

University of Warith Al-Anbiyaa

جامعة وارث الانبياء



First Cycle – Bachelor's degree (B.Sc.) – Robotics and Artificial Intelligence Engineering Techniques

بكالوريوس - هندسة تقنيات الروبوتات والذكاء الاصطناعي

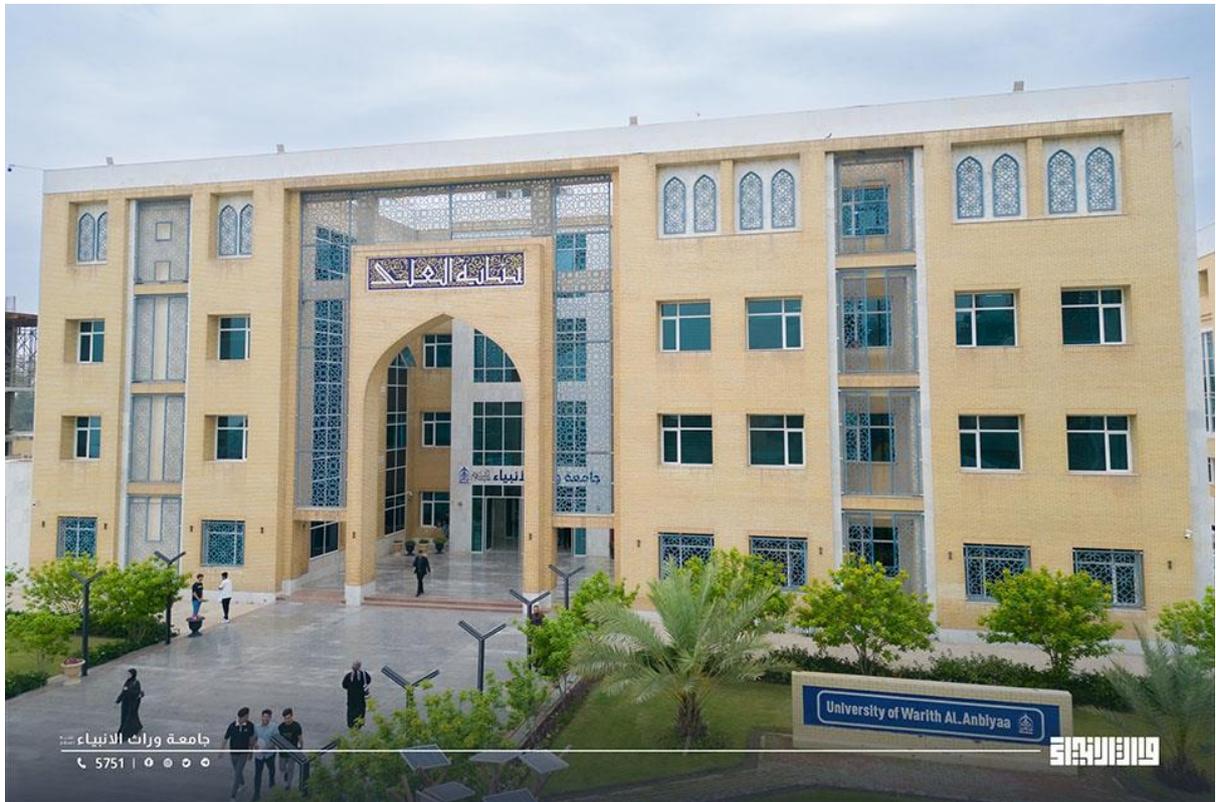


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1. **Mission & Vision Statement**

Vision Statement

The academic staff of the department of the Robotics and Artificial Intelligence Engineering Techniques at University of Warith Al-Anbiyaa seeks to achieve international recognition as an academic leader in robotics and artificial intelligence engineering through excellence in teaching, research, and innovation, fostering the development of advanced intelligent systems and ethically responsible technological solutions that contribute to scientific advancement and societal well-being. The department aspires empowering innovative problem-solvers who design, build, and deploy intelligent systems that advance industry, enhance human life, and drive sustainable technological progress in a rapidly evolving global society.

Mission Statement

The mission of the Robotics and Artificial Intelligence Engineering Techniques Department is to deliver a rigorous undergraduate education that integrates foundational theory with hands-on engineering practice in robotics and artificial intelligence. The department prepares graduates with strong technical competence, critical thinking skills, and ethical awareness to succeed in entry-level engineering technology careers, pursue advanced studies, and contribute responsibly to technological innovation and societal needs.

2. Program Specification

Programme code:	BSc-RTAI	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

The Robotics and Artificial Intelligence Engineering Techniques program prepares student for a career in one of the most interesting fields in modern science by delivering courses aimed and developing both engineering and computer skills. The program focuses on knowledge and skills in mechanical and electrical engineering in addition to computer science.

Level 1 of the program exposes the student to preparatory knowledge and skills in math, engineering and computer skills. Levels 2, 3 and 4 provides the student with core knowledge and skills needed in the fields and robotics and artificial intelligence. The program also focuses on building technical skills to prepare the student for the requirements of the field. This is achieved through the participation in group projects that reflect future careers, which will expose the student to the challenges expected when working in the field, such as planning, team work, innovation and problem solving.

3. Program Goals

1. Develop strong foundational competence in robotics and AI principles, including sensing, actuation, control systems, machine learning, and intelligent decision-making.
2. Apply engineering techniques and algorithms to design, model, simulate, and implement robotic and AI-based systems that solve real-world problems.
3. Integrate hardware and software effectively, enabling students to interface sensors, actuators, embedded systems, and AI frameworks into functional robotic platforms.
4. Analyze, evaluate, and optimize system performance using data-driven methods, experimentation, and validation techniques in robotics and AI applications.
5. Demonstrate ethical, professional, and collaborative practice, including awareness of safety, societal impact, and teamwork in the development and deployment of intelligent robotic systems.

4. Student Learning Outcomes

Biology is the study of the organization and operation of life at the molecular, cellular, organism, and population levels. Graduates obtain information on the historical, technical and social aspects of

biology and utilize basic knowledge toward realizing broader concepts. The Department offers a Bachelor of Science in Biology with a concentration in General Biology; Pre-medicine / Pre-dentistry; Biotechnology / Molecular Biology and a minor in Secondary Education that leads to a Public Instruction License. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The biology curriculum and experiences are designed to prepare students, in part, for entry into professional health programs, graduate studies, technical careers and education

Outcome 1

Identification of Complex Relationships

Analyze and explain complex interactions between sensors, actuators, control systems, and AI algorithms within robotic systems.

Outcome 2

Oral and Written Communication

Communicate technical concepts, designs, and results effectively through well-structured oral presentations, technical reports, and documentation.

Outcome 3

Laboratory and Field Studies

Design and conduct laboratory and field experiments to implement, test, and validate robotic and AI engineering techniques.

Outcome 4

Scientific Knowledge

Apply core scientific and engineering principles—such as mathematics, physics, control theory, and machine learning—to solve robotics and AI problems.

Outcome 5

Data Analyses

Collect, process, and analyze experimental and operational data to evaluate system performance and support engineering decisions.

Outcome 6

Critical Thinking

Critically evaluate problems, assumptions, and solutions to propose improvements, innovations, or alternative approaches in robotic and AI system design.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

(Name) University 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 hrs 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	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number 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 Cumulative Grade Point Average (CGPA)

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

CGPA of a 4-year B.Sc. degree:

$$\text{CGPA} = [(1^{\text{st}} \text{ module score} \times \text{ECTS}) + (2^{\text{nd}} \text{ module score} \times \text{ECTS}) + \dots] / 240$$

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOW1003	Computer I	60	15	3	B	N/A
UOW1001	English 1	45	5	2	B	N/A
RTAI101	Workshops	88	87	7	S	N/A
RTAI102	Engineering Drawing	88	62	6	S	N/A
RTAI103	Introduction to Robotics	45	55	4	C	N/A
RTAI104	Mathematics	60	140	8	S	N/A

8. Contact

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