Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
Department of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide School

2024

Academic Program Description Form

Al-Mamoun University College.

Scientific Department: Medical Devices Technology Engineering Department

Academic or Professional Program Name: Bachelor of Medical Device Technology Engineering**.**

Final Certificate Name: Bachelor of Medical Devices Technologies Engineering**.....**

Academic System: Annual (Second Stage)

Date of preparation of description: 1/2/2024

File filling date: 10/2/2024

Signature :

Scientific Associate Name:

A. d. Ali Ghassan Ahmed

Date:14/4/2024

Signature :

Head of Department: Prof. Emad Natiq Abdel Wahab

Date: 14/4/2024

Check the file before

Division of Quality Assurance and University Performance

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

Date 14/4/2024

Signature

Endorsement of Brigadier General A. dr. Abd El , Karim Hussein

1. **Program Vision**
Qualifying distinguished and innovative competencies scientifically, skillfully and behaviorally in the field of medical equipment technology and keeping pace with the corresponding departments in reputable international universities by providing community services by providing the latest study programs to create an advanced academic environment.

2. **Program Mission**

At each academic level, the student learns various skills and the most important curricula related to various scientific and practical sectors that show the importance of this specialization.

3. Program Objectives

1. - Graduating an engineering cadre with scientific and practical skills in diagnosing and repairing malfunctions resulting in medical devices.
2. - Preparing qualified engineers with the ability to keep pace with the rapid development in the field of medical devices and provide them with the necessary skills to develop and modernize medical devices.
3. - Installation and operation of various electronic and electromechanical medical devices, both diagnostic and therapeutic.
4- Contribute and supervise the maintenance, maintenance and calibration of various medical devices.
5. Design, development and try to find alternatives to some parts related to medical devices.
6. Scheduling and programming periodic maintenance work.
7. - Work to enhance performance standards, including the application of international standards in the field of technical education.
8. - Keep abreast of developments in the curriculum
9- Strengthening links between the department and the various segments of society-10. Openness and communication with corresponding scientific institutions inside and outside the country.

4. Program Accreditation

Does the program have program accreditation?
All of it

5. Other external influences

None

6. Program Structure

Reviews*	Percentage	Unit of study	Number of Courses	Program Structure
	9%	2	1	Requirements of the institution
	9%	2	1	College Requirements

	73%	**50**	**8**	**Department Requirements**
	9%	**0**	**1**	**Summer Training**
			0	**Other**

7. Program Description

Credit Hours		Course Name	Course or Course Code	Year/Level
practical	**theoretical**			
3	2	Medical Devices (1)	**MDTE0201**	**2.1**
-	3	Mathematics (2)	**MDTE0202**	**2.2**
2	2	Anatomy and physiology	**MDTE0203**	**2.3**
3	2	Electronic components and circuits	**MDTE0204**	**2.4**
2	2	Digital Technologies	**MDTE0205**	**2.5**
3	2	Medical Measurements & Adapters	**MDTE0206**	**2.6**
2	2	Clinical Chemistry Devices	**MDTE0207**	**2.7**
2	1	Computer Applications	**MDTE0208**	**2.8**
-	1	English Language	**MDTE0209**	**2.9**
-	1	Baath Party Crimes	**MDTE0210**	**2.10**
-	-	Methodological training	**MDTE0211**	**2.11**

8. Expected learning outcomes of the program

Knowledge	
On-site supervision of the implementation of the works	Develop work plans and programs, especially in the maintenance of medical devices
Skills	
On-site supervision of the implementation of the works	Training engineers and technicians on the operation and maintenance of devices

Participation in relevant committees	Preparing research and studies to develop the work of medical devices
Values	
Develop proposals and alternatives for medical devices	Developing student thinking to create a student with the ability to solve problems after graduating in his field of work

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

10. Evaluation methods

Daily evaluation, quarterly evaluation, practical evaluation, final evaluation,presentation presentation, daily attendance, weekly reports

11.Faculty

Faculty Members

Preparation of the teaching staff		Special Requirements/Skills (if applicable)		Specialization		Academic Rank
lecturer	angel			special	year	
	√			Telecommunications Engineering and Optical Fiber Systems	Telecom Engineering	Assoc. Prof. Bilal Anwar Ahmed
	√			Dynamic Systems Control	Mechanical Engineering	Assoc. Prof. Emad Natiq Hashem
	√			Numerical analysis	Mathematics and Computer Applications	Prof. Salah Jassim Mohammed
	√			Control Engineering & Computer	Electrical Engineering	Assoc. Prof. Wameed Riyadh Abdel Azim
	√			Telecommunications Engineering	Telecommunications Engineering	Dr. Mohammed Kazem Abdulhussain
	√			Islamic History	history	Eng. Munir Jihad Mohammed
	√			Linguistics	English	M.M. Zainab Muhammad Khazal
√				Electrical Engineering	Electrical Engineering	M.M. Jamal Salim Abdul rahim
√				Heat transfer	Mechanical Engineering	Dr. Bayda Khalil Khudair
√				chemistry	chemistry	M.M. Haidar Muhammad Rahim

12. Teaching and Learning Strategies

Theoretical and practical lectures

13. Evaluation methods

Daily exams
Mid-Year Exams
End of Year Exams

14. Professional Development

Mentoring new faculty members

The department seeks to establish training courses for its cadres

Professional development of faculty members

The department and the Deanship of the College are keen to provide teaching staff with higher degrees (master's and doctorate) who have an excellent academic background that combines the basic knowledge and skills required, in addition to allowing a number of master's degree holders to complete their doctoral studies and the use of external lecturers who hold advanced scientific titles to give lectures in the department.

15. Acceptance Criterion

The Department of Medical Devices Technology Engineering according to the central admission of the Ministry of Higher Education and Scientific Research accepts graduates (holders of a preparatory certificate) for each of the and according to competitive rates

- Preparatory / Biological Study
- Preparatory / Applied Study
- Preparatory / Literary Study
- Professional study

16. **The most important sources of information about the program**
Library / Internet / Websites

17. Program Development Plan
Excellence in the academic process in the college and the advancement of its educational outputs, which achieves the prestigious position of the university at the local and international levels

Program Skills Outline

Learning outcomes required from the program														
Values				**Skills**				**Knowledge**				**Course Name**	**Course Code**	**Year/Level**
C4	**C3**	**C2**	**C1**	**B4**	**B3**	**B2**	**B1**	**A4**	**A3**	**A2**	**A1**			
			*		*	*	*	*	*	*	*	Medical Devices (1)	MDTE0201	**Second**
			*		*	*	*	*	*	*	*	Mathematics (2)	MDTE0202	
			*		*	*	*	*	*	*	*	Anatomy and physiology	MDTE0203	
			*		*	*	*		*	*	*	Electronic components and circuits	MDTE0204	
			*		*	*	*		*	*	*	Digital Technologies	MDTE0205	
			*		*	*	*			*	*	Medical Measurements & Adapters	MDTE0206	
			*		*	*	*	*	*	*	*	Clinical Chemistry Devices	MDTE0207	
			*									Computer Applications	MDTE0208	
						*	*		*	*	*	English Language	MDTE0209	
	*	*				*	*		*	*	*	Baath Party Crimes	MDTE0210	
						*	*		*	*	*	Methodological training	MDTE0211	

Course Description

Math

2024

Course Description Form

1. Course Name
Math
2. Course Code
MDTE0202
3. Sunnah

((Second))

4. The history of preparation of this description

16 / 3 / 2024

5. Available Attendance Forms

(Weekly attendance)

6. Number of Credit Hours (Total) / Number of Units (Total)

45 hours / (3 units).

7. Course administrator's name (if more than one name)

Name: Mr. Salah Jassim Mohammed **Email** salah.j.mohamed@almamonuc.edu.iq

8. Course Objectives

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ mathematics in his field of work.

Behavioral Goals:

1. To develop problem-solving skills and understanding calculus

Through a wide range of differentiation techniques.

2. Understand the limits and theory of derivatives and apply them to their different types

Tasks.

3. This is the basic material for all engineering fields.

4. Demonstrate basic knowledge and understanding of the essence of planar analysis

Geometry, algebra and applied mathematics.

5. Introducing the student to the derivatives of trigonometric functions and their inverses

9. Teaching and Learning Strategies

• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies	**Strategy**

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Vector analysis and vector fields.	Comprehension and comprehension	3	**1،2**
Oral and written exam	Teamwork strategy .	Linear algebra, vector calculus.	Comprehension and comprehension	**3**	**3،4**
Oral and written exam	Enterprise Strategy	Scalars and vectors-unit, orthogonal vectors.	Comprehension and comprehension	**3**	**5،6**
Oral and written exam	Discussion Strategy	Dot product, cross product.	Comprehension and comprehension	**3**	**7،8**
Oral and written exam	Story Strategy	Theory for vector fields vector variable function.	Comprehension and comprehension	**3**	**9،10**
Oral and written exam	Problem Solving Strategy	Polar and spherical coordinates – gradient in polar coordinates.	Comprehension and comprehension	**3**	**11،12**
Oral and written exam	Modeling Learning Strategy	Complex number, polar form of complex number, linear.	Comprehension and comprehension	**3**	**13،14**
Oral and written exam	Teamwork strategy.	Algebra for complex number in polar and spherical coordinates.	Comprehension and comprehension	**3**	**15،16**
Oral and written exam	Mix different strategies	Infinite series, power series.	Comprehension and comprehension	**3**	**17،18**
Oral and written exam	Mix different strategies	Convergence and divergence series.	Comprehension and comprehension	**3**	**19،20**
Oral and written exam	Mix different strategies	Number and complex series.	Comprehension and comprehension	**3**	**21،22**
Oral and written exam	Teamwork strategy.	Complex variable, Cauchy – Riemann equations complex series, Taylor series.	Comprehension and comprehension	**3**	**23،24**
Oral and written exam	Enterprise Strategy	Differential equations.	Comprehension and comprehension	**3**	**25،26**
Oral and written exam	Mix different strategies	Differential equation of the first order and *n* order.	Comprehension and comprehension	**3**	**27،28**
Oral and written exam	Mix different strategies	Applications.	Comprehension and comprehension	**3**	**29،30**

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation

100	**70**	**5**	**10**	**5**	**5**	**5**

12. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
Engineering Mathematics I (pdf)	Main references (sources)
Thomas ' Calculus (**pdf**) Fouteenth edition Based on the original work by GEORGE B. THOMAS, JR.	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description
Medical Devices

2024

Course Description Form

13. Course Name
Medical Devices
14. Course Code
MDTE0201
15. Sunnah
((Second))
16. The history of preparation of this description
16 / 3 / 2024
17. Available Attendance Forms
(Weekly attendance)
18. Number of Credit Hours (Total) / Number of Units (Total)
150 hours / (7 units).
19. Course administrator's name (if more than one name)
Name: Prof. Emad Natiq Abdel Wahab **Email** emad.n.abdulwahab@almamonuc.edu.iq
20. **Course Objectives**

As shown below	**Course Objectives**

General Objective //

At the end of the course, the student will be able to employ special engineering technologies for medical devices in his field of work.

Behavioral Goals:

1. The graduate obtains scientific skills and applies medical diagnostic skills for instrument errors .

2. Graduating students will gain the ability to know the different parts of medical instruments.

3. Developing and training engineering technical personnel on medical devices and maintenance.

4. Preparing research and studies to improve and develop work on medical devices.

5. Preparation of application engineers in technical and electronic engineering.

6. Develop proposals and alternatives for medical devices.

21. Teaching and Learning Strategies

• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies	**Strategy**

22. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Introduction to medical instruments.	Comprehension and comprehension	5	**1،2**
Oral and written exam	Teamwork strategy .	Electronic balance.	Comprehension and comprehension	5	**3،4**
Oral and written exam	Enterprise Strategy	Thermal instruments.	Comprehension and comprehension	5	**5،6**
Oral and written exam	Discussion Strategy	Water baths.	Comprehension and comprehension	5	**7،8**
Oral and written exam	Story Strategy	Ovens.	Comprehension and comprehension	5	**9،10**
Oral and written exam	Problem Solving Strategy	Autoclave.	Comprehension and comprehension	5	**11،12**
Oral and written exam	Modeling Learning Strategy	Incubators (Lab.).	Comprehension and comprehension	5	**13،14**
Oral and written exam	Teamwork strategy.	Water distiller.	Comprehension and comprehension	5	**15،16**
Oral and written exam	Mix different strategies	Cautery.	Comprehension and comprehension	5	**17،18**
Oral and written exam	Mix different strategies	Other thermal instruments.	Comprehension and comprehension	5	**19،20**
Oral and written exam	Mix different	Centrifuge.	Comprehension	5	**21،22**

	strategies		and comprehension		
Oral and written exam	Teamwork strategy.	Microscopes (light, dark field, flourcents, polarized, electro).	Comprehension and comprehension	5	**23،24**
Oral and written exam	Enterprise Strategy	X-ray equipment's.	Comprehension and comprehension	5	**25،26**
Oral and written exam	Mix different strategies	Rehabilitation equipment.	Comprehension and comprehension	5	**27،28**
Oral and written exam	Mix different strategies	Medical gases system.	Comprehension and comprehension	5	**29،30**

23. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation
100	**70**	**5**	**10**	**5**	**5**	**5**

24. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
Biomedical device technology ,by ANTHONY Y. K. CHAN, MSc, MEng, PEng, CCE	Main references (sources)
Ananthi ,2005,"A text book of medical instruments	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description
Anatomy and physiology

2024

Course Description Form

25. Course Name
Anatomy and physiology
26. Course Code
MDTE0203
27. Sunnah
((Second))
28. The history of preparation of this description
16 / 3 / 2024
29. Available Attendance Forms
(Weekly attendance)
30. Number of Credit Hours (Total) / Number of Units (Total)
75 hours / (7 units).
31. Course administrator's name (if more than one name)
Name: M.M. Alaa Mohsen Abdulamir **Email** Zaidalkenany84@gmail.com
32. **Course Objectives**

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ anatomy in his field of work.

Behavioral Goals:

1- Anatomy and physiology are important medical specialties that must be understood

the structures and functions of the cells of the human body, tissues, organs and organ systems,

As a complete system, how it works and the relationships between body parts.

2- This unit of placement consists of the main elements in anatomy and physiology, namely

The terminology used, and how our body controls itself.

3- Students will not be able to understand how medical devices work with

The human body and what is the use of it.

4- Identify the level of organization of the human body and

Balance system.

5- Understand and control chemical composition and chemical reactions

With acid-base balance in the human body.

33. Teaching and Learning Strategies

• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies	**Strategy**

34. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Cells & Tissues.	Comprehension and comprehension	3	**1**
Oral and written exam	Teamwork strategy .	The integumentary system.	Comprehension and comprehension	**3**	**2**
Oral and written exam	Enterprise Strategy	The skeletal system.	Comprehension and comprehension	**3**	**3**
Oral and written exam	Discussion Strategy	Articulations.	Comprehension and comprehension	**3**	**4**
Oral and written exam	Story Strategy	The muscular system.	Comprehension and comprehension	**3**	**5**
Oral and written exam	Problem Solving Strategy	Nervous tissue.	Comprehension and comprehension	**3**	**6**
Oral and written exam	Modeling Learning Strategy	Central nervous system.	Comprehension and comprehension	**3**	**7**
Oral and written exam	Teamwork strategy.	Autonomic nervous system.	Comprehension and comprehension	**3**	**8**
Oral and written exam	Mix different strategies	Sensory, motor and integrative functions.	Comprehension and comprehension	**3**	**9**
Oral and written exam	Mix different strategies	The endocrine system.	Comprehension and comprehension	**3**	**10**
Oral and written exam	Mix different strategies	The cardiovascular system: Blood.	Comprehension and comprehension	**3**	**11**
Oral and written exam	Teamwork strategy.	The cardiovascular system: the heart.	Comprehension and comprehension	**3**	**12**
Oral and written exam	Enterprise Strategy	The cardiovascular system: Blood vessels.	Comprehension and comprehension	**3**	**13**
Oral and written exam	Mix different strategies	The lymphatic system and immunity.	Comprehension and comprehension	**3**	**14**
Oral and written exam	Mix different strategies	The respiratory system.	Comprehension and comprehension	**3**	**15**
Oral and written exam	Mix different strategies	The digestive system.	Comprehension and comprehension		

Oral and written exam	Mix different strategies	Metabolism.	Comprehension and comprehension		
Oral and written exam	Mix different strategies	The urinary system.	Comprehension and comprehension		
Oral and written exam	Mix different strategies	Fluid, electrolyte and Acid – Base balance.	Comprehension and comprehension		
Oral and written exam	Mix different strategies	The reproductive system.	Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam			Comprehension and comprehension		

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation
100	70	5	10	5	5	5

36. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
	Main references (sources)
	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description

Baath Party Crimes

2024

Course Description Form

37. Course Name
Baath Party Crimes
38. Course Code
MDTE0210
39. Sunnah
((Second))
40. The history of preparation of this description
16 / 3 / 2024
41. Available Attendance Forms
(Weekly attendance)
42. Number of Credit Hours (Total) / Number of Units (Total)
60 hours / (2 units).
43. Course administrator's name (if more than one name)
Name: Munir Jihad Mohammed **Al-Emil** Moneer J . Moamed@slmamonuc.edu.iq
44. **Course Objectives**

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to identify the crimes of the former regime

Behavioral Goals:

1 – Knowledge and understanding of the student of the special history of the Baath regime in Iraq in order to be familiar with the history researched

2 – The student should have scientific and cognitive skills in order to see the historical events in their true form away from lies and forgery.

3 – The student should have the skills of thinking and analysis of historical information, a correct and accurate understanding of the problems of history, and the development of the correct interpretation of what happened.

45. Teaching and Learning Strategies

Strategy
• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies

46. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	1 – Knowledge and understanding of the student of the special history of the Baath regime in Iraq in order to be familiar with the history researched	Comprehension and comprehension	2	**1،2**
Oral and written exam	Teamwork strategy .	2 – The student should have scientific and cognitive skills in order to see the historical events in their true form away	Comprehension and comprehension	2	**3،4**
Oral and written exam	Enterprise Strategy	About lying and forgery.	Comprehension and comprehension	2	**5،6**

Oral and written exam	Discussion Strategy	3 - The student should have the skills of thinking and analysis of historical information and a correct and accurate understanding of the problems of history	Comprehension and comprehension	2	**7،8**
Oral and written exam	Story Strategy	Crimes of the Baath regime according to the law of the Supreme Iraqi Criminal Tribunal in 2005	Comprehension and comprehension	2	**9،10**
Oral and written exam	Problem Solving Strategy	The concept of crimes and their divisions	Comprehension and comprehension	2	**11،12**
Oral and written exam	Modeling Learning Strategy	Crime Sections	Comprehension and comprehension	2	**13،14**
Oral and written exam	Teamwork strategy.	Crimes of the Baath regime according to the law of the Supreme Iraqi Criminal Tribunal in 2005	Comprehension and comprehension	2	**15،16**
Oral and written exam	Mix different strategies	**Psychological crimes and their mechanisms**	Comprehension and comprehension	2	**17،18**
Oral and written exam	Mix different strategies	**Effects of mental crimes**	Comprehension and comprehension	2	**19،20**
Oral and written exam	Mix different strategies	**Social crimes**	Comprehension and comprehension	2	**21،22**
Oral and written exam	Teamwork strategy.	**Militarization of society**	Comprehension and comprehension	2	**23،24**
Oral and written exam	Enterprise Strategy	**Some decisions of political and military violations of the Baath regime**	Comprehension and comprehension	2	**25،26**
Oral and written exam	Mix different strategies	**War and radioactive contamination and mine explosion**	Comprehension and comprehension	2	**27،28**
Oral and written exam	Mix different strategies	**Places of Prisons and Detention of the Baath Regime**	Comprehension and comprehension	2	**29،30**

47. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written	report	Monthly	Oral exam	Daily exam	Daily

	exam		**exam**			**preparation**
100	**70**	**5**	**10**	**5**	**5**	**5**

48. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
	Main references (sources)
	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description Clinical Chemistry Devices

Course Description Form

49. Course Name
Clinical Chemistry Devices
50. Course Code
MDTE0207
51. Sunnah
((Second))
52. The history of preparation of this description
16 / 3 / 2024
53. Available Attendance Forms
(Weekly attendance)
54. Number of Credit Hours (Total) / Number of Units (Total)
75 hours / (7 units).
55. Course administrator's name (if more than one name)
Name: Diaa Hussain Ali **Email** dheaaalmansori@gmail.com
56. **Course Objectives**

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ clinical chemistry in his field of work.

Behavioral Goals:

1. Definition of clinical chemistry and the mechanism of biochemistry in the human body

2. Describe the types of laboratory medical instruments.

3. Describe the types of clinical chemistry analysis or (tests).

4. Explain the main work of laboratory medical device technologies.

5. Describe the most important compositions in the human body.

6. Learn about the maintenance of laboratory medical devices and their components

Electrical and mechanical breakdowns.

57. Teaching and Learning Strategies

• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies	**Strategy**

58. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Measurement and errors.	Comprehension and comprehension	3	**1،2**
Oral and written exam	Teamwork strategy .	System of units of measurements.	Comprehension and comprehension	**3**	**3،4**
Oral and written exam	Enterprise Strategy	Standard of measurement.	Comprehension and comprehension	**3**	**5،6**
Oral and written exam	Discussion Strategy	Measurement device and system.	Comprehension and comprehension	**3**	**7،8**
Oral and written exam	Story Strategy	D.C indicating instrument.	Comprehension and comprehension	**3**	**9،10**
Oral and written exam	Problem Solving Strategy	A.C indicating instrument.	Comprehension and comprehension	**3**	**11،12**
Oral and written exam	Modeling Learning Strategy	Power transducers.	Comprehension and comprehension	**3**	**13،14**
Oral and written exam	Teamwork strategy.	Measurements of R, L and C.	Comprehension and comprehension	**3**	**15،16**
Oral and written exam	Mix different strategies	Descriptive lectures.	Comprehension and comprehension	**3**	**17،18**
Oral and written exam	Mix different strategies	Review of fundamentals of electrical measurements.	Comprehension and comprehension	**3**	**19،20**
Oral and written exam	Mix different strategies	General theory of PMMC instrument.	Comprehension and comprehension	**3**	**21،22**
Oral and written exam	Teamwork strategy.	Various instrument.	Comprehension and comprehension	**3**	**23،24**
Oral and written exam	Enterprise Strategy	Circuits for D.C measurements.	Comprehension and comprehension	**3**	**25،26**
Oral and written exam	Mix different strategies	Fundamental of A.C measurements.	Comprehension and comprehension	**3**	**27،28**
Oral and written exam	Mix different strategies	Electronic measuring instruments, oscilloscope.	Comprehension and comprehension	**3**	**29،30**

59. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation

100	**70**	**5**	**10**	**5**	**5**	**5**

60. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
	Main references (sources)
	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description
Computer Applications

Course Description Form

61. Course Name

Computer Applications

62. Course Code

MDTE0208

63. Sunnah

((Second))

64. The history of preparation of this description

16 / 3 / 2024

65. Available Attendance Forms

(Weekly attendance)

66. Number of Credit Hours (Total) / Number of Units (Total)

45 hours / (3 units).

67. Course administrator's name (if more than one name)

Name: Hala Adnan Hashem **Email** Hala.a.hashim@almamonuc.edu.iq

68. Course Objectives

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ digital technologies in his field of work.

Behavioral Goals:

1. Identify the basics of logic circuits used in computers.

2. Understand how logical medical devices work

3. Programming logical medical devices

4. Design of logical medical devices

5. Learn how to use logical tables in performing logical medical procedures

Devices

6. Maintain logical medical devices

7. Suggest how to build modern logical medical devices

69. Teaching and Learning Strategies

Strategy
• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy

• Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies	

70. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Introduction, MATLAB Environment,MATLAB Windows(Command	Comprehension and comprehension	1	**1،2**
Oral and written exam	Teamwork strategy .	Window, Workspace Window, Command History window, Help Window, Editor Window).	Comprehension and comprehension	1	**3،4**
Oral and written exam	Enterprise Strategy	A First Program, Expressions, Constants, Entering Matrices, Useful Matrix Generators, Subscripting ,End as a subscript, Colon Operator, Transpose Deleting Rows or Columns.	Comprehension and comprehension	1	**5،6**
Oral and written exam	Discussion Strategy	Variables and assignment statement, logical operator.	Comprehension and comprehension	1	**7،8**
Oral and written exam	Story Strategy	Arrays, Built in functions, Basic Matrix Functions (sum, max, min, mean, magic, diag, length, size, median, prod, sort).	Comprehension and comprehension	1	**9،10**
Oral and written exam	Problem Solving Strategy	Basic Plotting (Multiple Data Sets in One Graph, Specifying Line Styles and Colors, Multiple Plots in One Figure, Setting Axis Limits).	Comprehension and comprehension	1	**11،12**
Oral and written exam	Modeling Learning Strategy	Arguments and return values, M-file, input-output statement.	Comprehension and comprehension	1	**13،14**
Oral and written exam	Teamwork strategy.	Control Statements(Conditional statements: If, Else, Elseif, switch case)	Comprehension and comprehension	1	**15،16**
Oral and written exam	Mix different strategies	Menu-driven programs: a) Controls: uimenu and uicontrol. b) Interactive graphics. c) Large program logic flow.	Comprehension and comprehension	1	**17،18**
Oral and written exam	Mix different strategies	Introduces the LabVIEW environment including windows, menus, and tools.	Comprehension and comprehension	1	**19،20**
Oral and written exam	Mix different	Creating and using	Comprehension	1	**21،22**

	strategies	LabVIEW projects, The LabVIEW front panel and block diagram Searching for controls, VIs, and functions.	and comprehension		
Oral and written exam	Teamwork strategy.	Understanding the dataflow programming model of LabVIEW, Recognizing different data types, Tools for developing, cleaning and organizing your Vis, Using Express VIs to build a basic VI.	Comprehension and comprehension	1	**23،24**
Oral and written exam	Enterprise Strategy	Correcting broken Vis, Using common debugging techniques, Addressing undefined or unexpected data, Implementing error checking and error handling.	Comprehension and comprehension	1	**25،26**
Oral and written exam	Mix different strategies	Using structures like the While Loop and For Loop, Adding software timing to your code, Sharing data between loop iterations, Plotting data to a waveform chart.	Comprehension and comprehension	1	**27،28**
Oral and written exam	Mix different strategies	Creating and using array controls and indicators, Creating and using cluster controls and indicators, Using type definitions to improve reuse of data structures in applications.	Comprehension and comprehension	1	**29،30**

71. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation
100	**70**	**5**	**10**	**5**	**5**	**5**

72. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
Introduction to MATLAB for Engineers William J. Palm III	Main references (sources)
INTRODUCTION TO MATLAB FOR ENGINEERING STUDENTS David Houcque,	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description

Digital Technologies

Course Description Form

73. Course Name
Digital Technologies
74. Course Code
MDTE0204
75. Sunnah
((Second))
76. The history of preparation of this description
16 / 3 / 2024
77. Available Attendance Forms
(Weekly attendance)
78. Number of Credit Hours (Total) / Number of Units (Total)
75 hours / (7 units).
79. Course administrator's name (if more than one name)
Name: Wameed Abdel Azim **Email**

80. Course Objectives

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ Digital technologies in his field of work.

Behavioral Goals:

1. The graduate acquires scientific and applied skills in the field of electronic circuits

2. Graduating students will gain the ability to know different parts of the body

Electronic circuits.

3. Developing and training engineering technical cadres on electronics

Circles

4. Preparing research and studies to improve and develop work

Electronic circuits.

5. Preparing application engineers as technical and electronic engineers.

6. Develop proposals and alternatives for electronic devices.

81. Teaching and Learning Strategies

Strategy
• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies

82. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Electronic values (review).	Comprehension and comprehension	3	**1**
Oral and written exam	Teamwork strategy .	Semiconductors materials and PN junctions.	Comprehension and comprehension	**3**	**2**
Oral and written exam	Enterprise Strategy	Diode applications.	Comprehension and comprehension	**3**	**3**
Oral and written exam	Discussion Strategy	Special diodes.	Comprehension and comprehension	**3**	**4**
Oral and written exam	Story Strategy	Bipolar junction's	Comprehension and comprehension	**3**	**5**

		transistor (characteristics and biasing).			
Oral and written exam	Problem Solving Strategy	Field effect transistor (characteristics and biasing).	Comprehension and comprehension	**3**	**6**
Oral and written exam	Modeling Learning Strategy	Small single amplifier.	Comprehension and comprehension	**3**	**7**
Oral and written exam	Teamwork strategy.	Other semiconductor devices (UJT, SCR, Diac, Triac,....)	Comprehension and comprehension	**3**	**8**
Oral and written exam	Mix different strategies	Optoelectronic devices.	Comprehension and comprehension	**3**	**9**
Oral and written exam	Mix different strategies	Frequency response.	Comprehension and comprehension	**3**	**10**
Oral and written exam	Mix different strategies	Negative feedback.	Comprehension and comprehension	**3**	**11**
Oral and written exam	Teamwork strategy.	Differential amplifier.	Comprehension and comprehension	**3**	**12**
Oral and written exam	Enterprise Strategy	Operation amplifier.	Comprehension and comprehension	**3**	**13**
Oral and written exam	Mix different strategies	Basic OP – Amp application.	Comprehension and comprehension	**3**	**14**
Oral and written exam	Mix different strategies	Sinusoidal oscillator.	Comprehension and comprehension	**3**	**15**
Oral and written exam	Mix different strategies	Non – sinusoidal oscillator.	Comprehension and comprehension		
Oral and written exam	Mix different strategies	Power amplifier.	Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam			Comprehension and comprehension		

83. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation

100	**70**	**5**	**10**	**5**	**5**	**5**

84. Learning and Teaching Resources	
There isn't any	**Required textbooks (methodology, if any)**
	Main references (sources)
	Recommended books and references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description Electronic components and circuits

Course Description Form

85. Course Name
Electronic components and circuits
86. Course Code
MDTE0204
87. Sunnah
((Second))
88. The history of preparation of this description
16 / 3 / 2024
89. Available Attendance Forms
(Weekly attendance)
90. Number of Credit Hours (Total) / Number of Units (Total)
75 hours / (7 units).
91. Course administrator's name (if more than one name)
Name: Yasser Abdul Rahim Ahmed Obaidi **Ema** alobaidi.yasir99@gmail.com
92. **Course Objectives**

As shown below	Course Objectives
General Objective // At the end of the course, the student will be able to employ the components in his field of work. **Behavioral Goals:**	

1. The graduate acquires scientific and applied skills in the field of electronic circuits

2. Graduating students will gain the ability to know different parts of the body

Electronic circuits.

3. Developing and training engineering technical cadres on electronics

Circles

4. Preparing research and studies to improve and develop work

Electronic circuits.

5. Preparing application engineers as technical and electronic engineers.

6. Develop proposals and alternatives for electronic devices.

93. Teaching and Learning Strategies

Strategy
• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies

94. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Electronic values (review).	Comprehension and comprehension	3	**1**
Oral and written exam	Teamwork strategy .	Semiconductors materials and PN junctions.	Comprehension and comprehension	**3**	**2**
Oral and written exam	Enterprise Strategy	Diode applications.	Comprehension and comprehension	**3**	**3**
Oral and written exam	Discussion Strategy	Special diodes.	Comprehension and comprehension	**3**	**4**
Oral and written exam	Story Strategy	Bipolar junction's transistor (characteristics and biasing).	Comprehension and comprehension	**3**	**5**
Oral and written exam	Problem Solving Strategy	Field effect transistor (characteristics and biasing).	Comprehension and comprehension	**3**	**6**
Oral and written exam	Modeling Learning Strategy	Small single amplifier.	Comprehension and comprehension	**3**	**7**
Oral and written exam	Teamwork strategy.	Other	Comprehension	**3**	**8**

		semiconductor devices (UJT, SCR, Diac, Triac,....)	and comprehension		
Oral and written exam	Mix different strategies	Optoelectronic devices.	Comprehension and comprehension	**3**	**9**
Oral and written exam	Mix different strategies	Frequency response.	Comprehension and comprehension	**3**	**10**
Oral and written exam	Mix different strategies	Negative feedback.	Comprehension and comprehension	**3**	**11**
Oral and written exam	Teamwork strategy.	Differential amplifier.	Comprehension and comprehension	**3**	**12**
Oral and written exam	Enterprise Strategy	Operation amplifier.	Comprehension and comprehension	**3**	**13**
Oral and written exam	Mix different strategies	Basic OP – Amp application.	Comprehension and comprehension	**3**	**14**
Oral and written exam	Mix different strategies	Sinusoidal oscillator.	Comprehension and comprehension	**3**	**15**
Oral and written exam	Mix different strategies	Non – sinusoidal oscillator.	Comprehension and comprehension		
Oral and written exam	Mix different strategies	Power amplifier.	Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam	Mix different strategies		Comprehension and comprehension		
Oral and written exam			Comprehension and comprehension		

95. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation
100	**70**	**5**	**10**	**5**	**5**	**5**

96. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
	Main references (sources)
	Recommended books and references (scientific journals,

	reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description English language

Course Description Form

97. Course Name
English language
98. Course Code
MDTE0206
99. Sunnah
((Second))
100. The history of preparation of this description
16 / 3 / 2024
101. Available Attendance Forms
(Weekly attendance)
102. Number of Credit Hours (Total) / Number of Units (Total)
30 hours / (2 units).
103. Course administrator's name (if more than one name)
Name: Zainab Mohammed Khazal **Email** Zainabmohammedki@gmail.com
104. **Course Objectives**

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ the English language in his field of work.

Behavioral Goals:

Learning and Teaching Strategies for English (Beginner)

The module may include:

1. Interactive language practice: engaging learners in communication

Activities that promote active participation and language practice. This one

Can include duels, group discussions, role-playing, and language

Games.

2. Original material: merge original materials such as videos,

Audio recordings, reading texts that reflect the use of language in real life.

This helps learners develop their listening, speaking and reading skills.

Writing skills in authentic contexts.

3. Task-Based Learning: Design tasks and projects that require learners

To use the target language to achieve specific goals or solution

Problems. This promotes the use of meaningful language and encourages

Critical thinking and problem-solving skills.

4. Visual and multimedia aids: Use visual aids, charts, graphs, and

Multimedia resources to support language learning and

Understanding. Visual images can enhance comprehension and help vocabulary

Acquire them, and provide context for the use of the language.

5. Correction of errors and feedback: timely and constructive submission

Feedback on learners' language production to help them identify and

Debugging. Encourage self-correction and peer correction to promote

A supportive learning environment.

105. Teaching and Learning Strategies

• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning • Story Strategy • Mix different strategies	**Strategy**

106. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Introduction and Sounds	Comprehension and comprehension	1	**1،2**
Oral and written exam	Teamwork strategy .	a wonderful world! : Auxiliary verbs- Naming the tenses - Questions and	Comprehension and comprehension	1	**3،4**

		negatives			
Oral and written exam	Enterprise Strategy	a wonderful world! : Short answers -Parts of speech and meaning - Word formation	Comprehension and comprehension	1	**5،6**
Oral and written exam	Discussion Strategy	a wonderful world!: Wonders of the modem world	Comprehension and comprehension	1	**7،8**
Oral and written exam	Story Strategy	Get happy!: Present tenses(Present Simple - Present Continuous Simple or continuous?)	Comprehension and comprehension	1	**9،10**
Oral and written exam	Problem Solving Strategy	Get happy!: Present passive - The down doctor	Comprehension and comprehension	1	**11،12**
Oral and written exam	Modeling Learning Strategy	Telling tales : Past tenses (Past Simple and continuous)	Comprehension and comprehension	1	**13،14**
Oral and written exam	Teamwork strategy.	Telling tales : Past tenses (Past Simple and Past Perfect) - Past Passive	Comprehension and comprehension	1	**15،16**
Oral and written exam	Mix different strategies	Telling tales : : The painter and the writer	Comprehension and comprehension	1	**17،18**
Oral and written exam	Mix different strategies	Doing the right thing: Modal verbs (1) - obligation and permission	Comprehension and comprehension	1	**19،20**
Oral and written exam	Mix different strategies	Doing the right thing: Requests and offers	Comprehension and comprehension	1	**21،22**
Oral and written exam	Teamwork strategy.	Doing the right thing: A world guide to good manners	Comprehension and comprehension	1	**23،24**
Oral and written exam	Enterprise Strategy	On the move: Future forms - My kind of holiday	Comprehension and comprehension	1	**25،26**
Oral and written exam	Mix different strategies	I just love it!: Questions with like - Verb patterns	Comprehension and comprehension	1	**27،28**
Oral and written exam	Mix different strategies	I just love it!: Global pizza	Comprehension and comprehension	1	**29،30**

107. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation
100	**70**	**5**	**10**	**5**	**5**	**5**

108. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
Soars, J., Soars, L. (2014). New Headway Plus: Beginner Student's Book. United Kingdom: Oxford University Press.• Soars, J., Soars, L. (2006). New Headway Plus: Preintermediate. United Kingdom: Oxford University Press.	Main references (sources)
Audio CDs or Online Audio: Recordings of listening exercises,dialogues, and pronunciation	Recommended books and references (scientific journals,

practic	reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites

Course Description Form

109. Course Name
Medical Measurements & Adapters
110. Course Code
MDTE0206
111. Sunnah

((Second))

112. The history of preparation of this description

16 / 3 / 2024

113. Available Attendance Forms

(Weekly attendance)

114. Number of Credit Hours (Total) / Number of Units (Total)

75 hours / (7 units).

115. Course administrator's name (if more than one name)

Name: Eng. Ihsan Ahmed Email Ihsan.A.Mjbil@almamonuc.edu.iq

116. Course Objectives

As shown below	Course Objectives

General Objective //

At the end of the course, the student will be able to employ a subject of medical measurements and converters in his field of work.

Behavioral Goals:

1. Identify the basics of logic circuits used in computers.

2. Understand how logical medical devices work

3. Programming logical medical devices

4. Design of logical medical devices

5. Learn how to use logical tables in performing logical medical procedures

Devices

6. Maintain logical medical devices

7. Suggest how to build modern logical medical devices

117. Teaching and Learning Strategies

• Brainstorming strategy • Modeling Learning Strategy • Teamwork or cooperative learning strategy • Discussion Strategy • Enterprise Strategy • A problem-solving strategy or problem-based learning	**Strategy**

• Story Strategy • Mix different strategies	

118. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Oral and written exam	Brainstorming strategy	Measurement and errors.	Comprehension and comprehension	3	**1،2**
Oral and written exam	Teamwork strategy .	System of units of measurements.	Comprehension and comprehension	**3**	**3،4**
Oral and written exam	Enterprise Strategy	Standard of measurement.	Comprehension and comprehension	**3**	**5،6**
Oral and written exam	Discussion Strategy	Measurement device and system.	Comprehension and comprehension	**3**	**7،8**
Oral and written exam	Story Strategy	D.C indicating instrument.	Comprehension and comprehension	**3**	**9،10**
Oral and written exam	Problem Solving Strategy	A.C indicating instrument.	Comprehension and comprehension	**3**	**11،12**
Oral and written exam	Modeling Learning Strategy	Power transducers.	Comprehension and comprehension	**3**	**13،14**
Oral and written exam	Teamwork strategy.	Measurements of R, L and C.	Comprehension and comprehension	**3**	**15،16**
Oral and written exam	Mix different strategies	Descriptive lectures.	Comprehension and comprehension	**3**	**17،18**
Oral and written exam	Mix different strategies	Review of fundamentals of electrical measurements.	Comprehension and comprehension	**3**	**19،20**
Oral and written exam	Mix different strategies	General theory of PMMC instrument.	Comprehension and comprehension	**3**	**21،22**
Oral and written exam	Teamwork strategy.	Various instrument.	Comprehension and comprehension	**3**	**23،24**
Oral and written exam	Enterprise Strategy	Circuits for D.C measurements.	Comprehension and comprehension	**3**	**25،26**
Oral and written exam	Mix different strategies	Fundamental of A.C measurements.	Comprehension and comprehension	**3**	**27،28**
Oral and written exam	Mix different strategies	Electronic measuring instruments, oscilloscope.	Comprehension and comprehension	**3**	**29،30**

119. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... Etc.

Total	Written exam	report	Monthly exam	Oral exam	Daily exam	Daily preparation
100	**70**	**5**	**10**	**5**	**5**	**5**

120. Learning and Teaching Resources

There isn't any	**Required textbooks (methodology, if any)**
	Main references (sources)
	Recommended books and

	references (scientific journals, reports...)
Browse the Google network through the desired subject key.	Electronic References, Websites