Western Engineering

Mechanical Engineering and Artificial Intelligence Systems Engineering (Option H)

September 2023 (For students who entered Year 1 in September 2021 or later)

Year 2
Term A
NMM 2270a	Applied Mathematics for Engineering II
SE 2205a	Algorithms and Data Structures
MME 2202a	Mechanics of Materials
MME 2204a	Thermodynamics I
MME 2259a	Product Design and Development
MME 2260a	Industrial Materials

Term B
NMM 2276b	Applied Mathematics for Electrical & Mechanical Eng. III
SE 2251b	Software Design for Systems Engineering
MME 2200s	Engineering Shop Safety Training
MME 2273b	Introduction to Fluid Mechanics and Heat Transfer
SS 2143b	Applied Statistics and Data Analysis for Engineers
MME 2285b	Engineering Experimentation

Year 3
Term A
DS 3000a	Intro to Machine Learning
SE 3309a	Database Systems
SE 4430a	Introduction to Computer Networking, Security & IoT Systems
ECE 3374a	Introduction to Electronics for Mechanical Engineering
ECE 3350a	Cyber-Physical Systems Theory
MME 3379a	Materials Selection

Term B
AISE 3010b	Data Engineering and Machine Learning
ECE 3351b	Digital Systems and Signal Processing
MME 2213b	Engineering Dynamics
MME 2221b	Computational Methods for Mechanical Engineers
Writing 2130g	Building Better (Communication) Bridges
One 0.5-credit non-technical elective*	

Year 4
Term A
AISE 3020a	AI: Ethics, bias and privacy
AISE 4010a	Deep Learning for Time Series Data
MME 3325a	Mechanical Vibrations
MME 3381a	Kinematics and Dynamics of Machines
MME 3303a	Fluid Mechanics II
One 0.5-credit from the approved list of AISE TEs (can be in term A or B)**	

Term B
AISE 4020b	Artificial Intelligence Systems Engineering Design I
MME 3334b	Thermodynamics II
MME 3350b	System Modelling and Control
MME 3307b	Heat Transfer II
MME 3360b	FEA in Mechanical Engineering
MME 3380b	Mechanical Components Design

Non-technical Electives
Please choose 1.0 credits (one 1.0-credit or two 0.5-credit courses) from the 1000 level and one 0.5-credit course from the 2000 (or higher) level.

AISE Technical Electives (AISE TEs)
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.

Technical Elective List:
Some technical electives may not be offered in a given academic year. Consult the Department for accurate listing. Courses that do not appear on the list below require special permission from the Department.

MME 4410	Mechanical and Materials Engineering Thesis
MME 4423A/B	Internal Combustion Engines
MME 4424A/B	Mechanical Properties of Materials
MME 4425A/B	Mechanical Vibrations
MME 4427A/B	Selected Topics in Mechanical Engineering III
MME 4428A/B	Selected Topics in Mechanical Engineering IV
MME 4429A/B	Nuclear Engineering
MME 4435A/B	Pressure Vessel Design
MME 4437A/B	Advanced CAE: Simulation
MME 4446A/B	Composite Materials
MME 4450A/B	Control Systems: Theory and Practice
MME 4452A/B	Robotics and Manufacturing Automation
MME 4453A/B	Corrosion and Wear
MME 4459A/B	Advanced CAE: Manufacturing Technologies
MME 4460A/B	HVAC II
MME 4469A/B	Biomechanics of the Musculoskeletal System
MME 4470A/B	Medical and Assistive Devices
MME 4473A/B	Computer Integrated Manufacturing (CIM)
MME 4474A/B	Selected Topics in Mechanical Engineering I
MME 4475A/B	Selected Topics in Mechanical Engineering II
MME 4480A/B	Advanced CAE: Reverse Engineering
MME 4482A/B	Fundamentals of MEMS
MME 4483A/B	HVAC I
MME 4485A/B	Fluid Machinery
MME 4487A/B	Mechatronic System Design
MME 4490A/B	Engineering in a Global Context: Advanced Manufacturing *Course with an International Component: see MME office for details*
MME 4492A/B	Production Management for Engineers

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

Year 5

Term A

AISE 4050	Artificial Intelligence Systems Engineering Design II (capstone)
ECE 4450a	Data Driven Control of Cyber-Physical Systems
ELI 4110f	Engineering Ethics, Sustainable Development & the Law

One 0.5 credit from the approved list of NTEs

One 0.5-credit MME technical elective

Term B

AISE 4050	Artificial Intelligence Systems Engineering Design II (capstone)

Two 0.5-credit MME technical electives

One 0.5-credit non- technical elective

One 0.5 credit from the approved list of AISE TEs (can be in term A or B)