

Academic Program Description

University Name: Al-Mustaqbal University

Faculty/Institute: College of Engineering and Engineering Techniques

Scientific Department: Department of Computer Engineering Techniques

Academic or Professional Program Name: Computer Engineering Techniques

Final Certificate Name: Bachelor in Computer Engineering Techniques

Academic System: Yearly Based System

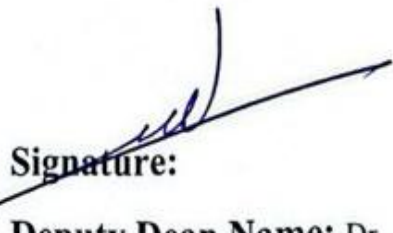
Preparation Date: 2025-02-09

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Signature: 

HoD Name: Prof. Dr. Abdulkareem A. Kadhim

Date: 2025-02-09

Signature: 

Deputy Dean Name: Dr. Ameen M. Kitab

Date: 2025-02-09

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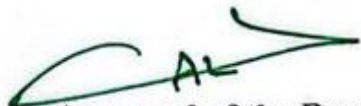
Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department

Dr. Zahraa Hashim Kareem

Date: 19 / 3 / 2025

Signature: 


Approval of the Dean

1- Program Vision

The department seeks to be one of the distinguished departments in Iraq and to be known for its scientific and international integrity, distinguished education, and scientific research. The department is keen to be a leading institute to the advancement of knowledge and community services by providing high-quality education that combines theoretical knowledge, practical skills in the field of department's specialization together with soft skills, so that the graduates become leaders and innovators in the technology industry and effective contributors to the development of society and the achievement of sustainable development, in addition to providing continuous technical support to the society.

2- Program Mission

The department's mission focuses on preparing distinguished and pioneering graduates to achieve progress in technical education and scientific research. Further, enhancing cooperation with government institutions, colleges, research centers, the local community, and the private sector to provide the best scientific and advisory services. The program also contributes to raising the academic level of staff by holding development courses, conducting applied research, sponsoring outstanding and talented individuals, and preparing applied research. This contributes to solving real-life problems in the computer engineering and industrial fields that are demanded by many projects inside and outside the country. Thus, the department's mission is achieved by producing distinguished and inspiring graduates in the field of computer engineering techniques which possess the knowledge and skills necessary to analyze, design, and develop innovative technical solutions and sustainable development that meet the needs of the job market and contribute to community development.

3- Program Objectives

The program aims to graduate computer techniques engineer who cover a high level of scientific and collaborative dealings with various computers, networks, and their various applications from an engineering perspective, starting with operation, continuity, and maintenance, through to design and implementation. The program also aims to continuously develop the practical aspect, provide graduates with the required skills and knowledge, open up to institutions in the field of training, and prepare graduates for the labor market, effective in computer and network technologies, web services, and managing related tasks. It also aims to motivate students to compete and participate in different scientific competitions and debates, develop creative thinking, and communicate with individuals in the work environment.

4- Program Accreditation

The program has not yet received accreditation, but the Department of Computer Engineering Techniques is in the process of completing the requirements to obtain accreditation.

5- Other External Influence

The academic programs are rapidly affected by technological developments, requiring updates to course content and the technology used in education. Changes in educational and regulatory policies, represented by the Quality Assurance Program of the Ministry of Higher Education and Scientific Research, also can be considered as an external influences that must be taken into account when developing and improving the department's academic program. We should also add universities and colleges that offer similar specializations through joint working mechanisms that enable communication between faculty and students to develop a shared vision and develop plans for developing academic content.

6- Program Structure

Program Structure	No. of Subjects	Units	Percentage	Notes
University Requirements	6	14	%9	
College Requirements	9	41	%26	
Department Requirements	22	102	%65	
Summer Training	2	---	---	
Total	39	157	%100	

7- Program Description					
Required Hrs			Subject Title		
Units	Pract.	Theo.			
4	--	2	Democracy and Human Rights	MU0221001	First Year
4	--	3	Mathematics I	MU0221002	
3	3	-	Engineering Drawing	MU0221003	
4	4	-	Workshop	MU0221004	
7	3	3	Fundamentals of Electrical Engineering	MU0221005	
6	2	2	Computer Organization	MU0221006	
7	3	2	Computer Programming I	MU0221007	
6	2	3	Digital Electronics	MU0221008	
2	--	2	English Language I	MU0221009	
2	--	2	Arabic Language	MU02210010	
4	2	1	Computer Applications	MU0222001	Second Year
4	--	3	Mathematics II	MU0222002	
7	3	2	Architecture of Microprocessor	MU0222003	
6	2	2	Instruments and Measurements	MU0222004	
6	2	2	Computer Programming II	MU0222005	
6	2	3	Fundamentals of Communication	MU0222006	
6	2	2	Electronics	MU0222007	
2	--	2	English Language II	MU0222008	
--	--	--	Summer Training		
4	2	1	Simulations of Computer Networks	MU0223001	Third Year
6	2	2	Engineering Analysis	MU0223002	
6	2	2	Fundamentals of Control Engineering	MU0223003	
6	2	2	Fundamentals of Computer Networks	MU0223001	
6	2	2	Design of Real Time Systems	MU0223005	
6	2	2	Digital Signal Processing	MU0223006	

6	2	2	Digital Communications	MU0223004	
6	2	2	Artificial Intelligent and Expert Systems	MU0223007	
2	---	2	English Language III	MU0223009	
--	---	---	Summer Training		
6	2	2	Computer Networks Protocols	MU0224004	Fourth Year
6	2	2	Information Theory and Coding	MU0224003	
6	2	2	Mobile Communication Systems	MU0224001	
6	2	2	Security of Computer and Networks	MU0224008	
6	2	2	Projects Managements	MU0224002	
6	2	2	Multimedia Computing	MU0224006	
6	2	2	Advanced Computer Technology	MU0224007	
2	---	2	Professional Ethics	MU0224008	
2	---	2	English Language IV	MU0224009	
4	4	---	Graduation Projects	MU02240010	

8- Expected Learning Outcomes of the Program	
Knowledge	
A- Learning Outcomes	A1 - Mastering of the basics of mathematical analysis appropriate to help understand, model and analyze computer applications and networks. A2 - In-depth knowledge of the basics of programming and operating systems in order to use them in useful applications. A3 - Understanding the role of information and communications technology and other sciences contained within computer systems and their applications. A4 - Identifying the basics of management and in-depth design principles of computers, networks, and associated programs.
Skills	
B- Learning Outcomes	B1 - The ability to use scientific foundations, mathematical methods, and computers to analyze general network systems B2 - The ability to solve numerical problems using mathematics, statistics, and computing B3 - Creativity, organizing tasks in an orderly manner, and understanding the rapidly developing state of knowledge in the field of specialization B4 - The ability to plan and begin writing a report on a specific project and prepare a presentation about it
Ethics	
C- Learning Outcomes	C1 - Adherence to the values and ethics of the profession in the work. C2 - The ability to be creative, inventive, communicate the scientific idea, and communicate with others. C3 - The ability to conduct an oral dialogue and work within team. C4 - The ability to organize time and make optimal use of available sources and information.

9- Teaching and Learning Strategies

Teaching and learning strategies aim to ensure understanding of the lectures and involve students in the learning process. This is achieved through lectures in the form of a presentation or blackboard, using other resources such as films, and deep understanding of the material through small projects, assignments, reports, and discussion. During the lecture, there is a major role for the student. Computer simulation tools may be used, which are provided by the laboratories.

10- Evaluation Methods

The evaluation methods covered daily class exams, questions for groups of students, reports, monthly and quarterly exams, and a final exam. In the practical part of the semester, the laboratory grade evaluation is based on experiments and reports, and in the graduation phase, there is an evaluation of the final year's project.

11- Faculty

No.	Scientific Rank and Names	General Research Field	Specialization	Full Time (FT) /Part Time (PT)
1	Prof. Dr. Abdulkareem A. Kadhim	Electrical & Electronics Eng.	Digital Communication Systems	FT
2	Prof. Dr. Abdulraheem D. Hmood	Electrical & Electronics Eng.	Control Engineering	FT
3	Assis. Prof. Dr. Abdulah Jabar	Mechanical Eng.	Mechanical Friction	FT
4	Dr. Muhammed Hassan	Computer Sciences	Information Technology	FT
5	Dr. Hussain Abdulameer	Computer Sciences	Information Technology	FT
6	Assis. Prof. Ali Kadhim Khudhair	Computer Sciences	Information Technology	FT
7	Dr, Mayas Muhammed	Computer Sciences	Artificial Intelligent	FT
8	Dr. Musadaq Maher	Electrical Eng.	Electronics and Communications	FT
9	Dr. Muhammed Kadhim	Computer Eng.	Computer Systems	FT
10	Dr. Noor Abdulkareem	Computer Sciences	Networks	FT
11	Dr, Muhammed Fadhil	Computer Eng.	Networks	FT
12	A.L. Waleed Ali	Electronics Eng.	Electronics	FT
13	A.L. Assad Abdulrahman	Data Security	Web Security	FT
14	A.L. Zaid Ibrahim	Information Technology	Computer Programming	FT
15	A.L. Zainab kadhim	Computer Eng.	Programming	FT
16	AL. Ruaa Satar Jabar	Information Technology	Programming	FT
17	A.L Marwa Abdulzahra	Computer Eng.	Networks Eng.	FT
18	A.L Zahraa Hazem	Electrical Eng.	Communications Eng.	FT
19	Aya Ali Jumaa	Computer Eng. Techniques	Programming	FT
20	Hiba Hussain Abdulabas	Information Technology	Programming	FT
21	Saimaa Muhammed Jwad	Computer Eng. Techniques	Programming	FT
22	Dr. Ahmed Hassan Kadhim	Computer Eng.	Networks Eng.	FT
23	AL. Anass Ahmed Shaker	English Language	English Teaching Methods	PT
24	AL. Ali Abbas Muhammed	Law	Criminal Law	PT
25	Dr. Fanar Ali	Information Technology	Computer Vision	PT
26	Dr. Laith Abdulkareem	Computer Eng.	Computer Networks	PT
27	Dr. Hasanain Yarub	Computer Sciences	Data Mining	PT
28	Dr. Zaidoon Waleed	Electrical Eng.	Renewable Energy	PT
30	A.L. Mary Umran	English Language	English Art	PT

Professional Development

12 Monitoring New Faculty Members

- 1-Providing comprehensive orientation on the nature of the work, goals, and the values of the institution and department.
2. Providing customized training courses that include innovative teaching methods and academic best practices.
3. Orienting faculty on the policies and procedures of the institution and department, including research ethics and quality standards.
4. Providing opportunities to network with colleagues and participate in research and professional development activities.
5. Monitoring the performance of new faculty and providing additional support and guidance as needed.

13- Professional Development of Faculty Members

- 1.Providing specialized training courses in effective teaching strategies and modern educational technology.
2. Providing workshops to share experiences and best practices in teaching and apply them in the classroom.
3. Conducting periodic evaluations of faculty performance and learning outcomes to improve the educational process.
4. Encouraging participation in continuing professional development programs, such as seminars, workshops, and academic conferences.
5. Supporting research and scientific publishing to enhance the academic competence of faculty members.

14-Acceptance Criterion

The admission mechanism is based on the procedures and directives of the Ministry of Higher Education and Scientific Research at the beginning of each year. As for the academic year 2024-2025, admission has been approved for graduates of the applied science and biological branches, as well as graduates of industrial secondary schools specializing in (computer maintenance, communications, computer networks, computer assembly and maintenance, electricity, electronics and information technology), in addition to graduates of technical institutes

15-Most Important Sources of Information for the Program

1. Specialized academic books.
2. Scientific research.
3. The Internet.
4. The accumulated scientific experience of the department's staff.
5. Feedback from the job market.
6. Documents and guides for the department, college, and university.

7. Workshops organized by the Ministry of Higher Education and their quality standards.
8. Guide 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 and outside the country, particularly technical universities with similar specializations and unified curricula for this specialization, in addition to international universities related to the specialization.

16-The program Development Plan

The program development plan is summarized as follows:

1. Needs Analysis: Conduct surveys and questionnaires to identify labor market needs and industry trends, and survey student and faculty opinions regarding the strengths and weaknesses of the current program.
2. Curriculum Update: Develop modern curricula that align with recent technological developments and labor market needs, including the addition of new courses and the updating of existing ones.
3. Enhancing Interactivity: Incorporating interactive educational tools such as virtual labs, practical projects, and workshops to enhance the learning experience and apply theoretical concepts to practical projects.
4. Focus on Practical Skills: Develop training programs focused on developing students' practical skills such as programming, systems design, and project management, as well as enhancing communication and teamwork skills.
5. Enhancing the Learning Environment: Improving the technical infrastructure, providing the necessary resources, and enhancing interaction between students and faculty through virtual forums, seminars, and group lectures.
6. Monitoring and Evaluation: Establishing mechanisms to monitor and evaluate program performance and analyze student data and the extent to which they achieve learning objectives, enabling the necessary measures to be taken to improve the program.
7. Industry Collaboration: Building partnerships with companies and industrial institutions to guide and develop the curriculum and provide training and employment opportunities for students.
8. Continuous Update: Conducting periodic reviews and updates to the curriculum based on market changes, technology, and industry needs, to ensure the continued provision of high-quality, distinguished education.

12- Program Development Plan															
Program Skills Outline												Basic/ Elective	Subject Title	Subject Code	Year /Level
Ethics				Skills				Knowledge							
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
x	X	x	x									Basic	Democracy and Human Rights	MU0221001	First Year
								x	x	x	x	Basic	Mathematics I	MU0221002	
				x	X	x	X					Basic	Engineering Drawing	MU0221003	
				x	X	x	X					Basic	Workshop	MU0221004	
								x	x	x	x	Basic	Fundamentals of Electrical Engineering	MU0221005	
				x	X			x	x	x	x	Basic	Computer Organization	MU0221006	
				x	X			x	x	x		Basic	Computer Programming I	MU0221007	
				x	X	x	X	x	x	x		Basic	Digital Electronics	MU0221008	
								x	x	x	x	Basic	English Language I	MU0221009	
								x			x	Basic	Arabic Language	MU02210010	
				x	X	x	X	x	x	x	x	Basic	Computer Applications	MU0222001	Second Year
								x	x	x	x	Basic	Mathematics II	MU0222002	
				x	X		X					Basic	Architecture of Microprocessor	MU0222003	
				x	X	x	X					Basic	Instruments and Measurements	MU0222004	
				x		x	X					Basic	Computer Programming II	MU0222005	
				x		x	X					Basic	Fundamentals of Communication	MU0222006	
				x		x	X					Basic	Electronics	MU0222007	
				x	X	x	X					Basic	English Language II	MU0222008	
x	X	x	x	x		x	X	x	x	x	x	Basic	Summer Training		Third Year
								x	x	x	x	Basic	Simulations of Computer Networks	MU0223008	
								x			x	Basic	Engineering Analysis	MU0223002	
								x	x		x	Basic	Fundamentals of Control Engineering	MU0223003	

								x	x	x	x	Basic	Fundamentals of Computer Networks	MU0223001	
				x	X	x	X					Basic	Design of Real Time Systems	MU0223005	
				x	X	x	X	x	x	x	x	Basic	Digital Signal Processing	MU0223006	
				x			X	x	x	x	x	Basic	Digital Communications	MU0223004	
				x	X	x		x	x	x	x	Elective	Artificial Intelligent and Expert Systems	MU0223007	
				x		x						Basic	English Language III	MU0223009	
x	X	x	x	x	X	x		x	x	x	x	Basic	Summer Training		
				x	X	x			x	x		Basic	Computer Networks Protocols	MU0224004	Fourth Year
					X		X		x	x		Basic	Information Theory and Coding	MU0224003	
				x	X	x	X		x			Elective	Mobile Communication Systems	MU0224001	
					X		X	x	x			Basic	Security of Computer and Networks	MU0224005	
x	X	x	x	x	X	x	X					Basic	Projects Managements	MU0224002	
				x	X		X	x	x	x	x	Basic	Multimedia Computing	MU0224006	
				x	X	x	X	x	x	x	x	Basic	Advanced Computer Technology	MU0224007	
x	X	x	x				X					Basic	Professional Ethics	MU0224008	
				x	X	x	X					Basic	English Language IV	MU0224009	
x	X	x	x	x	X	x	X	x	x	x	x	Basic	Graduation Projects	MU02240010	