APPLIED ARTIFICIAL INTELLIGENCE MINOR (B.ENG.) (25 CREDITS)

Offered by: Electrical & Computer Engr (Faculty of Engineering)
Degree: Bachelor of Engineering
Program credit weight: 25

Program Description

The B.Eng.; Minor in Applied Artificial Intelligence, open to all engineering students, is designed to provide the foundation for applications of AI techniques in various fields of interest.

Students must complete 7 courses as follows. Up to three courses can be double counted with the major.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Complementary Courses (22-25)

Group A

3 credits from the following:

Expand allContract all

Course	Title	Credits
COMP 250	Introduction to Computer Science.[1]	3
ECSE 250	Fundamentals of Software Development.[1]	3

[1] COMP 250 Introduction to Computer Science. and ECSE 250 Fundamentals of Software Development. cannot both be taken.

Group B

4 credits from the following:

Expand allContract all

Course	Title	Credits
COMP 551	Applied Machine Learning.[1]	4
ECSE 551	Machine Learning for Engineers.[1]	4

[1] ECSE 551 Machine Learning for Engineers. and COMP 551 Applied Machine Learning. cannot both be taken

Group C

3 credits from the following:

Expand allContract all

Course	Title	Credits
ECSE 343	Numerical Methods in Engineering.	3
MATH 223	Linear Algebra.	3
MATH 247	Honours Applied Linear Algebra.	3
MATH 271	Linear Algebra and Partial Differential Equations.	3

Group D

3 credits from the following:

Expand allContract all

Course	Title	Credits
AEMA 310	Statistical Methods 1.	3
CIVE 302	Probabilistic Systems.	3
ECSE 205	Probability and Statistics for Engineers	3
MATH 203	Principles of Statistics 1.	3
MATH 323	Probability.	3
MATH 262	Intermediate Calculus.	3
MIME 209	Mathematical Applications.	3

Group E

9-12 credits from the following:

Expand allContract all

Course	Title	Credits
COMP 417	Introduction Robotics and Intelligent Systems.	3
COMP 424	Artificial Intelligence.[1]	3
COMP 445	Computational Linguistics.	3
COMP 549	Brain-Inspired Artificial Intelligence.	3
COMP 562	Theory of Machine Learning.	4
COMP 565	Machine Learning in Genomics and Healthcare.	4
COMP 579	Reinforcement Learning.	4
COMP 588	Probabilistic Graphical Models.	4
ECSE 415	Introduction to Computer Vision.	3
ECSE 446	Realistic Image Synthesis.	3
ECSE 507	Optimization and Optimal Control.	3
ECSE 526	Artificial Intelligence.[1]	3
ECSE 544	Computational Photography.	4
ECSE 552	Deep Learning.	4
ECSE 554	Applied Robotics .	4
ECSE 557	Introduction to Ethics of Intelligent Systems.	3
MECH 559	Engineering Systems Optimization.	3

[1] COMP 424 Artificial Intelligence. and ECSE 526 Artificial Intelligence. cannot both be taken.

Or any 400 or 500 level special topics courses in the area of artificial intelligence with the approval of the Electrical and Computer Engineering department.