Academic Program Description

University Name: Al-Mustaqbal University

College / Institute: College of Technical Engineering

Scientific Department: Computer Engineering Techniques Department

Final Certificate Name: Bachelor of Science in Computer Engineering Techniques

Study System: yearly

Description Preparation Date: 20 / 11 / 2025

File Completion Date: 20 / 11 / 2025

Head of Department

Prof. Dr. Haider Jabar Abd Al-Janabi

2025 / 11/ 20

Associate Dean for Scientific Affairs

Lecturer Dr. Amin Mohammed Kittab

2025 / 11/ 20

File audited by: Quality Assurance and University Performance

Division Name of the Director of the Quality Assurance and University Performance Division:

Dr. Basim Atiya Khudair

Date: 14/ 3 / / 2026

Signature: :

chancellor of the College

Asst. Prof. Dr. Azher Muhsin Abed

/ / 2025

1. Program Vision

The department strives to be among the elite departments in Iraq, recognized for its global scientific rigor and excellence in education. Our mission is to advance research that fosters knowledge and serves the community by providing high-quality education. This education integrates theoretical knowledge with practical expertise in soft skills specialties, empowering our students to become leaders and innovators in the technology industry. Furthermore, we are committed to contributing effectively to societal progress and sustainable development, providing continuous technical support, and graduating highly competent professionals to enrich the community

2. Program Message

"The department's mission focuses on preparing distinguished and pioneering cadres to achieve progress in technical engineering education and scientific research. It also aims to enhance cooperation with all state institutions, colleges, research centers, the local community, and the private sector to provide the best scientific and consultancy services.

The program contributes to elevating the scientific level of the workforce by organizing development courses, conducting applied scientific research, and sponsoring gifted and talented individuals to invest in their potential. Furthermore, it focuses on conducting applied research that contributes to solving real-world problems in engineering and industrial fields faced by projects both locally and internationally.

Ultimately, the department fulfills its mission by producing distinguished graduates proficient in computer technology, equipped with the necessary knowledge and skills to analyze, design, and develop innovative technical solutions and sustainable development that meet labor market needs and contribute to its advancement."

3. Program objectives

"The program aims to graduate highly qualified computer technical engineers capable of dealing scientifically and professionally with various computers, networks, and their applications from an engineering perspective, ranging from operation and maintenance to design and implementation.

Key objectives of the program also include the continuous development of the practical side, providing graduates with the required skills and knowledge, and fostering openness toward institutions and companies in the field of training. It focuses on qualifying graduates for the labor market, with a specific emphasis on computer technologies, networking, web services, and related project management.

Furthermore, the program seeks to motivate students to compete and participate in various scientific competitions and debates, while developing creative thinking and enhancing communication skills within the professional work environment."

4. Program accreditation

"While the program has not yet obtained formal accreditation, the Computer Engineering Techniques Department is actively and systematically working toward fulfilling all requirements to achieve programmatic accreditation in the near future.

5. Other external influences

None

6. Program Structure

Notes	Percentage	Credit Unit	Number of Courses	Program Structure
	%9	14	6	Institutional Requirements
	%26	41	9	College Requirements
	%65	102	22	Department Requirements
	---	---	2	Summer Internship
	---	---	---	Other
	%100	157	39	Total

7. Program Description					
Credit Hours			Course name	Course code	Year/Level
Units	Practical	Theory			
7	3	3	Electrical Engineering Fundamentals	MU0221001	First year
7	3	2	Computer Programming I	MU0221002	
6	2	2	Computer Architecture	MU0221003	
6	2	3	Digital Electronics	MU0221004	
4	4	-	Workshop	MU0221005	
4	--	3	Mathematics I	MU0221006	
4	--	2	Democracy and Human Rights	MU0221007	
3	3	-	Engineering Drawing	MU0221008	
2	--	2	English Language I	MU0221009	
2	--	2	Arabic Language	MU02210010	

Credit Hours			Course name	Course code	Year/Level
Units	Practical	Theory			
7	3	2	Microprocessor Architecture	MU0222001	Second year
6	2	2	Instrumentation and Measurements	MU0222002	
6	2	2	Computer Programming II	MU0222003	
6	2	3	Fundamentals of Communications	MU0222004	
6	2	2	Electronics	MU0222005	
4	2	1	Computer Applications	MU0222006	
4	--	3	Mathematics II	MU0222007	

2	--	2	English Language II	MU0222008	
--	--	--	Summer training		

Credit Hours			Course name	Course code	Year/Level
Units	Practical	Theory			
6	2	2	Computer Networking Fundamentals	MU0223001	Third year
6	2	2	Engineering Analysis	MU0223002	
6	2	2	Fundamentals of Control Engineering	MU0223003	
6	2	2	Digital Communications	MU0223004	
6	2	2	Real-Time Systems Design	MU0223005	
6	2	2	Digital Signal Processing (DSP)	MU0223006	
6	2	2	Artificial Intelligence and Expert Systems	MU0223007	
4	2	1	Computer Network Simulation	MU0223008	
2	---	2	English Language III	MU0223009	
--	---	---	Summer training		

Credit Hours			Course name	Course code	Year/Level
Units	Practical	Theory			
6	2	2	Mobile Communication Systems	MU0224001	Four year
6	2	2	Project Management	MU0224002	
6	2	2	Information Theory and Coding	MU0224003	
6	2	2	Computer Network Protocols	MU0224004	
6	2	2	Computer and Network Security	MU0224005	
6	2	2	Multimedia Computing	MU0224006	
6	2	2	Advanced Computer Technology	MU0224007	
4	4	---	Graduation Project	MU0224008	
2	---	2	English Language IV	MU0224009	
2	---	2	Professional Ethics	MU02240010	

8. Expected Learning Outcomes of the Program	
Knowledge	
A1: Mastery of mathematical analysis fundamentals necessary for understanding, modeling, and analyzing computer and network applications. **A2:** In-depth knowledge of programming fundamentals and operating systems to effectively implement them in practical applications. **A3:** Proficiency in utilizing Information and Communication Technology (ICT) efficiently within professional environments. **A4:** Mastery of modern management principles and advanced design concepts for computer hardware, networks, and their integrated	**Education Outcomes - A**
Skills	
B1: The ability to apply scientific and mathematical principles to analyze computer systems. **B2:** The ability to solve numerical problems using mathematics, statistics, and computing. **B3:** The ability to initiate, organize tasks, and demonstrate a rapid understanding of complex scenarios within the field of specialization. **B4:** The ability to perform effective planning by writing project	**Education Outcomes - B**
Values	
C **1:** Adherence to **professional values** and ethics in the workplace. **C2:** The ability to demonstrate **creativity and innovation**, and to effectively communicate scientific ideas. **C3:** Proficiency in conducting **oral dialogue** and working effectively within a single **teamwork** environment. **C4:** The ability to manage **time efficiently** and make optimal use of available resources and information.	**Education Outcomes - C**

9. Teaching and Learning Strategies

The teaching and learning strategy aims to ensure a comprehensive understanding of lectures and to foster active student engagement. This is achieved through: Interactive Lectures, Multimedia Integration, Applied Learning, Active Participation and Simulations and Practical Training.

10. Assessment Methods

On the theoretical side, there are daily classroom quizzes, group questions, scientific reports, homework and other in-class assignments, monthly, term, midterm, and final exams, in addition to projects integrated into the lessons and active participation during study sessions. On the practical side, the evaluation of laboratory grades depends on experiments, reports, and laboratory projects. As for the graduation stage, there is an evaluation of the final year project.

11. Faculty Members

Staff / Lecturer	Specialization		Academic Title and Name	ت
	General	General		
Permanent	Electronics and Communications	Electrical Engineering	Prof. Dr. Haider Jabar Abd Al-Janabi	1
Permanent	Friction	Mechanical Engineering	Asst. Prof. Dr. Abdullah Jabar Hussein	2
Permanent	Artificial Intelligence (AI)	Computer Science	Asst. Prof. Dr. Hussein Abd Al-Amir	3
Permanent	Information Security	Computer Science	Lecturer Dr. Mohammed Hassan Alwan	4
External	Protocols	Computer Engineering	Lecturer Dr. Laith Abd Al-Kareem Hasnawi	5
Permanent	Artificial Intelligence (AI)	Computer Science	Lecturer Dr. Mayas Mohammed Mahdi	6
Permanent	Engineering Communications	Electrical Engineering	Lecturer Dr. Musaddaq Maher Abd Al-Zahra	7
Permanent	Communications	Electrical Engineering	Asst. Lecturer Waleed Ali Hamza	8
Permanent	Software	Computer Engineering	Asst. Lecturer Aya Ali Jumaa	9

Permanent	Software	Computer Engineering	Asst. Lecturer Simaa Mohammed Jawad	10
Permanent	Software	Information Technology	Asst. Lecturer Zainab Kadhim Jabbar	11
Permanent	Software	Information Technologn	Asst. Lecturer Ruaa Sattar Jabbar	12
Permanent	Information Technology	Computer Science	Lecturer Dr. Murtadha Abbas Abed	13
Permanent	Thermodynamics	Mechanical Engineering	Asst. Lecturer Mustafa Rahim	14
Permanent	Methods of Teaching	English Language	Asst. Lecturer Anas Ahmed Shaker	15
Permanent	Control Engineering	Mechanical Engineering	Lecturer Dr. Mujtaba Abd Al-Kadhim Fulayyih	16
Permanent	Agricultural Machinery	Mechanical Engineering	Asst. Lecturer Abd Al-Khaliq Mahdi Al-Fatlawi	17
Permanent	Artificial Intelligence (AI)	Computer Science	Lecturer Dr. Hassanein Mohammed Yarub	18
Permanent	English Literature	English Language	Asst. Lecturer Mary Omran Mahdi	19

12- Orientation for New Faculty Members

1- Providing comprehensive orientation on the nature of work and the institutional and departmental values.
2- Offering specialized training courses covering innovative teaching methods and academic best practices.
3- Guiding faculty on institutional policies, procedures, research ethics, and quality standards.
4- Providing networking opportunities with colleagues and participation in research and professional development activities.
5- Monitoring the performance of new faculty members and providing additional support and mentorship as needed.

13- Professional Development for Faculty Members

1- Providing specialized training courses in effective teaching strategies and modern educational technology.
2- Providing workshops to exchange expertise and best practices in teaching and their classroom application.
3- Conducting periodic evaluations of faculty performance and learning outcomes to improve the educational process.
4- Enhancing participation in continuous professional development programs, such as courses, workshops, and academic conferences.
5- Supporting research and scientific publishing to enhance the academic competence of faculty members.
6- Providing opportunities for communication and collaboration with faculty members in areas of common interest.
7- Providing qualifying programs to develop academic management and leadership skills.

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14- Admission Criteria

The admission mechanism depends on the procedures and directives of the Ministry of Higher Education and Scientific Research at the beginning of each year. Regarding the academic year 2025-2026, admission has been adopted for graduates of the Scientific branch (Applied and Biology), as well as graduates of Industrial secondary schools in the specializations of (Computer Maintenance, Communications, Computer Networks, Computer Assembly and Maintenance, Electricity, Electronics, and Media Technology), in addition to graduates of Technical Institutes.

15- Most Important Information Sources About the Program

1- Specialized scientific books.
2- Scientific research.
3- The World Wide Web (Internet).
4- The accumulated scientific expertise of the department staff.
5- Feedback from the labor market.
6- Department, college, and university documents and manuals.
7- Workshops organized by the Ministry of Higher Education and its quality standards.
8- The Manual of the Iraqi Council for Accreditation of Engineering Education.
9- IEEE Computer Engineering Body of Knowledge.
10- Local and international university websites.
11- Universities and colleges inside or outside the country, especially technical universities with corresponding specializations and unified curricula for this major, in addition to international universities related to the specialization.

16- Program Development Plan

1- The program development plan is summarized as follows:
2- Needs Analysis: Conducting surveys to identify labor market needs and industry trends, and surveying the opinions of students and faculty regarding the strengths and weaknesses of the current program.
3- Curriculum Update: Developing modern educational curricula that align with recent technological developments and labor market needs, including adding new courses and updating existing ones.
4- Enhancing Interactivity: Integrating interactive educational tools such as virtual laboratories, scientific projects, and workshops to enhance the learning experience and apply theoretical concepts in practical projects.
5- Focus on Technical Skills: Developing training programs focused on developing students' technical skills such as programming, systems design, and project management, in addition to enhancing communication and teamwork skills.
6- Enhancing the Educational Environment: Improving technical infrastructure, providing necessary resources, and fostering interaction between students and faculty through virtual forums, seminars, and group lectures.
7- Monitoring and Evaluation: Establishing mechanisms to monitor and evaluate the academic program's performance and analyzing student data and their achievement of learning objectives, enabling the necessary measures to improve the program.
8- Cooperation with Industry: Building partnerships with companies and industrial institutions to guide and develop the academic program and provide training and employment opportunities for students.
9- Continuous Update: Conducting periodic reviews and updates to the academic program based on market changes, technology, and industry needs to ensure the continuous provision of high-quality and distinguished education

17- -Program Skills Map

Required Program Learning Outcomes												Core or Elective	Course Name	Course Code	Level
Values				Skills				Knowledge							
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
				Y	Y			Y	Y	Y	y	core	Electrical Engineering Fundamentals	MU0221001	First year
					y	y			y	y	y	core	Computer Programming I	MU0221002	
							y	y		Y	y	core	Computer Architecture	MU0221003	
						y	Y	Y	y	y	y	core	Digital Electronics	MU0221004	
				Y	y		Y					core	Workshop	MU0221005	
						Y	Y	y	y		Y	core	Mathematics I	MU0221006	
	y		y									core	Democracy and Human Rights	MU0221007	
				Y	Y	Y	Y					core	Engineering Drawing	MU0221008	
										Y	Y	core	English Language I	MU0221009	
										Y	Y	core	Arabic Language	MU02210010	
					Y	Y	Y	y			y	core	Microprocessor Architecture	MU0222001	Second year
						y	y			y	y	core	Instrumentation and Measurements	MU0222002	
					Y	y	y	y	y	y	y	core	Computer Programming II	MU0222003	
						Y	Y		y			core	Fundamentals of Communications	MU0222004	

							Y	y		y	y	core	Electronics	MU0222005	
				Y	Y	y		y	y	Y	y	core	Computer Applications	MU0222006	
						y	y	y	y		y	core	Mathematics II	MU0222007	
										Y	Y	core	English Language II	MU0222008	
y	y	y	y	y	y	y	Y	y	y	y	Y	core	Summer training		
							y	y		y	Y	core	Computer Networking Fundamentals	MU0223001	Third year
						y	Y		y		Y	core	Engineering Analysis	MU0223002	
						Y	Y			y	Y	core	Fundamentals of Control Engineering	MU0223003	
							Y		y	y	y	core	Digital Communications	MU0223004	
								y	y	y	y	core	Real-Time Systems Design	MU0223005	
						y	Y	y	y	y	y	core	Digital Signal Processing (DSP)	MU0223006	
					y	y	y	y		y	y	Elective	Artificial Intelligence and Expert Systems	MU0223007	
							y	y	y	y	Y	core	Computer Network Simulation	MU0223008	
										Y	Y	core	English Language III	MU0223009	
y	y	y	y	y	y	y	y	y	y	y	Y	core	Summer training		

							y		y		y	Elective	Mobile Communication Systems	MU0224001	Four year
y	y			y	y			Y	Y	Y		core	Project Management	MU0224002	
						y	y	y	y	y	y	core	Information Theory and Coding	MU0224003	
						y	y	y	y	y	y	core	Computer Network Protocols	MU0224004	
						Y	y	y	y	y	y	core	Computer and Network Security	MU0224005	
								y	y	y	y	core	Multimedia Computing	MU0224006	
						y	y	y	y	y	y	core	Advanced Computer Technology	MU0224007	
y	y	y	y	y	Y	Y	y	y	y	y	Y	core	Graduation Project	MU0224008	
										Y	Y	core	English Language IV	MU0224009	
y	y		y									core	Professional Ethics	MU02240010	