng. III
AISE 2251B	Software Design for Systems Engineering
CEE 2219B	Computation Tools for Civil Engineers
CEE 2221B	Structural Theory and Design
SS 2143B	Applied Probability and Statistics for Engineers
CEE 2224	Engineering Fluid Mechanics

Year 3:

Term A

DS 3000A	Introduction to Machine Learning
AISE 3309A	Database Management Systems
AISE 3350A	Cyber-Physical Systems Theory
CEE 3348A	Project Management & Engineering Cases
CEE 4401A	Introduction to Transportation
Two 0.5 non-technical electives	

Term B

AISE 3010B	Data Engineering and Machine Learning
AISE 3351B	Digital Systems and Signal Processing
Earth Sc.2281B	Geology for Engineers
CEE 4412B	Intelligent Transportation Systems
Writing 2130g	Building Better (Communication) Bridges: Rhetoric & Professional Communication for Engineers

Year 4:

Term A

AISE 4010A	Deep Learning for Time Series Data
AISE 4430A	Introduction to Computer Networking, Security & IOT Systems
CEE 3321A	Soil Mechanics & Hydrogeologic Engineering
CEE 3340A	Analysis of Indeterminate Structures
CEE 3347A	Reinforced Concrete Design
CEE 3369A	Materials for Civil Engineering

Term B

CEE 3322B	Introduction to Geotechnical Engineering
CEE 3343B	Finite Element Methods & Application to Lateral Analysis of Buildings
CEE 3344B	Structural Dynamics I
CEE 3346B	Steel Design
CEE 3358B	Reinforced & Prestressed Concrete Design
AISE 4020A	Artificial Intelligence Systems Engineering Design I

NOTES:

Note: CEE 3324a (Surveying). Offered each August (10 days) and must be completed before a student may graduate.

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 Counsellor.

*Non-technical Electives:

Please choose a maximum of 1.0 credits (one 1.0 credit course or two 0.5 credit courses) from the 1000 level and a minimum of one 0.5 credit from the 2000 (or higher) level.

http://www.eng.uwo.ca/undergraduate/upper-year/electives.html

Technical Electives:

** AISE technical electives

- refer to a list of AI-based technical courses approved by the AISE program committee. The list consists of AI-based courses offered by the Faculty of Engineering and Faculty of Science at Western. The list will be updated every year.

Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing.

CEE Technical Electives

CEE 3355A/B	Municipal Engineering Design
CEE 4414 A/B	Machine Learning for Water Resources
CEE 4417A/B	Smart Buildings
CEE 4428A/B	Selected Topics in Civil Engineering I
CEE 4429A/B	Selected Topics in Civil Engineering II
CEE 4438A/B	Introduction to Wood Design
CEE 4440	Civil Engineering Thesis (full year course - cour as two technical electives)
CEE 4458A/B	Risk Analysis and Decision Making in Engineeri
CEE 4459A/B	Design of Lateral Load Structural Systems
CEE 4465A/B	Environmental Design for Waste Disposal
CEE 4476A/B	Environmental Hydraulics Design
CEE 4480A/B	Wind Engineering: Modelling, Assessment and Mitigation
CEE 4485A/B	Cities: Resilience and Sustainability
Earth Sc. 3340A/B	Watershed Hydrology
Earth Sc. 4440A/B	Hydrogeology: Principles, Processes, and Professional Practice

Year 5:

Term A

CEE 4441	Civil Engineering Design Project
AISE 4450A	Data Driven Control of Cyber-Physical Systems
AISE 3020A	AI: Ethics, Bias and Privacy
CEE 4491A	Structural Dynamics II
CEE 4426A	Geotechnical Engineering Design
One 0.5 non-technical elective	

Term B

CEE 4415B	Structural Health Monitoring
CEE 4478b	Case Studies in Civil Engineering
ELI 4110G	Engineering Ethics, Sustainable Development and the Law
CEE 4441	Civil Engineering Design Project
CEE 4413B	Building Information Modelling
One 0.5 technical elective	