

CIVIL ENGINEERING AND ARTIFICIAL INTELLIGENCE SYSTEMS ENGINEERING, SMART CITIES AND ENVIRONMENTAL ENGINEERING OPTION I

September 2023 (students who entered *first year* in September 2022 or later)

<p>Year 2:</p> <p>Term A</p> <p>CEE 2202A Mechanics of Materials CEE 2217A Introduction to Environmental Engineering CEE 2220A Introduction to Structural Engineering SE 2205A Algorithms & Data Structure for Object-Oriented Design</p> <p>NMM 2270A Applied Math for Engineering II SS 2141A Applied Probability and Statistics for Engineers</p> <p>Term B</p> <p>CEE 2219B Computation Tools for Civil Engineers CEE 2221B Structural Theory and Design</p> <p>NMM 2276B Applied Mathematics for Electrical and Mechanical Engineers</p> <p>SE 2251B Software Design for Systems Engineering Writing 2130g Building Better (Communication) Bridges: Rhetoric & Professional Communication for Engineers</p> <p>0.5 non-technical elective</p> <p>Year 3:</p> <p>Term A</p> <p>CEE 2224 Engineering Fluid Mechanics CEE 3369A Materials for Civil Engineering DS 3000A Introduction to Machine Learning ECE 3350A Cyber-Physical Systems Theory SE 3309A Database Management Systems SE 4430A Introduction to Computer Networking, Security & IOT Systems</p> <p>Term B</p> <p>CEE 2224 Engineering Fluid Mechanics EarthSci 2281b Geology for Engineers ECE 3351B Digital Systems and Signal Processing AISE 3010B Data Engineering and Machine Learning</p> <p>1.0 non-technical electives</p> <p>Year 4:</p> <p>Term A</p> <p>CEE 3321A Soil Mechanics & Hydrogeologic Engineering CEE 3348A Project Management & Engineering Cases CEE 3362A Drinking Water Quality & Treatment CEE 3386A Numerical Modeling for Environmental Engineering CEE 4401A Introduction to Transportation EarthSci 3340a Watershed Hydrology</p> <p>Term B</p> <p>CEE 3322B Introduction to Geotechnical Engineering CEE 3355B Municipal Engineering Design CEE 4412B Intelligent Transportation Systems CEE 4476B Environmental Hydraulics Design CBE 4409B Wastewater Treatment AISE 4010B Deep Learning for Time Series Data</p>	<p>NOTES:</p> <p>Note: CEE 3324a (Surveying). Offered each August (10 days) and must be completed before a student may graduate. https://www.westerncalendar.uwo.ca/</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: http://www.eng.uwo.ca/undergraduate/upper_year/electives.html</p> <p>Technical Elective List:</p> <p>Some technical electives may not be offered in a given academic year. Consult the Academic Timetable for a current listing.</p> <table border="1" style="width: 100%;"> <tr> <td>CEE 4414A/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 - counts 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 4479A/B</td> <td>Subsurface Contamination</td> </tr> <tr> <td>CEE 4480A/B</td> <td>Wind Engineering</td> </tr> <tr> <td>CEE 4485A/B</td> <td>Cities: Resilience and Sustainability</td> </tr> <tr> <td>CBE 4405A/B</td> <td>Air Pollution Control</td> </tr> <tr> <td>CBE 4463A/B</td> <td>Water Pollution Design</td> </tr> </table>	CEE 4414A/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 - counts as two technical electives)	CEE 4458A/B	Risk Analysis and Decision Making in Engineering	CEE 4479A/B	Subsurface Contamination	CEE 4480A/B	Wind Engineering	CEE 4485A/B	Cities: Resilience and Sustainability	CBE 4405A/B	Air Pollution Control	CBE 4463A/B	Water Pollution Design
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Year 5:

Term A

AISE 3020A AI: Ethics, Bias and Privacy
CEE 4420A or Data Science in Geotechnical Engineering or
AISE 4020A Artificial Intelligence Systems Engineering Design I
CEE 4426A Geotechnical Engineering Design
CEE 4465A Environmental Design for Waste Disposal

ECE 4450A Data Driven Control of Cyber-Physical Systems
AISE 4050 Artificial Intelligence Systems Engineering Design II

Term B

CEE 4416A Digital Water Infrastructures
CEE 4463B Watershed Modeling
CEE 4478B Case Studies in Civil Engineering
ELI 4110G Engineering Ethics, Sustainable Development and the Law
AISE 4050 Artificial Intelligence Systems Engineering Design II
0.5 technical elective taken from approved list