

Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
Department of Quality Assurance and Academic Accreditation

Academic Program Description

Academic Year 2026-2027

University	Ahlulbayt University
College or Institute	College of Engineering
Scientific Department	Department of Artificial Intelligence Engineering
Academic or Professional Program	Bachelor of Engineering in Artificial Intelligence Engineering
Final Degree Award	Bachelor of Engineering in Artificial Intelligence Engineering
Study System	Bologna Process with Semesters and ECTS
Academic Year	2026-2027
Date of File Completion	21/09/2026

Review and Approval Team

Role	Name	Signature
Acting Head of the Department of Artificial Intelligence Engineering	Asst. Lect. Hasan Hadi Oudah	
Head of the Quality Assurance Unit	Asst. Lect. Al-Hassan Saleh Kadhim	
Assistant Dean for Scientific Affairs	Lect. Dr. Ahmed Hashim Jawad	
Acting Dean of the College of Engineering	Asst. Prof. Dr. Hussein Jawad Ahmed Al-Mankoushi	

1 Program Vision

To lead in preparing artificial intelligence engineers who can innovate and contribute to an intelligent digital society through advanced education and rigorous research that support sustainable development locally and globally.

2 Program Mission

The Artificial Intelligence Engineering program prepares graduates with sound scientific knowledge and advanced technical skills in the design and development of AI systems. It provides a modern learning environment based on practical education and applied research, supports innovation, responds to labor-market needs and serves society.

3 Program Objectives

- Provide graduates with strong foundations in mathematics, science, engineering, computing and artificial intelligence.
- Prepare graduates to formulate and analyze complex engineering problems and design intelligent solutions that can be evaluated and validated.
- Develop proficiency in programming, simulation, data analysis and modern artificial intelligence tools.
- Support innovation, applied research and initiatives that respond to labor-market and community needs.
- Strengthen communication, teamwork and commitment to professional, legal and responsible-AI principles.
- Promote lifelong learning, community service and sustainable engineering practice.

4 Program Accreditation

The program was established in the 2025-2026 academic year and does not currently hold specialized program accreditation. It follows the regulations of the Iraqi Ministry of Higher Education and Scientific Research and the Bologna Process, and it is compiling quality-assurance evidence in preparation for future program accreditation.

5 Other External Influences

The program is influenced by ministry regulations, labor-market needs, rapid developments in artificial intelligence and engineering, and requirements for professional ethics, responsible AI and sustainable development. Curriculum review is also supported by the twinning and scientific cooperation agreement with the College of Information Engineering at Al-Nahrain University, particularly the Department of Automation and Artificial Intelligence Engineering, signed on 12 January 2026.

6 Program Specification

A four-year engineering bachelor's program comprising eight semesters and 240 ECTS credits. It integrates mathematics, natural science, engineering and computing foundations with artificial intelligence, control, robotics and embedded-systems courses, supported by laboratories, projects, summer training and a graduation project. One ECTS credit equals 25 hours of student workload.

7 Program Structure

Program Component	Courses	ECTS	Percentage	Notes
Basic / University Requirement	9	21	8.8%	Required
Support / College Requirement	10	56	23.3%	Required
Core / Department Requirement	21	113	47.1%	Required
Elective / Specialized Requirement	10	50	20.8%	Elective or specialized
Summer Training	1	-	-	Four weeks after the third year
Total	50	240	100%	Four years and eight semesters

8 Program Description and Curriculum

The curriculum comprises eight semesters. Each semester carries 30 ECTS, and the complete program carries 240 ECTS.

Year 1

Semester 1

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	URDEM	Democracy and Human Rights	B	2	0	0	2
2	URARA	Arabic Language I	B	2	0	0	2
3	COFU102	Computer Fundamentals	B	2	3	0	5
4	CALC103	Calculus I	S	3	0	1	6
5	PHYS104	Physics	S	3	0	0	5
6	BIOL105	Biology	S	3	0	0	5
7	EDCA106	Engineering Drawing and CAD	C	2	3	0	5
		Semester Total					30

Semester 2

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	URENG1	English Language I	B	2	0	0	2
2	CALC151	Calculus II	S	3	0	1	6
3	LODE152	Logic Design	S	2	3	0	5
4	ECAN153	Electrical Circuits Analysis	S	2	3	0	6
5	COPR154	Computer Programming	C	2	2	0	5
6	POAI155	Principles of Artificial Intelligence	C	2	2	0	6
		Semester Total					30

Year 2

Semester 3

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	URBRC	Ba'ath Regime Crimes	B	2	0	0	2
2	URENG2	English Language II	B	2	0	0	2
3	ENMA202	Engineering Mathematics I	S	3	0	1	6
4	PRST203	Probability and Statistics	S	3	0	0	5
5	ELEC204	Electronics	C	3	2	0	5
6	OOPR205	Object-Oriented Programming	C	2	2	0	5
7	SSAN206	Signals and Systems Analysis	E	2	2	0	5
		Semester Total					30

Semester 4

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	URARA2	Arabic Language II	B	2	0	0	2
2	ENMA251	Engineering Mathematics II	S	3	0	1	6
3	DSDE252	Digital System Design	C	2	2	1	6
4	CONE253	Computer Networks	C	3	2	0	6
5	DCCO254	Data and Computer Communications	C	2	2	0	5
6	DAST255	Data Structures	E	2	2	0	5
		Semester Total					30

Year 3

Semester 5

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	PRMA300	Principles of Management	B	2	0	0	2
2	NUME301	Numerical Methods	S	2	2	1	6
3	INME302	Instrumentation and Measurements	C	3	2	0	6
4	MALE303	Machine Learning	C	2	3	0	6
5	PREN304	Prompt Engineering	E	3	2	0	5
6	MULT305	Multimedia Computing	E	3	0	0	5
		Semester Total					30

Semester 6

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	PRET350	Professional Ethics	B	2	0	0	2
2	DSPR351	Digital Signal Processing	C	2	2	1	6
3	CLCO352	Classical Control	C	3	2	0	6
4	SOCO353	Soft Computing	C	2	2	0	5
5	MIIN354	Microprocessor and Interfacing	E	2	3	0	6
6	OPTI355	Optimization	E	3	0	0	5
		Semester Total					30

Year 4

Semester 7

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	GRPR401	Graduation Project I	C	2	0	0	4
2	MBSY402	Microcontroller-Based Systems	C	3	2	0	6
3	MOCO403	Modern Control	C	3	2	0	5
4	PLCO404	Programmable Logic Controllers	C	3	2	0	5
5	OPSY405	Operating Systems	E	2	2	0	5
6	WSNI406	Wireless Sensor Networks and IoT	E	3	0	0	5
		Semester Total					30

Semester 8

No.	Code	Course Title	Type	Lecture	Lab	Tutorial	ECTS
1	GRPR450	Graduation Project II	C	2	0	0	4
2	DCSY451	Distributed Control Systems	C	3	2	0	6
3	ROBO452	Robotics	C	3	2	0	6
4	DELE453	Deep Learning	C	3	2	0	5
5	MAVI454	Machine Vision	E	3	0	0	4
6	RTES455	Real-Time Embedded Systems	E	2	2	0	5
		Semester Total					30

9 Expected Program Learning Outcomes

Knowledge and Understanding

A1	Apply mathematics, natural science and engineering fundamentals to artificial intelligence engineering problems.
A2	Explain computing foundations, programming, data structures, computer systems and networks.
A3	Explain the principles of artificial intelligence, machine learning, control, robotics and intelligent systems.
A4	Recognize research methods and the legal, ethical, social and sustainability context of engineering practice.

Skills

B1	Identify, formulate and analyze complex engineering problems using evidence and appropriate models.
B2	Design intelligent systems and components that meet stated needs and relevant constraints.
B3	Plan experiments, analyze data and validate engineering and AI models.
B4	Select and use modern engineering, programming, simulation and AI tools safely and effectively.

Values Autonomy and Responsibility

C1	Communicate technical information effectively in written, oral and visual forms.
C2	Work productively as an individual and as a member or leader of a multidisciplinary team.
C3	Act with professional integrity and apply ethical, legal and responsible-AI principles.
C4	Pursue independent learning, innovation and service that support society and sustainable development.

10 Teaching and Learning Strategies

- Interactive lectures supported by examples and engineering problems.
- Tutorials and guided exercises for mathematical analysis and problem solving.
- Laboratory, programming, simulation and experimental work aligned with course outcomes.
- Project-based learning, case studies, teamwork and presentations.
- Independent study and digital activities through the ministry's Smart Learning Platform.
- Four-week summer training after the third year and a two-part graduation project.

11 Assessment Methods

- Written mid-semester and final examinations.
- Quizzes, assignments and structured problem sheets.
- Laboratory performance, practical tasks and technical reports.
- Projects, presentations and seminar activities.
- Direct and indirect assessment of course and program learning outcomes.

First-stage courses use 40 marks for continuous and formative assessment, 10 marks for the mid-semester examination and 50 marks for the final examination.

Assessment Component	Weight
Continuous and Formative Assessment	40%
Mid-Semester Examination	10%
Final Examination	50%
Total	100%

12 Faculty and Internal University Lecturers

Five instructors are College of Engineering staff. Five lecturers belong to other formations within Ahlulbayt University and serve as internal university lecturers.

Name	Academic Rank	Degree	General Field	Specific Field	Institutional Status	Email	Courses
Ahmed Hashim Jawad	Lecturer	Ph.D.	Artificial Intelligence and Robotics	Artificial Intelligence and Robotics	College of Engineering staff	ahmed.hashim.jawad@abu.edu.iq	URENG1
Zaina Makki Kadhim	Lecturer	Ph.D.	Mathematics	Mathematics	Internal lecturer from another university formation	zaina.makki.kadhim@abu.edu.iq	CALC103, CALC151
Hasan Hadi Oudah	Assistant Lecturer	M.Sc.	Engineering	Computer Engineering	College of Engineering staff	hasan.hadi.oudah@abu.edu.iq	LODE152
Ali Najm Abdullah	Lecturer	Ph.D.	Engineering	Electrical and Communications Engineering	College of Engineering staff	ali.najm.abdullah@abu.edu.iq	EDCA106, ECAN153
Mohammed Abdullah Taha	Assistant Professor	Ph.D.	Computer Science	Computer Science	College of Engineering staff	mohammed.abdullah.taha@abu.edu.iq	COFU102, COPR154
Qasim Jalil Khudhair	Lecturer	Ph.D.	Computer Science	Computer Science	College of Engineering staff	qasim.jalil.khudhair@abu.edu.iq	POAI155
Wissam Issa Rahm	Assistant Lecturer	M.Sc.	Law	Law	Internal lecturer from another university formation	wissam.issa.rahm@abu.edu.iq	URDEM
Adnan Kadhim Jaloukhan	Assistant Lecturer	M.Sc.	Arabic Language	Arabic Language	Internal lecturer from another university formation	adnan.kadhim.jaloukhan@abu.edu.iq	URARA
Noor Zaid Zaini	Assistant Lecturer	M.Sc.	Physics	Physics	Internal lecturer from another university formation	noor.zaid.zaini@abu.edu.iq	PHYS104
Rashad Shamkhi Jabr	Assistant Lecturer	M.Sc.	Biology	Biology	Internal lecturer from another university formation	rashad.shamkhi.jabr@abu.edu.iq	BIOL105
Total					5 college staff and 5 internal university lecturers		13 first-stage course assignments

13 Orientation for New Faculty Members

- Introduce the program vision, mission, objectives and governance arrangements.
- Explain the curriculum, program learning outcomes and course-description requirements.
- Review university regulations, Bologna Process requirements and quality-assurance procedures.
- Explain the approved teaching, assessment and course-reporting practices.
- Monitor teaching during the first academic year and provide appropriate academic support.

14 Faculty Professional Development

- Regular development in university teaching, outcome design and evidence-based assessment.
- Technical updates in AI, programming, simulation, laboratories and safety.
- Workshops in professional ethics, responsible AI and academic integrity.
- Support for applied research, publication and scientific cooperation under the twinning agreement.
- Annual review of teaching performance, course reports and improvement actions.

15 Admission Criterion

Admission follows the regulations of the Iraqi Ministry of Higher Education and Scientific Research for private universities and colleges. Applications are processed through the electronic admission system according to the eligible secondary-school branches, minimum admission thresholds and instructions in force for 2026-2027.

16 Main Sources of Program Information

- The Academic Program and Course Description Guide issued by the Iraqi Ministry of Higher Education and Scientific Research.
- The curriculum twinned with the College of Information Engineering at Al-Nahrain University.
- The twinning and scientific cooperation agreement signed on 12 January 2026.
- Current Bologna Process and European Credit Transfer and Accumulation System instructions.
- The Iraqi Ministry Smart Learning Platform at <https://iq-learn.mohe.gov.iq/>
- Course reports, assessment results and scientific and quality-assurance committee reviews.

17 Program Development Plan

- Review course sequencing, prerequisites and learning outcomes annually using implementation evidence and twinning feedback.
- Update resources and course descriptors before each new stage opens until all four years are delivered.
- Develop programming, AI, circuits, control and robotics laboratories in line with implementation priorities.
- Collect direct and indirect evidence, relate course results to program outcomes and document improvement actions.
- Expand training, applied projects and engagement with employers and academic and professional partners.
- Complete the evidence and indicators required to seek specialized program accreditation when eligible.

18 Curriculum Skills Matrix Year 1

A check mark indicates that the course makes a direct contribution to the corresponding program learning outcome.

Year	Code	Course	Type	Knowledge and Understanding				Skills				Values Autonomy and Responsibility			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
1	URDEM	Democracy and Human Rights	B				✓					✓		✓	✓
1	URARA	Arabic Language I	B				✓					✓			✓
1	COFU102	Computer Fundamentals	B		✓			✓			✓	✓	✓		
1	CALC103	Calculus I	S	✓				✓		✓					✓
1	PHYS104	Physics	S	✓				✓		✓					✓
1	BIOL105	Biology	S	✓			✓			✓					✓
1	EDCA106	Engineering Drawing and CAD	C	✓					✓		✓	✓	✓		
1	URENG1	English Language I	B				✓					✓			✓
1	CALC151	Calculus II	S	✓				✓		✓					✓
1	LODE152	Logic Design	S	✓	✓			✓	✓	✓	✓				
1	ECAN153	Electrical Circuits Analysis	S	✓				✓	✓	✓	✓				
1	COPR154	Computer Programming	C		✓			✓	✓		✓		✓		
1	POAI155	Principles of Artificial Intelligence	C		✓	✓	✓	✓	✓	✓	✓			✓	

18 Curriculum Skills Matrix Year 2

A check mark indicates that the course makes a direct contribution to the corresponding program learning outcome.

Year	Code	Course	Type	Knowledge and Understanding				Skills				Values Autonomy and Responsibility			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2	URBRC	Ba'ath Regime Crimes	B				✓					✓	✓	✓	✓
2	URENG2	English Language II	B				✓					✓	✓	✓	✓
2	ENMA202	Engineering Mathematics I	S	✓				✓		✓	✓				✓
2	PRST203	Probability and Statistics	S	✓				✓		✓	✓				✓
2	ELEC204	Electronics	C	✓		✓		✓	✓	✓	✓		✓		
2	OOPR205	Object-Oriented Programming	C		✓			✓	✓		✓	✓	✓		
2	SSAN206	Signals and Systems Analysis	E	✓		✓		✓	✓	✓	✓		✓		
2	URARA2	Arabic Language II	B				✓					✓	✓	✓	✓
2	ENMA251	Engineering Mathematics II	S	✓				✓		✓	✓				✓
2	DSDE252	Digital System Design	C	✓		✓		✓	✓	✓	✓		✓		
2	CONE253	Computer Networks	C		✓			✓	✓		✓	✓	✓		
2	DCCO254	Data and Computer Communications	C	✓		✓		✓	✓	✓	✓		✓		
2	DAST255	Data Structures	E		✓			✓	✓		✓	✓	✓		

18 Curriculum Skills Matrix Year 3

A check mark indicates that the course makes a direct contribution to the corresponding program learning outcome.

Year	Code	Course	Type	Knowledge and Understanding				Skills				Values Autonomy and Responsibility			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
3	PRMA300	Principles of Management	B				✓					✓	✓	✓	✓
3	NUME301	Numerical Methods	S	✓				✓		✓	✓				✓
3	INME302	Instrumentation and Measurements	C	✓		✓		✓	✓	✓	✓		✓		
3	MALE303	Machine Learning	C		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
3	PREN304	Prompt Engineering	E		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
3	MULT305	Multimedia Computing	E		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
3	PRET350	Professional Ethics	B				✓					✓	✓	✓	✓
3	DSPR351	Digital Signal Processing	C	✓		✓		✓	✓	✓	✓		✓		
3	CLCO352	Classical Control	C	✓		✓		✓	✓	✓	✓		✓		
3	SOCO353	Soft Computing	C		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
3	MIIN354	Microprocessor and Interfacing	E		✓			✓	✓		✓	✓	✓		
3	OPTI355	Optimization	E	✓				✓		✓	✓				✓

18 Curriculum Skills Matrix Year 4

A check mark indicates that the course makes a direct contribution to the corresponding program learning outcome.

Year	Code	Course	Type	Knowledge and Understanding				Skills				Values Autonomy and Responsibility			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
4	GRPR401	Graduation Project I	C				✓	✓	✓	✓	✓	✓	✓	✓	✓
4	MBSY402	Microcontroller-Based Systems	C	✓		✓		✓	✓	✓	✓		✓		
4	MOCO403	Modern Control	C	✓		✓		✓	✓	✓	✓		✓		
4	PLCO404	Programmable Logic Controllers	C	✓		✓		✓	✓	✓	✓		✓		
4	OPSY405	Operating Systems	E		✓			✓	✓		✓	✓	✓		
4	WSNI406	Wireless Sensor Networks and IoT	E		✓			✓	✓		✓	✓	✓		
4	GRPR450	Graduation Project II	C				✓	✓	✓	✓	✓	✓	✓	✓	✓
4	DCSY451	Distributed Control Systems	C	✓		✓		✓	✓	✓	✓		✓		
4	ROBO452	Robotics	C		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
4	DELE453	Deep Learning	C		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
4	MAVI454	Machine Vision	E		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
4	RTES455	Real-Time Embedded Systems	E		✓			✓	✓		✓	✓	✓		