

Electrical Engineering and Artificial Intelligence Systems Engineering (Option M)

September 2025 (for students who started first year in 2023 or later)

<p>Year 2</p> <p>Term A</p> <p>NMM 2270a Applied Mathematics for Engineering II</p> <p>AISE 2205a Algorithms and Data Structures</p> <p>ECE 2277a Digital Logic Systems</p> <p>ECE 2240a Electrical Laboratory</p> <p>ECE 2205a Electric Circuits I</p> <p>Term B</p> <p>NMM 2276b Applied Mathematics for Elec & Mech Eng III</p> <p>SS 2143b Applied Probability and Statistics</p> <p>AISE 2251b Software Design for Systems Engineering</p> <p>ECE 2236b Magnetic Circuits and Transmission Lines</p> <p>ECE 2233b Circuits and Systems</p> <p>Writing 2130f/g Building Better (Communication) Bridges: Rhetoric & Professional Communication for Engineers</p> <p>Year 3</p> <p>Term A</p> <p>DS 3000a Intro to Machine Learning</p> <p>AISE 3309a Database Systems</p> <p>AISE 3350a Cyber-Physical Systems Theory</p> <p>ECE 3330a Control Systems</p> <p>ECE 3332a Electric Machines</p> <p>NMM 3415a Applied Math for Electrical Engineering</p> <p>Term B</p> <p>AISE 3010b Data Engineering and Machine Learning</p> <p>AISE 3351b Digital Systems and Signal Processing</p> <p>ECE 3333b Electric Power Systems I</p> <p>ECE 3375b Microprocessors and Microcomputers</p> <p>ECE 2231b Introduction to Electronics</p> <p>ECE 2242b Principles of Design in Electrical Engineering</p> <p>Year 4</p> <p>Term A</p> <p>AISE 4010a Deep Learning for Time Series Data</p> <p>AISE 4430a Introduction to Computer Networking, Security & IOT Systems</p> <p>ECE 3337a Electronic Circuits</p> <p>One 0.5 credit from AISE technical electives (can be in term A or B)**</p> <p>One 0.5-credit technical elective from approved list</p> <p>One 0.5-credit non-technical elective from approved list</p> <p>Term B</p> <p>AISE 4020b Artificial Intelligence Systems Engineering Design I</p> <p>MME 2234b Heat Transfer and Dynamics</p> <p>ECE 3399b Principles and Practices of Design of Electronic Systems</p> <p>ECE 3370b Communication Electronics I</p> <p>ECE 3336b Electromagnetic Theory</p> <p>One 0.5-credit technical elective from approved list</p>	<p>NOTES:</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>ECE Technical Electives</p> <table border="1"> <tr><td>ECE 3349A/B</td><td>Introduction to VLSI</td></tr> <tr><td>ECE 3380A/B</td><td>Advanced Digital Systems</td></tr> <tr><td>ECE 4430A/B</td><td>Selected Topics in Electrical Engineering I</td></tr> <tr><td>ECE 4431A/B</td><td>Selected Topics in Electrical Engineering II</td></tr> <tr><td>ECE 4432A/B</td><td>Radiation and Propagation</td></tr> <tr><td>ECE 4433A/B</td><td>Digital Communications Systems</td></tr> <tr><td>ECE 4436A/B</td><td>Networking: Principles, Protocols and Architecture</td></tr> <tr><td>ECE 4438A/B</td><td>Advanced Image Processing & Analysis</td></tr> <tr><td>ECE 4439A/B</td><td>Conventional, Renewable & Nuclear Energy</td></tr> <tr><td>ECE 4445A/B</td><td>Introduction to Digital Image Processing</td></tr> <tr><td>ECE 4451A/B</td><td>Advanced Topics in Wireless Communications</td></tr> <tr><td>ECE 4455A/B</td><td>Biomedical Systems Analysis</td></tr> <tr><td>ECE 4456A/B</td><td>Power Systems Protection</td></tr> <tr><td>ECE 4457A/B</td><td>Power Electronics</td></tr> <tr><td>ECE 4460A/B</td><td>Real-Time Embedded Systems</td></tr> <tr><td>ECE 4464A/B</td><td>Electric Power Systems II</td></tr> <tr><td>ECE 4468A/B</td><td>Systems Optimization</td></tr> <tr><td>ECE 4469A/B</td><td>Applied Control Systems</td></tr> <tr><td>MME 4452A/B</td><td>Robotics and Manufacturing Automation</td></tr> <tr><td>MME 4473A/B</td><td>Computer Integrated Manufacturing</td></tr> <tr><td>MME 4482A/B</td><td>Fundamentals of MEMS</td></tr> <tr><td>MME 4487A/B</td><td>Mechatronic System Design</td></tr> </table> <p>AISE Technical Electives</p> <table border="1"> <tr><td>ECE4445A/B</td><td>Introduction to Digital Image Processing</td></tr> <tr><td>ECE 4438A/B</td><td>Advanced Image Processing and Analysis</td></tr> <tr><td>SE 4455A/B</td><td>Cloud Computing</td></tr> <tr><td>CS3340A/B</td><td>Analysis Of Algorithms I</td></tr> <tr><td>CS 4417A/B</td><td>Unstructured Data</td></tr> <tr><td>SS 4861A/B</td><td>Time Series</td></tr> </table>	ECE 3349A/B	Introduction to VLSI	ECE 3380A/B	Advanced Digital Systems	ECE 4430A/B	Selected Topics in Electrical Engineering I	ECE 4431A/B	Selected Topics in Electrical Engineering II	ECE 4432A/B	Radiation and Propagation	ECE 4433A/B	Digital Communications Systems	ECE 4436A/B	Networking: Principles, Protocols and Architecture	ECE 4438A/B	Advanced Image Processing & Analysis	ECE 4439A/B	Conventional, Renewable & Nuclear Energy	ECE 4445A/B	Introduction to Digital Image Processing	ECE 4451A/B	Advanced Topics in Wireless Communications	ECE 4455A/B	Biomedical Systems Analysis	ECE 4456A/B	Power Systems Protection	ECE 4457A/B	Power Electronics	ECE 4460A/B	Real-Time Embedded Systems	ECE 4464A/B	Electric Power Systems II	ECE 4468A/B	Systems Optimization	ECE 4469A/B	Applied Control Systems	MME 4452A/B	Robotics and Manufacturing Automation	MME 4473A/B	Computer Integrated Manufacturing	MME 4482A/B	Fundamentals of MEMS	MME 4487A/B	Mechatronic System Design	ECE4445A/B	Introduction to Digital Image Processing	ECE 4438A/B	Advanced Image Processing and Analysis	SE 4455A/B	Cloud Computing	CS3340A/B	Analysis Of Algorithms I	CS 4417A/B	Unstructured Data	SS 4861A/B	Time Series
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Year 5**Term A**

ECE 4416 Electrical & Computer Engineering Project
AISE 4450A Data Driven Control of Cyber-Physical Systems
AISE 3020A AI: Ethics, Bias and Privacy
ECE 4437a Communications Theory
Two 0.5-credit technical electives from approved list
One 0.5-credit from AISE technical electives (can be in term A or B)**

Term B

ECE 4416 Electrical & Computer Engineering Project
ELI 4110G Engineering Ethics, Sustainable Development & the
 Law
Two 0.5-credit technical elective from approved list
One 0.5-credit non-technical elective from approved list