

Artificial Intelligence & Machine Learning - Option, Associate in Applied Science

The Artificial Intelligence & Machine Learning Option in Computer Programming degree prepares students to build, assess, and responsibly deploy Artificial Intelligence (AI), Machine Language (ML) solutions with industry-ready skills. Learners develop proficiency in Python and core data libraries to clean, transform, and visualize data; apply supervised and unsupervised learning with standard toolchains; and evaluate models for fit, fairness, and impact. Coursework integrates GenAI practice with responsible-AI methods for bias detection, governance, and transparent documentation. Students prototype in modern cloud/Jupyter environments, translate domain problems into actionable analyses, and communicate results through concise reports, dashboards, and briefings.

For additional program information, contact faculty advisors, Dr. Bojan Zilovic, at (609) 343-4959 or bzilovic@atlanticcape.edu, or Michele Togashi, at (609) 343-5014 or mtogashi@atlanticcape.edu, or department chair, Dr. Otto Hernandez, at (609) 343-4978 or hernande@atlanticcape.edu.

Upon completion of this program students will be able to:

- Use Python and core data libraries to acquire, clean, transform, and visualize data to support AI/ML workflows;
- Build, tune, and evaluate supervised and unsupervised machine-learning models using standard industry toolchains in cloud/Jupyter environments;
- Assess model quality and risk by applying evaluation methods that address fit, reliability, fairness, and real-world impact;
- Implement responsible AI practices by detecting bias, applying governance and documentation standards, and producing transparent, auditable model artifacts;
- Translate domain problems into actionable AI-driven analyses and communicate results through concise reports, dashboards, and stakeholder briefings.

(AIMLAAS-Fall 2026)

General Education Courses

When a course is not specified, refer to the list of approved General Education courses.

Communication

Course #	Title	Credits
ENGL101	Composition I	3
ENGL230	Technical Writing	3

Mathematics-Science-Technology

Course #	Title	Credits
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4
	General Education Science Course (4 credits)	4
CISM125	Foundations of Information Technology	3

Humanities

Course #	Title	Credits
	Choose: ARTS108, PHIL102, HUMT105, or PHIL110 (3 credits)	3

Program Requirements

Course #	Title	Credits
CISM130	Using PC Operating Systems	4
CISM135	Computer Programming-C++	4
CISM143	Introduction to Project Management	3
CISM154	Computer Programming-Java	4
CISM167	Programming in Oracle SQL	3
AIML150	Ethical & Societal Impacts of AI	3
AIML200	Applied Python for AI	4
AIML210	Applied AI	4
AIML220	Generative AI and Data Solutions	4
	Choose: CISM159-Intermediate Programming – C++ or CISM148-Problem Solving Using Python (4 credits)	4
	Choose: CISM160-Systems Analysis and Design or CISM295-Info. Tech. Cooperative Education (3 credits)	3
	Total Credits	60

Recommended Sequence of Courses

First Semester

Course #	Title	Credits
CISM125	Foundations of Information Technology	3
ENGL101	Composition I	3
	Choose: MATH121-Applications of Mathematics or MATH220-Statistical Methods (4 credits)	4
	General Education Science Course (4 credits)	4

Second Semester

Course #	Title	Credits
CISM130	Using PC Operating Systems	4
CISM135	Computer Programming-C++	4
CISM154	Computer Programming-Java	4
ENGL230	Technical Writing	3

Third Semester

Course #	Title	Credits
AIML150	Ethical & Societal Impacts of AI	3
CISM143	Introduction to Project Management	3
CISM167	Programming in Oracle SQL	3
	Choose: ARTS108, PHIL102, HUMT105, or PHIL110 (3 credits)	3
	Choose: CISM159-Intermediate Programming – C++ or CISM148-Problem Solving Using Python (4 credits)	4

Fourth Semester

Course #	Title	Credits
AIML200	Applied Python for AI	4
AIML210	Applied AI	4
AIML220	Generative AI and Data Solutions	4
	Choose: CISM160-Systems Analysis and Design or CISM295-Info. Tech. Cooperative Education (3 credits)	3