

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)

<p>Year 2:</p> <p>Term A</p> <table border="1"> <tr><td>NMM 2270A</td><td>Applied Math for Engineering II</td></tr> <tr><td>AISE 2205A</td><td>Algorithms & Data Structure for Object-Oriented Design</td></tr> <tr><td>CEE 2202A</td><td>Mechanics of Materials</td></tr> <tr><td>CEE 2217A</td><td>Introduction to Environmental Engineering</td></tr> <tr><td>CEE 2220A</td><td>Introduction to Structural Engineering</td></tr> <tr><td>CEE 2224</td><td>Engineering Fluid Mechanics</td></tr> </table> <p>Term B</p> <table border="1"> <tr><td>NMM 2277B</td><td>Applied Mathematics for Chem & Civil Eng. 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Offered each August (10 days) and must be completed before a student may graduate.</p> <p>Important:</p> <p>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.</p> <p>*Non-technical Electives:</p> <p>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.</p> <p>http://www.eng.uwo.ca/undergraduate/upper_year/electives.html</p> <p>Technical Electives:</p> <p>** AISE technical electives</p> <ul style="list-style-type: none"> - 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. <p>Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing.</p> <p>CEE Technical Electives</p> <table border="1"> <tr><td>CEE 3355A/B</td><td>Municipal Engineering Design</td></tr> <tr><td>CEE 4414 A/B</td><td>Machine Learning for Water Resources</td></tr> <tr><td>CEE 4417A/B</td><td>Smart Buildings</td></tr> <tr><td>CEE 4428A/B</td><td>Selected Topics in Civil Engineering I</td></tr> <tr><td>CEE 4429A/B</td><td>Selected Topics in Civil Engineering II</td></tr> <tr><td>CEE 4438A/B</td><td>Introduction to Wood Design</td></tr> <tr><td>CEE 4440</td><td>Civil Engineering Thesis (full year course - count as two technical electives)</td></tr> <tr><td>CEE 4458A/B</td><td>Risk Analysis and Decision Making in Engineering</td></tr> <tr><td>CEE 4459A/B</td><td>Design of Lateral Load Structural Systems</td></tr> <tr><td>CEE 4465A/B</td><td>Environmental Design for Waste Disposal</td></tr> <tr><td>CEE 4476A/B</td><td>Environmental Hydraulics Design</td></tr> <tr><td>CEE 4480A/B</td><td>Wind Engineering: Modelling, Assessment and Mitigation</td></tr> <tr><td>CEE 4485A/B</td><td>Cities: Resilience and Sustainability</td></tr> <tr><td>Earth Sc. 3340A/B</td><td>Watershed Hydrology</td></tr> <tr><td>Earth Sc. 4440A/B</td><td>Hydrogeology: Principles, Processes, and Professional Practice</td></tr> </table>	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 - count as two technical electives)	CEE 4458A/B	Risk Analysis and Decision Making in Engineering	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
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Year 5:

Term A

AISE 4050 or CEE 4442	Artificial Intelligence Systems Engineering Design II Smart Cities Capstone Design Project
AISE 4450A	Data Driven Control of Cyber-Physical Systems
AISE 3020A	AI: Ethics, Bias and Privacy
AISE 4020A or CEE 4420A	Artificial Intelligence Systems Engineering Design I or Data Science in Geotechnical Engineering
CEE 4491A	Structural Dynamics II
CEE 4426A	Geotechnical Engineering Design

Term B

CEE 4415B	Structural Health Monitoring
CEE 4478b	Case Studies in Civil Engineering
ELI 4110G	Engineering Ethics, Sustainable Development and the Law
AISE 4050 or CEE 4442	Artificial Intelligence Systems Engineering Design II Smart Cities Capstone Design Project
One 0.5 non-technical elective	
One 0.5 technical elective	