

*Republic of Iraq*  
*Ministry of Higher Education & Scientific Research*  
*Supervision and Scientific Evaluation Directorate*  
*Quality Assurance and Academic Accreditation*  
*International Accreditation Dept.*

*Academic Program Specification Form for the*  
*Academic Year 2021-2022*

*University: Al-Kitab University*

*College:*

*Number of Departments in the College:*

*Date of Form Completion:*

*Dean's Name*

*Date:     /     / 2022*

*Signature*

*Dean's Assistant for  
Scientific Affairs*

*Date:     /     / 2022*

*Signature*

*The College Quality Assurance  
and University Performance  
Manager*

*Date:     /     / 2022*

*Signature*

*Quality Assurance and University Performance Manager*

*Date:     /     / 2022*

*Signature*

## TEMPLATE FOR PROGRAMME SPECIFICATION

### HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

### PROGRAMME SPECIFICATION

The Department of Engineering of Medical Device Technologies is the interconnected part of electrical, electronic, mechanical and control engineering, which makes it a link between these departments, which serves as the engineering of Migatronics. This specialization is characterized as a qualification for engineers who graduate from working in the fields mentioned above.

1. Teaching Institution	Al-Kitab University
2. University Department/Centre	Department of Biomedical Instrumentation Engineering Technology
3. Program Title	medical Instrumentation Engineering Technology
4. Title of Final Award	Bachelor of Engineering Medical Device Technologies
5. Modes of Attendance offered	Yearly
6. Accreditation	ABET
7. Other external influences	ABET
8. Date of production/revision of this specification	1-3-2022
9. Aims of the Program	
1- Preparing engineers in the electrical and electronic field in medical technology engineering, which bears the responsibility of studying the country's need for development and progress in the labor market in state institutions and the medical industry sector, and preparing a healthy, educated generation that adopts science and is armed with it to bring about radical changes that serve the goals of the country.	
2 – Graduation of students with the ability to know the parts of different medical devices and the evolution of the technology that gets	
3 – Training and development of engineering and technical personnel on the operation and maintenance of medical devices	
4 – Preparation of research and studies to improve and develop the work of medical devices	
5 – Provide students with scientific skill to diagnose the faults resulting in medical devices	
6- Introduce the suggestions for the alternatives of the medical instrumentations	

## 10. Learning Outcomes, Teaching, Learning and Assessment Methods

### Knowledge and Understanding

- A1. Develop plans and programs of work, especially in the maintenance of medical devices
- A2. Supervising the implementation of the site
- A3. Preparing researches and studies to improve the development of medical devices
- A4. Participation in committees related to the activity of medical devices
- A5. Participate in the analysis of tenders for medical devices and choose the alternative

### Subject-specific skills

- B1. Training engineers and technicians on the operation and maintenance of medical devices
- B2. Installation and operation of medical devices (supervision and implementation)
- B3. Consultation in the field of medical devices

## Teaching and Learning Methods

Lectures – Scientific laboratories – Data show – Workshops – Seminars – Scientific exhibitions

## Assessment methods

Daily Evaluation – Quarterly Evaluation – Practical Evaluation – Final Evaluation - Presentation – Daily Attendance – Weekly Reports

### Thinking Skills

- C1. Offers scientific projects in the design of circuits and medical devices
- C2. Design an electronic board
- C3. Develop plans and future ideas to suit the needs in the field of medical devices

## Teaching and Learning Methods

Lectures – Scientific laboratories – Data show – Workshops – Seminars – Scientific exhibitions

## Assessment methods

Daily Evaluation – Quarterly Evaluation – Practical Evaluation – Final Evaluation - Presentation – Daily Attendance – Weekly Reports

### D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1. The graduate provides scientific and applied skills that enable him to diagnose the resulting malfunctions in medical devices
- D2. The ability of graduates to make electronic boards in medical devices
- D3. The ability of the graduate to train technical personnel in the field of medical devices
- D4. Design of alternative electronic circuits

## Teaching and Learning Methods

Lectures – Scientific laboratories – Data show – Workshops – Seminars – Scientific exhibitions

## Assessment Methods

Daily Evaluation – Quarterly Evaluation – Practical Evaluation – Final Evaluation - Presentation – Daily Attendance – Weekly Reports

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
First year	MITE20171	Human rights and democracy	2	
	MITE20172	Math 1	3	
	MITE20173	Principles of electrical engineering	5	
	MITE20174	Medical chemistry	4	
	MITE20175	Medical Physics	4	
	MITE20176	mechanics	2	
	MITE20177	computer apps 1	4	
	MITE20178	engineering drawing	4	
	MITE20179	workshop	4	
	MITE201710	English	1	
	MITE201711	Arabic	1	
Second year	MITE20181	Math 2	3	
	MITE20182	Anatomy and physiology	4	
	MITE20183	Clinical chemistry instrument	4	
	MITE20184	Component and electrical circuits	5	
	MITE20185	Digital technology	4	
	MITE20186	Medical measurements and transducers	5	
	MITE20187	Medical instruments 1	5	
	MITE20188	Computer applications	3	
	MITE20189	التدريب المنهجي	-	
	MITE20190	English	1	
Third year	MITE20191	Electronics medical systems	4	
	MITE20192	Digital signal processing	4	
	MITE20193	Communication medical systems	4	
	MITE20194	Medical instruments 2	5	
	MITE20195	Microprocessor and accurate computer	4	
	MITE20196	Power electronics	4	
	MITE20197	Electricity technology	4	
	MITE20198	Computer applications	3	
	MITE20199	التدريب المنهجي	-	
	MITE20100	English	1	
Forth year	MITE20201	Medical instruments 3	5	
	MITE20202	Systems and control	4	
	MITE20203	Radiation equipment engineering	4	
	MITE20204	Medical laser systems	4	
	MITE20205	Advanced digital design	4	
	MITE20206	Computer applications	3	
	MITE20207	Project management	2	
	MITE20208	project	6	
	MITE20209	English	1	

### 13. Personal Development Planning

- 1- Increasing extra-curricular activities such as scientific trips and visits to hospitals and health centers
- 2- Encouraging faculty members to obtain the highest scientific and administrative ranks
- 3- Organizing conferences, scientific symposia, training programs and workshops inside and outside the department
- 4- Providing sources and modern scientific books for the department's library

### 14. Admission criteria.

(Central Admission)

- 1- graduate sixth scientific branch
- 2- Graduates of the early industrial academies
- 3- Graduates of the first technical institutes

### 15. Key sources of information about the programme

Library / Internet / Websites / Virtual Library





## TEMPLATE FOR COURSE SPECIFICATION

### HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

## COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Electrical Engineering Technical College
2. University Department/Centre	Medical Instrumentation Techniques Engineering
3. Course title/code	Medical Chemistry
4. Programme(s) to which it contributes	
5. Modes of Attendance offered	Yearly
6. Semester/Year	Year
7. Number of hours tuition (total)	Theory (60 h) and practical (60 h)
8. Date of production/revision of this specification	1/3/2022
9. Aims of the Course	
1- Training student how to deal with chemicals.	
2- Training student to perform experiments by classical methods.	
3- Preparing engineer who test instruments by operating system and calibrate by performing analytical experiments manual and by instruments and statistical treatment of results.	

## 10. Learning Outcomes, Teaching ,Learning and Assessment Method

### A- Knowledge and Understanding

A1 – establishing scientific background in chemical field.

A2 – the possibility to suggest other option of medical and lab instruments. A3 - The student recognizes the types of chemicals.

A4- Understanding the theoretical principles of instruments work.

### B. Subject-specific skills

B1 – Gain skills of laboratory work and performing experiments.

B2 – finding of common language between engineer and analyst or operator.

B3 - Students acquire practical skills to learn about chemicals.

B4- prepare engineer who can prepare, maintain, understand working principles of instruments.

### Assessment methods

- Written quarterly examinations
- Practical Quarterly Examinations
- Weekly Tests (Oral / Written)
- Quick questions
- pre- test and post-test

### C. Thinking Skills

C1. The student listens attentively

C2. Students learn about the impact of science and scientists in life

C3. The student should describe the importance of learning the Medical Chemistry

C4. The student is quietly concerned with the grade system.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Sports activities

D2. Technical activities

D3. Literary activities

### Teaching and Learning Methods

Discussion and dialogue with students

### Assessment methods

Questionnaire, Seminars, Discussion Hubs

## 11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1st , 2nd	Practical (8)	The student understands the lesson	Introduction .	Theory and practical	Direct questions
3rd	Practical (4)	<b>The student understands the lesson</b>	<b>Lettering .</b>	<b>practical</b>	Direct questions
4th , 5th , 6th	Practical (12)	The student understands the lesson	Geometrical constrictions .	practical	Direct questions
8th , 9th , 10th	Practical (12)	<b>The student understands the lesson</b>	<b>Isometric drawing .</b>	<b>practical</b>	Direct questions
11th , 12th , 13th	Practical (12)	The student understands the lesson	Orthogonal projection .	practical	Direct questions
14th	Practical (4)	<b>The student understands the lesson</b>	<b>Pictorial projection .</b>	<b>practical</b>	Direct questions
15th	Practical (4)	The student understands the lesson	Sections .	practical	Quiz
16th , 17th	Practical (8)	The student understands the lesson	Explanation & drawing of electric board & electronic symbols .	practical	Direct questions
18th , 19th , 20th	Practical (12)	The student understands the lesson	Drawing of electric & electronic board .	practical	Direct questions
21st, 22nd , 23rd	Practical (12)	The student understands the lesson	Integrated circuit drawings.	practical	Direct questions
24th , 25th , 26th	Practical (12)	The student understands the lesson	Drawing of generator connectors .	practical	Direct questions
27th , 28th	Practical (8)	The student understands the lesson	Reading different electric&electronic maps .	practical	Direct questions
29th , 30th	Practical (8)	<b>The student understands the lesson</b>	<b>Industrial drawing .</b>	<b>practical</b>	Quiz

12. Infrastructure	
Required reading: <ul style="list-style-type: none"> <li>· CORE TEXTS</li> <li>· COURSE MATERIALS</li> <li>· OTHER</li> </ul>	
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities(include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	30
Maximum number of students	250