



MS-AI Online Sample Degree Plan

Machine Learning Pathway

1. Complete the pathway **Machine Learning: Theory & Hands-On Practice with Python (3 credits)** for Admission and become a degree seeking student. Earn a B or better in each course.

Pathway | Breadth: Machine Learning: Theory & Hands-On Practice with Python (3 credits)

CSCA 5622: Intro. to Machine Learning: Supervised Learning (1 credit)

CSCA 5632: Unsupervised Algorithms in Machine (1 credit)

CSCA 5642: Introduction to Deep Learning (1 credit)

2. Complete the 4 remaining **Breadth specializations (12 credits)**. Earn a B or better in each course.

Foundations of Probability and Statistics (3 credits)

APPA 5001: Probability Foundations for Data Science and AI (1 credit)
APPA 5002: Discrete-Time Markov Chains and Monte Carlo Methods (1 credit)
APPA 5003: Statistical Estimation for Data Science and AI (1 credit)

Artificial Intelligence Ethics Specialization (3 credits)

CSCA 5204: Current Issues in Ethics and AI (1 credit)
CSCA 5274: AI Regulation (1 credit)
CSCA 5284: AI and the Future of Society (1 credit)

Intro to Artificial Intelligence /Algorithmic Foundations of AI (3 credits)

CSCA 5002: Intelligent Agents and Search Algorithms (1 credit)
CSCA 5012: Knowledge Representation and Reasoning Under Uncertainty (1 credit)
CSCA 5022: Introduction to Learning (1 credit)

Foundations of Reinforcement Learning Specialization (3 credits)

CSCA 5902: Mastering Classic Reinforcement Learning Algorithms (1 credit)
CSCA 5912: Deep Reinforcement Learning: From Theory to Practice (1 credit)
CSCA 5922: Reward Programming: Optimizing RL Efficiency and Safety (1 credit)

3. Complete 15 **Elective credits** – including 4 full specializations (15 credits). Earn a C or better in each course.

Elective Courses (15 credits)

Select your elective courses using any of the following options:

- Complete 5 full MS-CS [elective specializations](#)
- Complete 4 full MS-CS elective specializations and 3 stand-alone MS-CS electives or [outside elective](#) courses
- Complete 3 MS-CS elective specializations and 2 outside elective specializations
- Complete 3 MS-CS elective specializations and 1 outside elective specialization and 3 stand-alone outside elective courses

[Non-Degree courses](#) may not be used for credit.