Undergraduate Degree Program Catalogue | 2025-2026|
دليل البرنامج الدراسي

Al MUSTAQBAL UNIVERSITY
(جامعة المستقبل)

Bachelor of Science (B.Sc.) – Artificial intelligence science

بكالوريوس علوم – علوم الذكاء الاصطناعي

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1. Mission & Vision Statement

Vision Statement

The vision of the Artificial Intelligence Department is to achieve academic distinction and technological leadership in the field of intelligent systems and data-driven computing. The department aims to provide students with solid theoretical foundations and advanced practical skills in artificial intelligence, machine learning, computer vision, intelligent data analysis, and autonomous systems.

The department seeks to align academic knowledge with the rapidly evolving demands of the global job market by offering educational programs that integrate modern algorithms, computational intelligence techniques, and emerging AI technologies. It aspires to graduate highly qualified professionals capable of designing, developing, and deploying intelligent solutions that address complex real-world problems across various domains, including healthcare, cybersecurity, smart cities, robotics, and decision support systems.

Graduates of the Artificial Intelligence Department are prepared to contribute effectively to scientific research, technological innovation, and sustainable development, while adhering to ethical, legal, and professional standards associated with artificial intelligence applications. The department envisions playing a vital role in advancing intelligent

technologies that enhance productivity, support decision-making, and improve quality of life.

A graduate of the Artificial Intelligence Department is qualified to work in the fields of intelligent software development, data analysis, machine learning model design, and AI-based system implementation. Graduates possess the ability to analyze large-scale data, build predictive and adaptive models, develop intelligent agents, and apply AI techniques to images, text, speech, and video. They are also equipped to keep pace with rapid technological advancements, contribute to innovation, and understand the ethical, social, and professional responsibilities related to artificial intelligence systems.

Mission Statement

- Providing high-quality education that combines theoretical foundations with practical skills in artificial intelligence and intelligent computing.
- Preparing students to design, implement, and evaluate AI-based solutions using modern algorithms, tools, and programming frameworks.
- Promoting scientific and analytical thinking to solve complex problems through data-driven and intelligent approaches.
- Emphasizing ethical, legal, and professional responsibilities in the development and deployment of artificial intelligence systems.
- Equipping graduates with the competencies required for advanced specialization, lifelong learning, and research in artificial intelligence and related fields.

2. Program Specification

Programm code:	BSc-Science / – Artificial intelligence science	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

Artificial Intelligence is a broad and interdisciplinary field that integrates concepts from computer science, mathematics, data science, and cognitive systems. The emphasis of the program is on developing a comprehensive understanding of intelligent systems as a unified framework in which data, algorithms, computation, and learning are closely interconnected. The Artificial Intelligence degree appeals to a wide range of students; for some, the attraction lies in the breadth of the field, while for others it provides a clear pathway toward specialization in advanced AI domains.

The program offers students a strong foundational background in computing and artificial intelligence principles, with opportunities to progress into specialized areas such as machine learning, data analytics, computer vision, natural language processing, and intelligent decision-support systems. At the end of the first academic year, students acquire the necessary academic grounding to pursue advanced and specialized AI-oriented modules within the program structure.

Level 1 introduces students to the fundamental concepts of computing, programming, mathematics for AI, and an introduction to artificial intelligence, providing a solid base suitable for progression within the Artificial Intelligence program. Program-specific core topics are emphasized at Level 2, preparing students for research-informed and subject-specialist modules delivered at Levels 3 and 4. As such, graduates of the Artificial Intelligence program are trained to understand the close relationship between scientific research and academic teaching, in alignment with the mission and vision of the University and the Faculty.

At Levels 2, 3, and 4, students dedicate more than half of their academic workload to specialized modules in artificial intelligence. This structure enables students to develop focused expertise while also cultivating broader interests within the computing and intelligent systems domain. Decisions regarding module selection are made with academic guidance from personal tutors to ensure coherence with students' academic goals and career aspirations.

Academic tutorials are conducted at Levels 1 and 2 with the same tutor, who also serves as the student's personal academic advisor, ensuring continuity, mentoring, and progressive academic support. Tutorials at Levels 1 and 2 include a series of skill-development workshops, such as academic research methods, library and digital resource usage, technical writing, and presentation skills. These workshops are complemented by assessed activities, including written reports, presentations, and project-based tasks, allowing students to practice and demonstrate these skills within an artificial intelligence–specific academic context.

3. Program Goals

1. To provide a comprehensive education in artificial intelligence that emphasizes scientific reasoning, algorithmic thinking, and problem solving across the spectrum of intelligent systems, machine learning, and data-driven computing disciplines.
2. To prepare students for a wide range of post-baccalaureate pathways, including graduate studies, professional certification programs, research-oriented careers, or entry-level positions in diverse artificial intelligence–related fields.
3. To offer extensive hands-on training in programming, data analysis, machine learning experimentation, algorithm implementation, and laboratory-based and project-oriented AI development environments.
4. To develop students' proficiency in written and oral communication of technical and scientific information related to artificial intelligence, including the presentation of models, experimental results, and system evaluations.
5. To enrich students' academic experience through alternative and experiential learning opportunities in artificial intelligence, such as undergraduate research projects, industrial internships, collaborative innovation activities, and international academic or research exchange programs .

4. Student Learning Outcomes

The Student Learning Outcomes (SLOs) of the Artificial Intelligence Department define the knowledge, skills, and professional competencies that students are expected to acquire throughout their academic program. These outcomes are aligned with the department's educational goals and are designed to prepare graduates for academic, research, and professional success in the field of artificial intelligence.

Outcome 1

Understanding and Development of Intelligent Systems

Graduates will be able to understand, design, and develop intelligent software systems, including the implementation of algorithms for learning, reasoning, perception, and decision-making, as well as the construction of appropriate data representations and storage structures.

Outcome 2

Oral and Written Communication

Graduates will be able to analyze complex artificial intelligence problems, propose suitable solutions, and formally communicate the results of investigations through effective oral and written communication. This includes collecting and analyzing data, implementing algorithms, applying computational methods, and documenting experimental and project-based outcomes.

Outcome 3

Laboratory and Practical Skills

Graduates will be able to conduct laboratory experiments and applied projects using appropriate computational tools, software frameworks, and AI development environments, while adhering to professional, ethical, and safety standards relevant to intelligent system design and deployment.

Outcome 4

Scientific and Theoretical Knowledge

Graduates will be able to demonstrate a solid understanding of the development of scientific knowledge in artificial intelligence, including the historical evolution of foundational theories, models, and paradigms, as well as the interdisciplinary nature of AI as a scientific field.

Outcome 5

Data Analysis and Quantitative Reasoning

Graduates will be able to apply quantitative and analytical skills to collect, process, and analyze data, evaluate model performance, and interpret experimental results using appropriate statistical and computational techniques.

Outcome 6

Critical Thinking and Research Skills

Graduates will be able to apply critical thinking and problem-solving skills to design, implement, and evaluate research-oriented projects or technical reports in artificial intelligence, demonstrating the ability to assess assumptions, limitations, and ethical implications.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

Al-Mustaqbal University-Iraq is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Calculation of the Grade Point Average (GPA)

1. The GPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

   GPA of a 4-year B.Sc. degrees:

   GPA = [(1st module score x ECTS) + (2nd module score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOMU0304011	Programming Fundemental	110	90	8.00	B	
UOMU0304012	Mathematics	93	57	6.00	B	
UOMU0304013	Statistics and Probability	93	57	6.00	B	
UOMU0304014	Principles of Artificial Intelligence	63	37	4.00	C	
UOMU0000015	Human Rights and Democracy	33	17	2.00	B	
UOMU0000001	English Language	46.5	3.5	2.00	B	

Semester 2 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOMU0304021	Structure Programming	110	90	8.00	B	
UOMU0304023	Discrete Structures	63	62	5.00	B	
UOMU0304022	Computer Organization and Logic Design	95	55	6.00	B	
UOMU0304025	Prolog Language	63	37	4.00	C	
UOMU0304024	Knowledge Representation Methods	80	45	5.00	C	
UOMU0000007	Arabic Language	47	3	2.00	B	

Semester 3 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOMU0304031	Object Oriented Programming	108	92	8.00	B	UOMU0304021
UOMU0304032	Data Structures	78	47	5.00	B	
UOMU0304033	Numerical Analysis	93	57	6.00	B	UOMU0304012
UOMU0304034	Python Language	78	47	5.00	C	
UOMU0304035	Searching Strategies	64	36	4.00	C	UOMU0304024
UOMU0000013	Crimes of the Baath regime in Iraq	33	17	2.00	B	

Semester 4 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOMU033041	DataBase	108	92	7.00	C	
UOMU033042	Microprocessor	93	57	5.00	C	UOMU0304022
UOMU033043	Sorting and Searching Algorithms	78	47	5.00	C	UOMU0304032
UOMU033044	Fuzzy Logic	78	47	5.00	C	
UOMU033045	Heuristic Search Methods	64	36	4.00	C	UOMU0304035

UOMU00005	English language2	33	17	2.00	B	
UOMU000011	Arabic language2	33	17	2.00	B	

8. Contact

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