

REQUIREMENTS FOR THE BACHELOR OF SCIENCE/MASTER OF SCIENCE
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA

Academic Year
For Students Entering the Oklahoma State System for Higher Education Summer 2025 through Spring 2026

General Requirements	
Minimum Total Credit Hours	138
Minimum Upper-Division Hours	40
Minimum Retention/Graduation Grade Point Averages:	
Overall - Combined and OU	3.00
Major - Combined and OU	3.00

Program
Applied Artificial Intelligence
A026/F026
Bachelor of Science/Master of Science

OU encourages students to complete at least 28 hours of applicable coursework each year to have the opportunity to graduate in 5 years.

GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student's major. **Courses graded P/NP will not apply.**

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS)

Code	Title	Credit Hours
Core Area I: Symbolic and Oral Communication		
<i>English Composition</i>		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
<i>Language (0-10 hours in the same language)</i>		
This requirement can be met by two years of the same language in high school:		0-10
Beginning Course (0-5 hours)		
Beginning Course, continued (0-5 hours)		
<i>Mathematics (minimum 3 hours)</i>		
MATH 1523	Precalculus and Trigonometry ¹	3
Core Area II: Natural Science (minimum 7 hours, including one laboratory)		
Choose two courses from different disciplines, one must include a laboratory		7
Core Area III: Social Science		
P SC 1113	American Federal Government	3
Choose one course		3
Core Area IV: Arts & Humanities		
<i>Artistic Forms</i>		
Choose one course		3
<i>Western Culture</i>		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one course (excluding HIST 1483 and HIST 1493)		3
<i>World Culture</i>		
Choose one course		3
Core Area V: First-Year Experience		
Choose one course		3
Total Credit Hours		37-47

¹ Major support requirements that also satisfy University General Education requirements.

OPEN ELECTIVES

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

MAJOR REQUIREMENTS

Code	Title	Credit Hours
Required Courses		
AAI 3103	Robotic Systems	3
AAI 3213	Big Data Computing	3
AAI 3303	Machine Learning I	3
AAI 3313	Machine Learning II	3
AAI 3323	Reinforcement Learning	3
AAI 3333	Mathematics of Artificial Intelligence	3
AAI 4113/5113	Computer Vision and Image Recognition ¹	3
AAI 4303/5303	Deep Learning I ¹	3
AAI 4323/5323	Ethics of AI and Machine Learning ¹	3
AAI 4333/5333	Applications of Deep Learning ¹	3
AAI 4903	AAI Capstone Project	3
CYBS 3913	Database Fundamentals	3
SDI 3213	Cloud Computing	3
SDI 4103/5103	Software Project Management ¹	3
SDI 4213/5213	DevOps - CI/CD ¹	3
Major Electives		
Choose 4 approved AAI electives from a list maintained by the department		12
Total Credit Hours		57

¹ Shared coursework: choose up to 12 hours of 5000 level courses to be shared with MS degree for the accelerated BS/MS program.

MAJOR SUPPORT REQUIREMENTS

Code	Title	Credit Hours
Math and Science		
MATH 1914	Differential and Integral Calculus I ¹	4
POLY 1203	Foundations of Programming for Emerging Technologies	3
POLY 2203	Applied Statistics for Modern Computing	3
POLY 2513	Applied Discrete Mathematics for Computing	3
Total Credit Hours		13

¹ Students may take MATH 2123 (prerequisite of MATH 1743 required) or MATH 2423 (prerequisite of MATH 1823 required) in place of MATH 1914 (the content on integration is required).

GRADUATE REQUIREMENTS

THESIS OPTION

Code	Title	Credit Hours
Core Courses		
AAI 5103	Natural Language Processing	3
AAI 5303	Deep Learning I ¹	3
AAI 5323	Ethics of AI and Machine Learning ¹	3
AAI 5313	Deep Learning II	3
Electives		
Choose 12-15 hours of electives from a list of courses (maximum of 6 hours may be chosen from Open Electives list) maintained by the department and approved by the Graduate College, or additional hours from the Core Courses. ¹		12-15
Thesis		
AAI 5980	Research for Master's Thesis	3-6
Total Credit Hours		30

- ¹ Shared coursework: up to 12 hours of 5000 level courses may be shared with BS degree for the accelerated BS/MS program. Shared course options include AAI 5303, AAI 5323 and graduate electives of AAI 5113, AAI 5333, SDI 5103, and SDI 5213.

NON-THESIS OPTION

Code	Title	Credit Hours
Core Courses		
AAI 5103	Natural Language Processing	3
AAI 5303	Deep Learning I ¹	3
AAI 5313	Deep Learning II ¹	3
AAI 5323	Ethics of AI and Machine Learning	3
Electives		
Choose 15 hours of electives from a list of courses (maximum of 6 hours may be chosen from Open Electives list) maintained by the department and approved by the Graduate College, or additional hours from the Core Courses. ¹		15
Practicum		
AAI 5903	Master's Practicum	3
Total Credit Hours		30

- ¹ Shared coursework: up to 12 hours of 5000 level courses may be shared with BS degree for the accelerated BS/MS program. Shared course options include AAI 5303, AAI 5323 and graduate electives of AAI 5113, AAI 5333, SDI 5103, and SDI 5213.

More information in the catalog: (<http://ou-public.courseleaf.com/gallogly-engineering/polytechnic-institute/applied-artificial-intelligence-bachelor-science-master-science/>).

SUGGESTED SEMESTER PLAN OF STUDY

Please refer to the front of the degree checksheet for official requirements. Students must consult with OU Polytechnic Institute academic advisers to verify that courses selected each semester fulfill the recommended plan and satisfy university, Polytechnic Institute, and major requirements.

Courses designated as Core I, II, III, IV or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list. Two college-level courses in a single world language are required; this may be satisfied by successful completion of 2 years in a single world language in high school. Students who must take language at the University will have an additional 6-10 hours of coursework.

Year	FIRST SEMESTER		Hours	SECOND SEMESTER		Hours
FRESHMAN	ENGL 1113	Principles of English Composition (Core I)	3	ENGL 1213 or EXPO 1213	Principles of English Composition (Core I) or Expository Writing	3
	MATH 1523	Precalculus and Trigonometry	3	MATH 1914	Differential and Integral Calculus I	4
	P SC 1113	American Federal Government	3	POLY 1203	Foundations of Programming for Emerging Technologies	3
	POLY 1003	Frontiers in Emerging Technologies, First-year Experience ((Core V))	3		Approved Elective, Natural Science (Core II) ³	3
		Open Elective, lower-division ²	3		Approved Elective, Social Science (Core III) ¹	3
	CREDIT HOURS		15	CREDIT HOURS		16
SOPHOMORE	HIST 1483 or HIST 1493	United States to 1865 or United States, 1865 to the Present	3		Approved Elective, World Culture (Core IV) ¹	3
		Approved Elective, Western Culture (Core IV) ¹	3	POLY 2513	Applied Discrete Mathematics for Computing	3
		Approved Elective, Natural Science with Lab (Core II-Lab) ³	4		Open Elective, lower-division ²	3
	POLY 2203	Applied Statistics for Modern Computing	3		Open Elective, lower-division ²	3
		Open Elective, lower-division ²	1		Open Elective, lower-division ²	3
	CREDIT HOURS		14	CREDIT HOURS		15
JUNIOR	AAI 3303	Machine Learning I	3	AAI 3313	Machine Learning II	3
	CYBS 3913	Database Fundamentals	3	SDI 3213	Cloud Computing	3
	AAI 3333	Mathematics of Artificial Intelligence	3	AAI 3103	Robotic Systems	3
		Approved Upper-Division Elective (3000-4000), Artistic Forms (Core IV) ¹	3	AAI 3213	Big Data Computing	3
		AAI Major Elective	3	AAI 3323	Reinforcement Learning	3
	CREDIT HOURS		15	CREDIT HOURS		15
SENIOR	AAI 4303 or AAI 5303	Deep Learning I 4 or Deep Learning I ⁴	3	AAI 4903	AAI Capstone Project	3
	AAI 4323 or AAI 5323	Ethics of AI and Machine Learning 4 or Ethics of AI and Machine Learning ⁴	3	AAI 4333 or AAI 5333	Applications of Deep Learning 4 or Applications of Deep Learning ⁴	3
	SDI 4213 or SDI 5213	DevOps - CI/CD 4 or DevOps - CI/CD ⁴	3		AAI Major Elective	3
	AAI 4113 or AAI 5113	Computer Vision and Image Recognition 4 or Computer Vision and Image Recognition ⁴	3		AAI Major Elective	3
	SDI 4103 or SDI 5103	Software Project Management 4 or Software Project Management ⁴	3		AAI Major Elective	3
	CREDIT HOURS		15	CREDIT HOURS		15
FIFTH YEAR	AAI 5203	Advanced Database Systems	3	AAI 5103	Natural Language Processing	3
		5000 Level Core Course or Approved Elective ⁵	3	AAI 5313	Deep Learning II	3
		Choose one of the following:	3		Choose one of the following:	3
	AAI 5980	Research for Master's Thesis		AAI 5980	Research for Master's Thesis	
		5000 Level Core Course or Approved Elective ⁵		AAI 5903	Master's Practicum	
	CREDIT HOURS		9	CREDIT HOURS		9

1 To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

2 Open electives are not required to be General Education approved.

3 Courses taken to fulfill the Natural Science requirement must be chosen from the University-Wide General Education Approved Course List (Core II). At least one of the natural science courses must have a laboratory component.

4 Choose up to 12 hours of 5000 level MS courses to be shared between the BS and MS degrees. AAI 5303 and AAI 5323 are core courses required for the MS degree.

5 9 hours of MS Core Courses; maximum of 6 hours of MS approved electives and open electives.