

A. Title Page

1. Title and Type of Program: **Artificial Intelligence Minor**
2. School/Department Offering Academic Program: **Department of Computer Science and Technology, The Dorothy and George Hennings College of Science, Mathematics and Technology**
3. Proposed Date of Implementation: **Fall 2026**
4. Date of Document: **November 1, 2025**
Update: January 29, 2026

Submitted by:

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Department of Computer Science and Technology

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C. Description, Objectives, & Student Learning Outcomes (SLOs)

Description

The **Artificial Intelligence Minor** introduces students to the core principles, methods, and applications of AI. Open to all majors (except B.S. in Artificial Intelligence majors), the program provides foundational knowledge in AI, machine learning, deep learning, data-driven reasoning, and applications including natural-language and vision-based systems, as well as ethical and responsible AI design, through hands-on, project-based learning.

Students gain practical experience with modern AI tools and frameworks, exploring how AI can be applied responsibly across fields such as business, health, communication, science, and design. The minor enables students to integrate AI literacy within their disciplines while developing technical and ethical awareness relevant to today's workforce.

Objectives

The rapid adoption of AI technologies across industries has created a need for professionals who can understand, evaluate, and apply AI responsibly.

This minor prepares students to:

- 1) Develop a foundational understanding of AI theories, algorithms, and tools.
- 2) Apply AI and machine-learning techniques to real-world problems in their areas of study.
- 3) Recognize the ethical and societal implications of AI applications.
- 4) Communicate AI-based insights to technical and non-technical audiences.
- 5) Collaborate effectively on teams that use AI for innovation and decision-making.

Student Learning Outcomes (SLOs)

Upon completing the Minor in Artificial Intelligence, students will be able to:

- **SLO1:** Explain fundamental AI concepts and how AI systems are designed and evaluated.
- **SLO2:** Apply AI and machine-learning methods to analyze data or solve problems.
- **SLO3:** Communicate AI concepts effectively to technical and non-technical audiences.
- **SLO4:** Evaluate ethical, legal, and societal implications of AI applications.
- **SLO5:** Contribute effectively as a team member on AI-related projects.
- **SLO6:** Apply AI principles and reasoning to develop intelligent solutions.

Assessment of Student Learning Outcomes

The Minor in AI curriculum supports the development and evaluation of the program's student learning outcomes (SLOs) through targeted coursework and project-based assessment. Assessment focuses on demonstrated understanding of AI concepts, application of machine-

learning techniques, ethical reasoning, and effective communication across disciplines. Table 1 summarizes the methods and criteria used to assess each learning outcome.

Table 1. Learning Outcomes and Assessment Plan

SLOs	Assessment Measure(s)	Assessment Criteria
SLO1: Foundations of AI	Direct: Key assignments and quizzes in CPS 2800	Demonstrates understanding of AI fundamentals and system design
SLO2: Application and Implementation	Direct: Projects in CPS 3830 / TECH 3832	Applies AI and ML methods to structured problems
SLO3: Communication	Direct: Presentations and reports in CPS 2800 and CPS 3830 / TECH 3832	Communicates AI ideas to varied audiences
SLO4: Ethical and Responsible AI	Direct: Reflection or case study assignment in CPS 2800	Evaluates ethical and societal implications of AI
SLO5: Communication and Collaboration	Direct: Group projects and presentations in CPS 3830 / TECH 3832	Communicates effectively and contributes to team outcomes
SLO6: Integration of AI	Direct: Applied projects or reports in AI electives	Integrates AI concepts across domains

The Minor in AI prepares students to achieve the expected SLOs identified by the program. Table 2 shows how these outcomes are introduced and reinforced across the courses in the minor.

Table 2. Curriculum Map

Requirements	SLO1	SLO2	SLO3	SLO4	SLO5	SLO6
ID 1400 / CPS 1231 / CPS 2231	I					
CPS 2800 Fundamentals of AI	I	I	I	I	I	I
CPS 3830 / TECH 3832 Machine Learning Foundations / Principles	R	R	R		R	R
AI Electives (3/4xxx-level)	M	M	M	M	M	M

Key: I-Introduced, R-Reinforced, M-Mastery

D. Content of the Academic Program

The Minor in Artificial Intelligence is a 15-credit program designed to provide students with core competencies in AI theory, machine learning, and responsible application. The curriculum combines foundational and applied coursework, enabling students to develop the technical and ethical awareness necessary to integrate AI tools within their academic or professional fields.

Students complete two required courses and select two upper-level electives to explore advanced or domain-specific AI applications. Only courses with a grade of C (2.0) or better may be applied to the minor.

Curriculum Plan (15-16 credits total)

Required Courses (9-10 credits)

- ID 1400, CPS 1231, or CPS 2231, or an approved equivalent course* (3/4 credits)
- CPS 2800 – Fundamentals of Artificial Intelligence (3 credits)
- CPS 3830 or TECH 3832 – Machine Learning Foundations / Machine Learning Principles (3 credits)

Electives (6 credits) – Select two:

- A course applying AI concepts within the student’s discipline and career goals*
- CPS 3820 – Trustworthy and Responsible AI (3 credits)
- CPS 3840 – Deep Learning and Applications (3 credits)
- CPS 4841 – Computer Vision (3 credits)
- CPS 4845 – Text Mining and Language Processing (3 credits)
- CPS 4851 – Foundations of Edge AI (3 credits)
- CPS 4861 – Human-Centered AI Design (3 credits)

*Students should consult the department advisor to confirm eligibility for approved equivalent or discipline-specific AI courses.

Admission Requirements

The Minor in Artificial Intelligence is open to all students in good standing (except B.S. in Artificial Intelligence majors)

Program Requirements

- Total Credits: 15
- Minimum Grade: C or better in all courses applied to the minor
- At least 50% of coursework must be completed at Kean University

Recommended Elective Paths

Path	Courses
AI Core	CPS 3820 Trustworthy and Responsible AI • CPS 3840 Deep Learning and Applications
Responsible AI	CPS 3820 Trustworthy and Responsible AI → CPS 4861 Human-Centered AI Design
Deep Learning and Applications	CPS 3840 Deep Learning and Applications → CPS 4841 Computer Vision / CPS 4845 Text Mining and Language Processing / CPS 4851 Foundations of Edge AI

E. Administrative Structure

The Minor in AI is administered by the Department of Computer Science and Technology within the Dorothy and George Hennings College of Science, Mathematics, and Technology.

The Department is responsible for curriculum oversight, course scheduling, faculty assignments, and assessment of student learning outcomes. Advising and eligibility approvals for equivalent or discipline-specific AI courses are managed by the program faculty and curriculum committee.

No cooperating departments are required for program delivery.

F. Impact Statement

Faculty and Resources

Courses in the Minor in AI will be taught by existing full-time and adjunct faculty in the Department of Computer Science and Technology. Current faculty expertise in artificial intelligence, machine learning, data science, and computer vision provides complete coverage for all required and elective courses. No additional faculty or resources are required for implementation.

Enrollment Impact

The program is expected to attract students from diverse majors seeking to enhance their professional skills with applied AI knowledge. Moderate enrollment growth is anticipated, primarily from disciplines such as business, communication, health sciences, design, and mathematical sciences.

Facilities and Equipment

All courses will utilize existing computing laboratories, software, and infrastructure maintained by the Department of Computer Science and Technology. No new facilities or specialized equipment are required.

References

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Appendix A: Minor Form

KEAN UNIVERSITY – DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

Artificial Intelligence Minor

Total Credits: 15-16

REQUIRED COURSES (9-10)	
ID 1400 Computing in Modern Society or CPS 1231 Fundamental of Computer Science or CPS 2231 Computer Organization and Programming or Equivalent Course*	3-4
CPS 2800 Fundamentals of Artificial Intelligence (<i>corequisite: ID 1400 or CPS 1231 or CPS 2231 for non-majors; prerequisite: CPS 2231 for CS, IT, AI majors</i>)	3
CPS 3830 Machine Learning Foundations (<i>prerequisite: CPS 2800 and CPS 2232 or CPS 2240 for CS majors</i>) or TECH 3832 Machine Learning Principles (<i>prerequisite: CPS 2800 for non-majors; CPS 2800 and CPS*2232 or CPS*2240 for IT majors</i>)	3
ELECTIVES (6) – Select two:	
Approved discipline-specific AI course*	3
CPS 3820 Trustworthy and Responsible AI (<i>prerequisite: CPS 2800 and CPS*2232 or CPS*2240</i>)	3
CPS 3840 Deep Learning and Applications (<i>prerequisite: CPS 2800 and CPS*2232 or CPS*2240</i>)	3
CPS 4841 Computer Vision (<i>prerequisite: CPS 3840</i>)	3
CPS 4845 Text Mining and Language Processing (<i>prerequisite: CPS 3840</i>)	3
CPS 4851 Foundations of Edge AI (<i>prerequisite: CPS 3840</i>)	3
CPS 4861 Human-Centered AI Design (<i>prerequisite: CPS 3820</i>)	3

- *Students should consult the department advisor to confirm eligibility for approved equivalent or discipline-specific AI courses that align with their career goals.
- Open to all students in good standing. Non-majors should take TECH course options when available.
- Grade of C (2.0) or better is required in all courses applied to the minor.
- At least 50 percent of minor coursework must be completed at Kean University.
- Students must submit the Major/Minor Status Change Form signed by the Department Chair to the Office of the Registrar, and at the time of graduation must submit the Minor Form to verify completion of all minor requirements for submission to the Office of the Registrar.
- Approved minors are officially recorded on the student's transcript.

Recommended Electives by Focus Area

Focus Area	Course
AI Core	CPS 3820 and CPS 3840
Responsible AI	CPS 3820 → CPS 4861
Deep Learning and Applications	CPS 3840 → CPS 4841 or CPS 4845 or CPS 4851

Recommended Course Sequence

(The AI Minor can be completed in three semesters, regardless of fall or spring start for non-majors..)

Semester	Course
Year 1 – Fall or Spring	ID 1400 / CPS 1231 / CPS 2231 and CPS 2800
Year 1 – Spring	CPS 3820 or CPS 3830
Year 2 – Fall	CPS 3830 or CPS 4841 or CPS 4851 or CPS 4861
Year 2 – Spring (optional or Spring start)	CPS 4845

KEAN UNIVERSITY – DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

Artificial Intelligence Minor

Total Credits: 15-16

Name: _____ Kean ID: _____

Email: _____ Major(s): _____

Start Term: _____ Estimated Graduation Term: _____

Courses	Credits	Semester/Year	Grade
REQUIRED COURSES	9-10		
ID 1400 / CPS 1231 / CPS 2231 or Equivalent course			
CPS 2800			
CPS 3830 or TECH 3832			
ELECTIVES	6		
Discipline-specific AI course or CPS 3/4xxx elective			
CPS 3/4xxx elective			

Student Signature

Date

Department Chairperson Signature

Date

This signed evaluation confirming completion of all required courses is required to certify the minor.

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