

Artificial Intelligence BS

Overview

Artificial Intelligence (AI) is reshaping how organizations across many sectors operate, creating demand for graduates who can build, evaluate, and responsibly deploy AI systems. The Department of Computer and Information Sciences offers the **Bachelor of Science in Artificial Intelligence** to prepare students for that work. The program combines a strong foundation in computer science, including programming, algorithms, data structures, and mathematics, with focused coursework in machine learning, AI methods, databases, and human-AI interaction. Graduates are not merely AI-literate; they are skilled programmers who can design and implement intelligent systems.

The program emphasizes applied work as well as theory. Students work with real datasets, build machine learning models, and complete a capstone project that integrates skills developed across the curriculum. Temple's location in Philadelphia, with employers in healthcare, finance, technology, and related fields, creates opportunities for internships, applied projects, and undergraduate research. Graduates are prepared for technical roles that require both computing depth and an understanding of responsible AI deployment.

Campus Locations: Main, Japan

Program Code: ST-AI-BS

Distinction in Major

To graduate with distinction in this major, a student must satisfy the following criteria:

- have a minimum 3.50 major GPA
- have a minimum 3.50 cumulative GPA

Undergraduate Contact Information

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Learn more about the Bachelor of Science in Artificial Intelligence.

These requirements are for students who matriculated in academic year 2026-2027. Students who matriculated prior to fall 2026 should refer to the Archives to view the requirements for their Bulletin year.

Bachelor of Science Requirements

Summary of Requirements for the Degree

1. University Requirements (123 total s.h.)
 - Students must complete all University requirements including those listed below.
 - All undergraduate students must complete at least two writing-intensive (WI) courses for a total of at least six credits at Temple as part of their major. The specific writing-intensive course options for this major are:

Code	Title	Credit Hours
CIS 3296	Software Design (WI)	4
CIS 4398 or CIS 4397	Projects in Computer Science (WI) Independent Research in Computer Science	3

- Students must complete the General Education (GenEd) requirements.
 - See the General Education section of the *Undergraduate Bulletin* for the GenEd curriculum.
 - Students who complete CST majors receive a waiver for 2 Science & Technology (GS) and 1 Quantitative Literacy (GQ) GenEd courses.
- Students must satisfy general Temple University residency requirements.

2. College Requirements

- A minimum of 90 total credits within the College of Science & Technology (CST), the College of Liberal Arts (CLA), and/or the College of Engineering (ENG).
 - A minimum of 45 of these credits must be upper-level (courses numbered 2000 and above).
- Complete a one-credit first-year or transfer seminar.
 - SCTC 1001 CST First-Year Seminar for every entering first-year CST student.
 - SCTC 2001 CST Transfer Seminar for every entering transfer CST student.

a. Major Requirements for Bachelor of Science (76-79 s.h.)

At least 9 courses required for the major must be completed at Temple. At least 6 CIS courses must be completed at Temple.

Code	Title	Credit Hours
Computer and Information Science		
CIS 1001	Introduction to Academics in Computer Science	1
CIS 1051 or CIS 1951	Introduction to Problem Solving and Programming in Python ¹ Honors Introduction to Problem Solving and Programming in Python	4
CIS 1068 or CIS 1968	Program Design and Abstraction Honors Program Design and Abstraction	4
CIS 1166 or CIS 1966	Mathematical Concepts in Computing I Honors Mathematical Concepts in Computing I	4
CIS 2033	Computational Probability and Statistics	3
CIS 2109	Database Management Systems	4
CIS 2166	Mathematical Concepts in Computing II	4
CIS 2168	Data Structures	4
CIS 3203	Introduction to Artificial Intelligence	4
CIS 3223	Data Structures and Algorithms	3
CIS 3296	Software Design (WI)	4
CIS 3655 or CIS 3603	Human and Artificial Intelligence Interaction (Human and Artificial Intelligence Interaction) User Experience Design	3
Select one of the following:		3
CIS 4398	Projects in Computer Science (WI)	
CIS 4397	Independent Research in Computer Science (WI) ²	
CIS 4526	Foundations of Machine Learning	3
Artificial Intelligence Breadth Course		
Select one of the following:		3
CIS 4203	Artificial General Intelligence (Artificial General Intelligence)	
CIS 4517	Data-Intensive and Cloud Computing (S)	
CIS 4523	Knowledge Discovery and Data Mining ³	
CIS 4524	Analysis and Modeling of Social and Information Networks ³	
CIS 4626	Introduction to Deep Learning and Large Language Models (Introduction to Deep Learning and Large Language Models)	
CIS 4726	Intelligent Agent Systems Development (Intelligent Agent Systems Development)	
Artificial Intelligence Electives		
Select three courses from the following AI elective courses:		9-12
CIS 3100	Special Topics in CIS	

CIS 3211	Automata, Computability, and Languages	
CIS 3217	Computer Architecture	
CIS 3219	Computer Graphics and Image Processing	
CIS 3242	Discrete Structures	
CIS 3308	Web Application Programming	
CIS 3319	Wireless Networks and Security	
CIS 3374	Quality Assurance & Testing	
CIS 3381	Cooperative Education Experience in Computer Science ⁴	
CIS 3441	Software Security	
CIS 3515	Introduction to Mobile Application Development	
CIS 3605	Introduction to Digital Forensics	
CIS 3715	Principles of Data Science	
CIS 3755	Introduction to Information Visualization	
CIS 4203	Artificial General Intelligence (Artificial General Intelligence) ⁵	
CIS 4282	Independent Study ⁴	
CIS 4305	Real Time Computer Systems	
CIS 4307	Introduction to Distributed Systems and Networks	
CIS 4319	Computer Networks and Communications	
CIS 4324	Compiler Design	
CIS 4345	Introduction to Cloud Computing	
CIS 4350	Seminar on Topics in Computer Science	
CIS 4360	Seminar on Topics in Computer Science	
CIS 4419	Securing the Internet of Things	
CIS 4515	Advanced Mobile Application Development	
CIS 4517	Data-Intensive and Cloud Computing ⁵	
CIS 4523	Knowledge Discovery and Data Mining ⁵	
CIS 4524	Analysis and Modeling of Social and Information Networks ⁵	
CIS 4626	Introduction to Deep Learning and Large Language Models (Introduction to Deep Learning and Large Language Models) ⁵	
CIS 4696	Ethical Hacking and Intrusion Forensics (WI)	
CIS 4726	Intelligent Agent Systems Development (Intelligent Agent Systems Development) ⁵	
MATH 2043	Calculus III	
Mathematics		
MATH 1041	Calculus I	4
or MATH 1941	Honors Calculus I	
MATH 1042	Calculus II	4
or MATH 1942	Honors Calculus II	
Laboratory Science Courses		
Two (2) laboratory science courses ⁴		8
Total Credit Hours		76-79

¹ CIS 1057 Computer Programming in C can be substituted for CIS 1051 Introduction to Problem Solving and Programming in Python, if it was already completed prior to starting the major.

² CIS 4397 Independent Research in Computer Science requires permission of the department. View the course description for additional information.

³ Prerequisite of MATH 2043 Calculus III.

⁴ A maximum of four credits from CIS 3381 Cooperative Education Experience in Computer Science and/or CIS 4282 Independent Study may be used to fulfill the artificial intelligence elective requirement.

⁵ This course may be used to satisfy the AI Breadth Course or an AI Elective.

⁶ Must select one Lab Science Sequence from the options listed below. Lab Science A and Lab Science B must be taken from the same department.

Sequenced Laboratory Science Requirements

Code	Title	Credit Hours
Biology Sequence		
Select one Biology Lab Science A:		
BIOL 1011	General Biology I	
BIOL 1111	Introduction to Organismal Biology	
BIOL 1911	Honors Introduction to Organismal Biology	
Select one Biology Lab Science B:		
BIOL 1012	General Biology II	
BIOL 1112	Introduction to Biomolecules, Cells and Genomes	
BIOL 1912	Honors Introduction to Biomolecules, Cells and Genomes	
BIOL 2112	Introduction to Cellular and Molecular Biology	
BIOL 2912	Honors Introduction to Cellular and Molecular Biology	
Chemistry Sequence ¹		
Select one Chemistry Lab Science A:		
CHEM 1021 & CHEM 1023	Introduction to Chemistry I and Introduction to Chemistry Laboratory I	
CHEM 1031 & CHEM 1033	General Chemistry I and General Chemistry Laboratory I	
CHEM 1951 & CHEM 1953	Honors General Chemical Science I and Honors Chemical Science Laboratory I	
Select one Chemistry Lab Science B:		
CHEM 1022 & CHEM 1024	Introduction to Chemistry II and Introduction to Chemistry Laboratory II	
CHEM 1032 & CHEM 1034	General Chemistry II and General Chemistry Laboratory II	
CHEM 1952 & CHEM 1954	Honors General Chemical Science II and Honors Chemical Science Laboratory II	
Earth & Environmental Science Sequence ²		
Select this Lab Science A:		
EES 2001	Physical Geology	
Select one Lab Science B:		
EES 2011	Mineralogy I (with CHEM 1031 prerequisite)	
EES 2021	Sedimentary Environments (no CHEM 1031 prerequisite)	
EES 2061	Introduction to Geochemistry (with CHEM 1031 prerequisite)	
EES 3051	Natural Hazards (no CHEM 1031 prerequisite)	
Physics Sequence		
Select one Physics Lab Science A:		
PHYS 1021	Introduction to General Physics I	
PHYS 1061	Elementary Classical Physics I	
PHYS 1961	Honors Elementary Classical Physics I	
PHYS 2021	General Physics I (F)	
PHYS 2921	Honors General Physics I (F)	
Select one Physics Lab Science B:		
PHYS 1022	Introduction to General Physics II	
PHYS 1062	Elementary Classical Physics II	
PHYS 1962	Honors Elementary Classical Physics II	
PHYS 2022	General Physics II (S)	
PHYS 2922	Honors General Physics II (S)	

¹ Students can choose to mix-and-match the Chemistry Sequence A and B courses. However, they must take at least 1 course from Chemistry Sequence A and 1 from Chemistry Sequence B. Note: Chemistry courses consist of a three-credit lecture plus a one-credit lab.

² For the EES Sequence, two of the three Lab Science B options require students to take CHEM 1031 as a prerequisite, but EES 2021 does not.

³ Students can choose to mix-and-match the Physics Sequence A and B courses. However, they must take at least 1 course from Physics Sequence A and 1 from Physics Sequence B.

Suggested Academic Plan

Bachelor of Science in Artificial Intelligence

Suggested Plan for New Students Starting in the 2026-2027 Academic Year

Year 1		Credit Hours
Fall		
MATH 1041 or MATH 1941	Calculus I or Honors Calculus I	4
CIS 1001	Introduction to Academics in Computer Science	1
CIS 1051 or CIS 1951	Introduction to Problem Solving and Programming in Python or Honors Introduction to Problem Solving and Programming in Python	4
SCTC 1001	CST First-Year Seminar	1
ENG 0802 or ENG 0812 or ENG 0902	Analytical Reading and Writing [GW] or Analytical Reading and Writing: ESL [GW] or Honors Analytical Reading and Writing [GW]	4
Elective		1
Credit Hours		15
Spring		
MATH 1042 or MATH 1942	Calculus II or Honors Calculus II	4
CIS 1068 or CIS 1968	Program Design and Abstraction or Honors Program Design and Abstraction	4
CIS 1166 or CIS 1966	Mathematical Concepts in Computing I or Honors Mathematical Concepts in Computing I	4
IH 0851 or IH 0951	Intellectual Heritage I: The Good Life [GY] or Honors Intellectual Heritage I: The Good Life [GY]	3
Credit Hours		15
Year 2		
Fall		
CIS 2109	Database Management Systems	4
CIS 2166	Mathematical Concepts in Computing II	4
CIS 2168	Data Structures	4
IH 0852 or IH 0952	Intellectual Heritage II: The Common Good [GZ] or Honors Intellectual Heritage II: The Common Good [GZ]	3
Credit Hours		15
Spring		
CIS 2033	Computational Probability and Statistics	3
CIS 3655 or CIS 3603	Human and Artificial Intelligence Interaction (Human and Artificial Intelligence Interaction) or User Experience Design	3
GenEd Breadth Course		3
GenEd Breadth Course		3
Elective		3
Credit Hours		15
Year 3		
Fall		
Artificial Intelligence Elective (or MATH 2043) ¹		3-4
CIS 3203	Introduction to Artificial Intelligence	4
Laboratory Science A		4
GenEd Breadth Course		3

Elective		1-0
	Credit Hours	15
Spring		
CIS 3223	Data Structures and Algorithms	3
CIS 4526	Foundations of Machine Learning	3
Laboratory Science B		4
GenEd Breadth Course		3-4
Elective		3-2
	Credit Hours	16
Year 4		
Fall		
CIS 3296	Software Design [WI]	4
GenEd Breadth Course		3
Artificial Intelligence Breadth		3
Artificial Intelligence Elective		3-4
Elective		3-2
	Credit Hours	16
Spring		
Select one of the following:		3
CIS 4398	Projects in Computer Science [WI]	
CIS 4397	Independent Research in Computer Science [WI] ²	
Artificial Intelligence Elective		3-4
Elective		3
Elective		3
Elective		4-3
	Credit Hours	16
	Total Credit Hours	123

¹ MATH 2043 Calculus III is a prerequisite if CIS 4523 or CIS 4524 are selected in artificial intelligence breadth or in artificial intelligence elective requirements.

² CIS 4397 requires permission of the department. View the course description for additional information.