

Republic of Iraq
Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Agency
Department of Quality Assurance and Academic Accreditation

Academic Description Form

University: **Al-Farahidi University**
College/Institute: **Medical Technical College**
Scientific Department: **Medical Instrumentation Engineering Technologies**
File filling date: **2/10/2023**

Dean of the Collage:
Assist. Prof. Dr. Waleed
Khaled Ibrahim

Dean's Scientific Assistant:
Dr. Maryam Ghazanfar Alwan

The Head of the Department:
Prof. Dr. Fared Fares Rasheed

Signature:

Signature:

Signature:

Date:

Date:

Date:

Division of quality assurance and university performance
The director of the division of Quality Assurance and university performance

Date:

Signature:

Description of the academic program:

This description of the academic program provides a necessary summary of the most important characteristics of the program and the learning outputs expected of the student to achieve it, demonstrating whether he has made the most of the opportunities available. Accompanied by a description of each course within the program.

1. Teaching Institute	Ministry of Higher Education and Scientific Research – Department of Private Education
2. Scientific Department	Medical Technical College – Al-Farahidi University
3. Program Title	Department of Medical Instrumentation Engineering Techniques – Medical Technical College
4. The Title of Final Certificate	Bachelor's degree of Medical Instrumentation Engineering Techniques
5. Mode of attendance	Annual
6. Accreditation	Middle Technical University – Faculty of Electrical Engineering Technology – Department of Engineering Medical Devices Technologies
7. Other External Influences	There is a close relationship between the department and the job market who receives our graduated students where the opinion of the job mark has been considered as well as other private universities in terms of curriculum.
8. Date of the production	2/10/2021
9. The objective of the academic program	
a- Preparation of a technical engineers in the field of electrical and electronic engineering	

b- The graduated students are familiar with the various parts of different medical instruments and keep up with the updated technologies in their field
c- Preparation of the scientific research and studies to improve and enhance the current instruments capabilities
d- Produce the suggestions and alternatives for the current medical instruments
e- Train and development of the engineers and technical staff to operate and maintain the medical instruments
f- Enhance the students' skills to troubleshooting the faults in the medical instruments
10. Learning Outcomes, Teaching, Learning and Assessment Methods
<i>A. Knowledge Objectives</i>
a. Making plans and programs especially for the maintenance of the medical instruments
b. Supervision on the work sites
c. Preparation of studies and research to improve and enhance the current medical instruments
d. Participation in the committees related to the medical instruments field
e. Participating in the tender's analysis for medical instruments and choose the alternatives
<i>B. Skills Objectives</i>
a. Train the engineers and technicians on the operating of the medical instruments
b. Installing and operating various medical instruments
c. Provide counseling in the field of medical instruments
<i>C. Teaching and Learning Methods</i>
a- Lectures
b- Scientific laboratories
c- Practical explanation models such as data show and so on
d- Workshops
e- Seminars
f- Scientific exhibitions
<i>D. Assessment Methods</i>
a- Daily assessments

b- Quarterly assessment
c- Practical assessment
d- Final assessment
e- Presentation
f- Daily attendance
g- Weekly Reports
E. Emotional and Values Goals
a- The ability of decision making by identifying the problem and figure out the solutions
b- The ability of arranging the information and applying it
c- The ability of research and investigation
F. General and Transferable Skills (other skills relevant to employability and personal development)
a- Essential skills of communication through (sports activities, educational guidance, conferences, courses, seminars that discusses students' research and projects)
b- Teaching the students how to develop their creative and innovative thinking skills in their specialization field

11. Curriculum Structure:

1st Stage:

No.	Subject	Units
1	Human rights	4
2	Mathematics -I-	6
3	Engineering Drawing	3
4	Fundamental of Electrical Engineering	7
5	Medical Chemistry	6
6	Medical Physics	6
7	Mechanics	4
8	Computer Applications -I-	6
9	Workshops	3
10	English language	2
Total Units		47

2nd Stage:

No.	Subject	Units
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1	Mathematics -II-	6
2	Anatomy & Physiology	6
3	Clinical Chemistry Instrumentation & Technology	6
4	Electronic Devices & Circuits	7
5	Digital Techniques	6
6	Measurements and Medical Transducers	7
7	Medical Instrumentation -I-	7
8	Computer Applications -II-	4
9	English language	2
10	Methodical Training	-
Total Units		51
3rd Stage:		
No.	Subject	Units
1	Medical Electronic Systems	6
2	Digital Signal Processing	6
3	Medical Communication Systems	6
4	Microprocessor & Microcomputer	6
5	Power Electronics	6
6	Electrical Technology	6
7	Medical Instrumentation -II-	7
8	Computer Applications -III-	4
9	English language	2
10	Methodical Training	-
Total Units		51
4th Stage:		
No.	Subject	Units
1	Control Systems	6
2	Engineering of Radiation Instruments	6
3	Medical Laser Systems	6
4	Advanced Digital Design	6
5	Management	4
6	Professional Ethics	4
7	Medical Instrumentation -III-	7
8	Computer Applications -IV-	4
9	English language	2

10	Project	4
Total Units		49
12. Planning and personal development		
a- Outside the study plan scope		
b- Travels		
c- Scientific visits		
d- Conferences inside and outside Iraq		
e- Department's seminars		
f- Panel discussions		
13. Admission Criteria		
According to the regulation of the ministry of higher education and scientific research through		
a- High school graduates, the scientific branch		
b- Top level students graduated from the industrial high schools		
c- Top level students graduated from the technical institutes		
14. The Core Information Resources about the Program		
a- Methodological books		
b- Department's stuff lectures		
c- Internet		
d- Specialist websites		
e- Virtual libraries		

Curriculum Skills Chart

Please tick in the relevant boxes where individual Program Learning Outcomes are being assessed

			Program Learning Outcomes															
Year / Level	Course Title	Core (C) or elective (O)	Knowledge and understanding				Subject Specific Skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
			A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
First Stage	Human rights	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Mathematics -I-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Engineering Drawing	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Fundamental of Electrical Engineering	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Chemistry	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Physics	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Mechanics	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Applications -I-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Workshops	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	English language	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Second Stage	Mathematics -II-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Anatomy & Physiology	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Clinical Chemistry Instrumentation & Technology	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

	Electronic Devices & Circuits	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Digital Techniques	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Measurements and Medical Transducers	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Instrumentation -I-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Applications -II-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	English language	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Third Stage	Medical Electronic Systems	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Digital Signal Processing	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Communication Systems	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Microprocessor & Microcomputer	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Power Electronics	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Electrical Technology	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Instrumentation -II-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Applications -III-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	English language	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Control Systems	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

Fourth Stage	Engineering of Radiation Instruments	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Laser Systems	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Advanced Digital Design	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Management	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Professional Ethics	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Medical Instrumentation -III-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Computer Applications -IV-	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	English language	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Project	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√