Western Engineering

Electrical Engineering and Artificial Intelligence Systems Engineering (Option M)
September 2023 (for students who started first year in 2021 or later)

Year 2
Term A
NMM 2270a	Applied Mathematics for Engineering II (Formerly AM 2270a)
SE 2205a	Algorithms and Data Structures
SS 2141a	Applied Probability and Statistics
ECE 2277a	Digital Logic Systems
ECE 2240a	Electrical Laboratory
ECE 2205a	Electric Circuits I

Term B
NMM 2276b	Applied Mathematics for Elec & Mech Eng III (Formerly AM 2276B)
SE 2251b	Software Design for Systems Engineering
Writing 2130f/g	Building Better (Communication) Bridges: Rhetoric & Professional Communication for Engineers
ECE 2233b	Circuits and Systems

Year 3
Term A
DS 3000a	Intro to Machine Learning
SE 3309a	Database Systems
ECE 3350a	Cyber-Physical Systems Theory
ECE 3330a	Control Systems
ECE 3332a	Electric Machines
AM 3415a	Applied Math for Electrical Engineering

Term B
AISE 3010b	Data Engineering and Machine Learning
ECE 3351b	Digital Systems and Signal Processing
ECE 3333b	Electric Power Systems I
ECE 3375b	Microprocessors and Microcomputers
ECE 2231b	Introduction to Electronics
ECE 2242b	Principles of Design in Electrical Engineering

Year 4
Term A
AISE 3020a	AI: Ethics, bias, and privacy
AISE 4010a	Deep Learning for Time Series Data
SE 4430a	Introduction to Computer Networking, Security & IoT Systems
ECE 3337a	Electronic Circuits
One 0.5-credit non-technical elective from approved list	
0.5 credit from AISE technical electives (can be in term A or B)**	

Term B
AISE 4020b	Artificial Intelligence Systems Engineering Design I
MME 2234b	Heat Transfer and Dynamics
ECE 3399b	Principles and Practices of Design of Electronic Systems
ECE 3370b	Communication Electronics I
ECE 3336b	Electromagnetic Theory
One 0.5-credit technical elective from approved list	

NOTES:

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:

http://www.eng.uwo.ca/undergraduate/upper_year/electives.html

AISE 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.

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

AISE Technical Electives:

CompSci 4417A/B	Unstructured Data
SS 4861A/B	Time Series

The official version of the academic calendar can be found at: www.westerncalendar.uwo.ca

Year 5

Term A

ECE 4450a	Data Driven Control of Cyber-Physical Systems
ECE 4437a	Communications Theory
AISE 4050	Artificial Intelligence Systems Engineering Design II project

One 0.5-credit technical elective from approved list
One 0.5-credit technical elective from approved list
One 0.5-credit non-technical elective from approved list

Term B

AISE 4050	Artificial Intelligence Systems Engineering Design
ELI 4110G	Engineering Ethics, Sustainable Development & the Law

One 0.5-credit non-technical elective from approved list
One 0.5-credit technical elective from approved list
One 0.5-credit technical elective from approved list
0.5 credit from AISE technical electives (can be in term A or B)**