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Academic Program and Course Description Guide

Al-Farabi University

College of Health and Medical Technologies

Department of Anesthesia Techniques

2025-2026

Academic Program Description

University: Al-Farabi University

College / Institute: College of Health and Medical Techniques

Scientific Department: Department of Anesthesia Techniques

Academic or Professional Program: Bachelor's Degree

Final Degree Awarded: Bachelor of Anesthesia Techniques (Anesthesia Technologist)

Study System: Semester System for the First Year

File Preparation Date: 2025-2026

Date of File Completion: 14/8/2026

Signature:

Name of Head of Department: MSc. Asst. Sarmad Majeed

Date: 14/8/2026



Signature:

Name of Assistant Dean for Scientific Affairs:

Date:

8/14
A. d. 2026

File Reviewed by

Quality Assurance and University Performance Division

Name of Director of the Quality Assurance and University Performance Division

Date: 14-8-2026

Signature: د. د. هادي عبد الله محمد

Dean's Approval

Prof. Dr. A. H. Kadhim

14/8/2026

جامعة الفارابي
كلية التقنيات الصحية
1 / 1

1.vision The program

" Striving for leadership and academic and applied excellence in the field of anesthesia technologies, and qualifying highly efficient specialized health personnel capable of providing safe and integrated patient care, and keeping pace with technological and research developments in accordance with the latest national and international standards."

2.message The program

Preparing and training distinguished technicians in the field of anesthesia techniques, who " possess the scientific knowledge, applied skills and professional ethics that enable them to provide safe healthcare to patients before, during and after surgical operations, while adhering to national and international safety standards, and meeting the needs of health institutions efficiently ".and competently

3.Goals The program

General Objectives

The program's educational vision in general aims to build a solid scientific and applied foundation for students in basic medical and technical sciences, enabling them to understand the foundations of healthcare and medical ethics, in addition to developing critical thinking, problem-solving and effective response skills within the integrated medical team, and raising awareness of the importance of total quality and occupational safety in health institutions

Department Objectives

The Department of Anesthesia Technology specifically aims to qualify distinguished anesthesia technicians capable of operating, managing and maintaining anesthesia devices and equipment with high efficiency, equipping operating rooms and securing the approved anesthesia plan under the supervision of the specialist physician, accurately monitoring the patient's vital signs and dealing quickly with emergencies and anesthesia complications, in addition to standard compliance with sterilization and infection control controls and the ongoing improvement of technical skills through continuous learning to keep pace with the latest medical technology

4.Accreditation Programming

The Department of Anesthesia Technology (as a newly established department from " which no batch has yet graduated) operates according to academic quality standards, in preparation for applying for official program accreditation as soon as the first batch

".graduates, in accordance with the applicable regulations

5.Effects Foreign Ministry The other

The program's sponsor is the Ministry of Higher Education and Scientific Research - Baghdad

6.Structure The program

commen ts*	ratio centennial	lonliness Study	number Courses	structure The program
essential	Phase 1: 10%	Phase 1 2 6	Phase 10	requirements The Foundation
essential	Phase 1: 10%	Phase 1 2 6	Phase 10	requirements College
essential	Phase 1: 10%	Phase 1 2 6	Phase 10	requirements Section
Complete	Phase 1: 10%	Phase 1 2 6	Phase 10	Training Summer
-	-	-	-	Other

7. Program Description				
Credit Hours		Course name	Course code	Year/ Level
practical	theoretical			
4	2	Medical Physics (1)	ANEST101	First/ First Course
4	2	Anatomy (1)	ANEST103	First/ First Course
4	2	General physiology (1)	ANEST105	First/ First Course
4	2	General Chemistry	ANEST107	First/ First Course
4	2	Biology	ANEST109	First/ First Course
0	2	english language	ANEST111	First/ First Course
2	1	Computer Principles (1)	ANEST113	First/ First Course
-	1	Human rights and democracy	ANEST115	First/ First Course
4	2	Medical Physics (2)	ANEST102	First/Second Course
4	2	Anatomy (2)	ANEST104	First/Second Course
4	2	General physiology (2)	ANEST106	First/Second Course
4	2	Biochemistry	ANEST108	First/Second Course
4	2	microbiology	ANEST110	First/Second Course
2	1	Computer Principles (2)	ANEST112	First/Second Course
-	2	Arabic	ANEST114	First/Second Course

8.outputs Learning Expected For the program	
Knowledge	
Understanding the basic concepts of anesthesia science, the .medical drugs used, and how they work within the human body	:Theoretical principles
Understanding the functional and anatomical changes in body systems (especially the respiratory and circulatory systems) .during different anesthesia conditions	:Physiology and anatomy
Knowledge of the scientific protocols and techniques used for .airway management and artificial ventilation	:Airway circuit
Identifying potential risks and complications during and after surgical procedures, and understanding the steps for immediate .handling of emergencies	:Safety and risks
Skills	
Analyzing the patient's vital signs and medical history to	:Evaluation and planning

develop an appropriate monitoring and anesthesia plan in .collaboration with the medical staff	
The speed of academic and scientific decision-making when .vital signs drop or unexpected complications occur	:Solving urgent problems
Preparing and dispensing vital instruments and supplies (such as tracheal tubes, gastric tubes, and intravenous solutions) and preparing .medications in precise doses	Clinical procedures:
Effective and rapid communication with the anesthesiologist, surgeon, .and nursing staff within a self-pressure operating environment	Working in the operating :room
Adherence to ethical conduct and professional behavior, and accurate .documentation of patient data and drug responses	:Ethics and documentation
Values	
• Patient safety and comfort are placed at the forefront of professional priorities throughout all stages of anesthesia (before, during, and after the procedure) • Respecting patient privacy and maintaining the confidentiality of their medical and personal information	Adherence to professional :ethics and patient health
• Maintaining high accuracy and scientific integrity when preparing and processing drug doses and examining devices. • Strict adherence to sterilization and occupational safety rules to prevent contamination and bacterial clusters inside operating rooms	Responsibility and :professional discipline
• Maintaining composure and calmness and making sound decisions under high-pressure working conditions and emergency situations • Treating the patient with humanity and empathy to calm their fears and reduce stress before entering the operating room	Stress management and :behavioral response
• Demonstrate a spirit of cooperation and integration with the anesthesiologist, surgeon, and nursing staff to ensure the success of the surgical procedure • Accept scientific guidance and adhere to the administrative and medical hierarchy within the health institution	Teamwork and respect for :specialization
• Keeping up with the latest developments in anesthesia techniques and drug safety • Feeling responsible for transferring knowledge and experience to colleagues and raising the level of medical services provided	Self-development and :continuous learning

9.Strategies education and learning

Interactive and direct learning :

Interactive lectures: Presenting vital theoretical concepts (such as physiology, pharmacology, and anesthesia equipment) using visual presentation tools(PowerPoint and diagrams) with open discussion and brainstorming.

Demonstrations shown: Demonstrating the practical steps of how to inspect anesthesia equipment, prepare medications, and manage the airway in front of students before starting the application.

Problem-based learning and clinical case studies:

Clinical case studies : Presenting realistic scenarios of patients suffering from different health conditions (e.g., anesthesia emergencies, acute hypotension, or difficulty intubation) for analysis and derivation of an appropriate anesthesia plan.

Emergency simulation: Training students to make quick decisions and deal with sudden equipment malfunctions or abnormal patient vital signs.

Practical and clinical training:

Laboratory and practical training: Applying manual skills to mannequins and dummy models to master cardiopulmonary resuscitation (CPR) skills , tracheal tube insertion, and intravenous cannula insertion.

Field training in operating rooms: experiencing real clinical practices under the supervision of instructors and direct observation of the steps of anesthesia and monitoring the patient during surgery.

Self-learning and collaboration:

Team-based learning: Dividing students into small working groups to prepare presentations or solve assignments that simulate operating room management.

Guided research and self-study: Students are tasked with reviewing scientific literature and modern guidelines related to anesthesia safety and drug safety

A multi-instrumental assessment system is adopted to ensure that students' theoretical aspects, clinical skills, and professional commitment are accurately measured:

Continuous formative assessment (from 40% to 50%):

Short theoretical tests: quick and specific written tests to check understanding of scientific concepts and the mechanism of action of drugs.

Practical and laboratory assessment: Evaluating the student's performance in the laboratory when operating anesthesia equipment, preparing drug doses, and managing the airway using the specified assessment forms.

Field clinical performance evaluation: Monitoring the student's discipline, adherence to sterilization and preparation rules within operating rooms, and the extent of their application of ethical and professional values.

individual and group presentations and discussions.

Final assessment (50% to 60%):

exam : Testing clinical and applied skills across multiple stations that measure speed of decision-making, preparation of tools, and handling of emergencies.

Final theoretical exam: A comprehensive test of the cognitive and intellectual aspects, including multiple-choice and essay questions related to problem-solving and interpretation of clinical cases.

11Authority teaching					
Members body teaching					
numbers Authority teaching		Requireme nts/ Skills PrivateIf found	Specialization		Rank Scientific
lecturer	angel		privat e	general	

External lecturer	-	-	-	Obstetrics and Gynecology	General medicine	Dr. Riyam Ahmed Fares
External lecturer	-	-	-	Medicines and poisons	Veterinary medicine	Dr. Samir Abdul Muhammad Abdul
-	Teaching (Angel)	-	-	Microbiology	Pathological analyses	M. M. Ali Sarmad Majeed
-	Teaching (Angel)	-	-	Laser and electro-optics	Physics	M.M. Taqi Akram Khalifa
-	Teaching (Angel)		-	Microbiology	Life Sciences	M.M. Yassin Hamid Mohammed
	Teaching (Angel)	-		Clinical Biochemistry	Medicinal Chemistry	M.M. Maryam Aqeel Abduljabbar

Development Professional

directing Members body teaching New

Academic guidelines and instructions:

Organizing introductory sessions to clarify the course content, educational objectives, and approved teaching strategies.

The instructor will be provided with the complete educational package, which includes the course description, practical training guide, and evaluation records.

Field training and clinical experience:

Involving the instructor in field visits inside the anesthesia laboratories and clinical training halls to learn about operating methods, sterilization and safety procedures.

Implementing an academic mentoring system through monitoring lectures and practical training provided by instructors with prior experience in the course.

Administrative and examination regulations:

Introduction to the applicable examination regulations and instructions, and the mechanisms for correcting and recording grades.

Clarifying the mechanism for managing the educational environment, dealing with students, and documenting attendance and absence rates.

Ongoing follow-up and support:

Conducting periodic inspection visits by the department head or the scientific committee to

provide technical and academic support.
Providing continuous feedback to develop teaching skills and clinical assessment
Development Professional For members body teaching
Academic development and teaching methods: Regular participation in courses and workshops on modern teaching methods and interactive learning strategies. Training on the design and testing of advanced assessment methods and the evaluation of students' clinical and practical performance. Continuous clinical and technical training: Organizing ongoing training workshops on the latest anesthesia equipment and emerging technologies in airway management and medical monitoring. Participating in advanced courses on cardiopulmonary resuscitation and emergency handling protocols in operating rooms. Scientific and research activity: Encouraging faculty members to conduct applied scientific research and publish it in peer-reviewed academic journals. Following up and participating in local and international scientific conferences and seminars specializing in anesthesia techniques and critical care. Self-assessment and feedback: Regular review of teaching performance based on student evaluation questionnaires and observations from the department's scientific committees. Exchange of experiences and mutual visits between instructors to develop leadership and management skills in the educational and clinical environment

12standard Acceptance
The terms and conditions for enrollment and study of this course are determined according to the following regulations and mechanisms: Administrative and central admission: The student obtains official admission to the Department of Anesthesia Technologies according to the central admission plan or parallel education approved by the Ministry.

Meeting the competitive average and approved selection criteria for admission to medical and health specialties.

Prerequisites for the course:

Successful completion of introductory and foundational courses in previous years or semesters (e.g., anatomy, physiology, and biochemistry).

Meeting the approved academic requirements for sitting in theoretical lectures, practical and clinical training.

Health and professional fitness:

Physical, psychological and sensory safety that enables the student to work in operating rooms and deal with emergency cases.

The student must be free from infectious diseases or disabilities that may hinder the performance of fine manual and applied skills.

Discipline and commitment to safety:

Pledge to adhere to the uniform medical attire and the instructions regarding sterilization and safety within laboratories and operating rooms.

Adherence to the attendance rates stipulated by regulations in both the theoretical and practical aspects is required to be eligible to take the final exams.

13 Most important sources Information on The program

Admissions and Curriculum Guide approved by the Ministry of Higher Education and Scientific Research

Program development plan .14

This plan relies on the continuous improvement of the course components and the academic program to ensure keeping pace with scientific and professional developments and meeting quality requirements:

Updating vocabulary and curricula:

The theoretical and practical content is reviewed periodically to include the latest technologies and protocols adopted in the fields of anesthesia and critical care.

Enhancing the integration between theoretical frameworks and field clinical practices in operating rooms.

Developing the educational environment and infrastructure:

Upgrading anesthesia laboratories and medical simulators to provide an interactive training environment that simulates real operating rooms.

Equipping classrooms and laboratories with modern technology and multimedia to support interactive teaching methods.

Developing the teaching and professional staff:

Regularly involve faculty members in professional development courses and specialized clinical workshops.

Encouraging applied scientific research and participation in local and international scientific conferences and seminars.

Meeting quality standards and feedback:

Adopting the results of student evaluation surveys and feedback from graduates and employers to identify strengths and opportunities for improvement.

Conducting periodic assessments by quality assurance and academic accreditation committees to ensure compliance with program standards

a plan skills The program															
outputs Learning Required from The program															
Values				Skills				Knowledge				Asa CM optional	name The course	code The course	Year/ Level
4 J	3 C	2 J	1 J	4B	3b	2b	1b	4A	3A	2A	1 A				
	√	√	√	√	√	√	√	√	√	√	√	essential	Medical Physics(1)	ANEST101	First stage First course
√	√		√	√	√	√	√	√	√	√	√	essential	Anatomy(1)	ANEST103	
√	√	√		√	√	√	√	√	√	√	√	essential	General physiology (1)	ANEST105	
√	√	√		√	√	√	√	√	√	√	√	essential	General Chemistry	ANEST107	
√	√	√	√	√	√	√	√	√	√	√	√	essential	Biology	ANEST109	
	√	√	√					√	√	√	√	optional	english language	ANEST111	
				√	√	√	√	√	√	√	√	optional	Computer Principles (1)	ANEST113	
√	√	√	√					√	√	√	√	optional	Human rights and democracy	ANEST115	
	√	√	√	√	√	√	√	√	√	√	√	essential	Medical Physics(2)	ANEST102	First stage Second course
√		√		√	√	√	√	√	√	√	√	essential	Anatomy(2)	ANEST104	
		√	√	√	√	√	√	√	√	√	√	essential	General physiology (2)	ANEST106	
√		√	√		√	√	√	√	√	√	√	essential	Biochemistry	ANEST108	

	√	√	√	√	√	√	√	√	√	√	√	essential	micro biological	ANEST110	
√		√		√	√	√	√	√	√	√	√	optional	Computer Principles (2)	ANEST112	
√	√	√	√	√	√	√		√	√	√	√	optional	Arabic	ANEST114	

Course description template

1. Course Name					
General Chemistry					
2. Course code					
ANEST107					
3. Semester/Year					
and second semesters/ 2026-2025					
4. Date this description was prepared					
20.7.2026					
5. Available forms of attendance					
Theoretical attendance in the classroom + practical laboratory work					
6. Number of study hours (total) / Number of units (total)					
Number of hours: 30 / Number of units: 8					
7. .Name of the course coordinator (if there is more than one, please mention it)					
:Name: M.M. Maryam Aqil Abdul Jabbar Emailmaryam.aqil@alfarabiuc.edu.iq					
8. objectives Course					
To provide students with fundamental concepts in general chemistry, including atomic structure, chemical bonds, and the periodic table. • To enable students to understand the types of chemical reactions and how to balance chemical equations. • To equip students with the essential practical skills for working in chemical laboratories, including the use of equipment and the safe handling of chemicals. • To introduce students to the basic principles of analytical chemistry .and calculations related to concentration and solutions					Course objectives
9. Teaching and learning strategies					
Theoretical lectures: Explanation of fundamental concepts and principles using presentations and the whiteboard. Practical experiments: Application of theoretical concepts through laboratory experiments and training in scientific report writing. Discussion groups and exercises: Solving problems and exercises to enhance student understanding of the material and encourage active participation. Assignments and reports: Students are given periodic assignments and laboratory reports to assess their comprehension of the material and the .development of their practical skills					strategy
10. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
discussion	Theoretical lecture	Introduction to Analytical Chemistry Atom, Periodic) (Table, Bonds	The student should become familiar with the basic concepts of chemistry and the .structure of matter	2	1
homework	Lecture and exercises	Solutions and methods of expressing concentrations	The student should master the methods of preparing standard solutions	2	2

		.(molarity, normality)	and calculating their .concentrations		
Short test	Lecture and exercises	Statistical processing of data (accuracy, errors, standard .(deviation	The student should be able to statistically evaluate the accuracy of the .analytical results	2	3
discussion	Theoretical lecture	Chemical equilibrium equilibrium) constant, influencing .(factors	The student should understand the factors that influence the course of .chemical reactions	2	4
Short test	Lecture and training	Neutralization reactions(acid and ,base theoriespH , buffer solutions).	The student should be able to distinguish between acids and bases and .calculate pH	2	5
homework	-	Oxidation-reduction reactions and their .applications	The student should understand the principles of oxidation-reduction .reactions	2	6
Written exam	Theoretical lecture	Midterm exam	-	2	7
discussion	Lecture and training	Methods of sedimentation sedimentating) agents, gravimetric .(calculations	The student should learn about separation methods and gravimetric .analysis	2	8
Short test	Lecture and exercises	Spectroscopic analysis and Beer-.Lambert's law	The student should use the principles of spectral analysis in quantitative .measurements	2	9
homework	Theoretical lecture	Organic chemistry alkanes, alkenes,) .(alcohols	The student should be able to distinguish between basic organic compounds and their .reactions	2	10
discussion	Lecture and training	Aldehydes, ketones, .and carboxylic acids	The student should become familiar with functional groups and their distinctive .interactions	2	11
Short test	Theoretical lecture	Carbohydrates: Definition, Classification, and .Functions	The student should understand the structure and vital function of .carbohydrates	2	12

homework	Lecture and exercises	Fats: Definition, Classification, and .Functions	The student should understand the structure and biological function .of fats	2	13
Open discussion	-	Amino acids and proteins: definition, structure and .functions	The student should understand the importance of proteins as structural .and functional units	2	14
practical exam	-	Final review and practical exam	-	2	15

11. Course evaluation

The grade out of 100 is distributed according to the tasks assigned to the student, such as daily .preparation, daily, oral, monthly, and written exams, reports, etc marks for annual coursework, divided into 25 marks for theory + 15 marks for practical work 40 .

Final exam marks divided into 35 marks for theory + 25 marks for practical (60)

12. Learning and teaching resources

-	Required textbooks (methodology, if applicable)
1 - LEHNINGER .L ALBERT Understanding chemistry by -2 George Pimentel	Main references (sources)
-	Recommended supporting books and references (scientific journals, reports...)
noor-book.com wikipedia.org mu.edu.iq mawdoo3.com ktbbh.com	Electronic references, websites

Course description template

Course Name:
Biochemistry
Course code
ANEST108
Chapter/Year:
semester / 2025-2026
Date this description was prepared
22/7/2026
Available attendance formats

Full student attendance in the hall	
.:Number of study hours (total) / Number of units (total)	
Number of hours: 6 / Number of units: 4	
.Name of the course coordinator (if there is more than one, please mention .(it	
:Email .A -Name: M.M. Maryam Aqil Abdul Jabbar Al maryam.aqil@alfarabiuc.edu.iq	
.objectives Course	
● To provide students with basic knowledge about the metabolism of proteins, fats, and .carbohydrates ● Introducing students to enzymes in terms of structure, classification, and factors affecting .them ● Clarifying the role of vitamins and enzyme .cofactors in biological processes ● Explaining the mechanisms of hormone .function and regulation within the body ● Enabling students to understand liver and kidney function tests and interpret their .laboratory results ● Linking biochemical changes to pathological conditions (especially liver and kidney .(diseases ● Developing practical skills in conducting basic) laboratory testsUrea, Creatinine, Enzymes .(... ● Developing students' ability to analyze laboratory results and link them to the clinical .situation ● Promoting occupational safety concepts within .laboratories	urse objectives
. Teaching and learning strategies	
Theoretical lectures .1 Presenting the basic concepts in a structured way) Using presentation toolsPowerPoint (images, charts , Classroom discussions .2 Stimulating critical thinking Involving students in information analysis Case .3 Studies Linking theory with clinical application Realistic laboratory results analysis) Practical Learning .4Laboratory-Based Learning (Conducting laboratory experiments directly Use of devices and chemicals	ategy

Interactive learning .5
 Asking questions during the lecture
 Use quickquizzes to measure understanding
 Self-learning .6
 Assigning students duties and reports
 Encouraging external research and reading

AssessmentStrategy :

) Ongoing short testsquizzes)
 Laboratory duties and reports
) Practical examsOSPE (
 Midterm exam
 Final exam, both theoretical and practical

22. Course structure

:Theoretical aspect

طريقة التقييم	طريقة التدريس	مخرجات التعلم	الموضوع	الساعات	الأسبوع
اختبار	محاضرة	يشرح الاضطرابات وتأثيرها	اضطرابات استقلاب البروتين	2	1
اختبار	محاضرة	تعريف وتصنيف الإنزيمات	الإنزيمات	2	2
واجب	محاضرة	شرح التثبيط	العوامل المؤثرة على الإنزيمات	2	3
اختبار	مناقشة	ربطها بالأمراض	الإنزيمات في التشخيص	2	4
اختبار	محاضرة	تمييز الأنواع	الفيتامينات	2	5
واجب	محاضرة	شرح الاحتياجات	التغذية والطاقة	2	6
اختبار	محاضرة	شرح الأنواع	الهرمونات	2	7
اختبار	محاضرة	تفسير الفحوصات	وظائف الكبد	2	8
اختبار	محاضرة	تمييز الأمراض	أمراض الكبد	2	9
واجب	محاضرة	تحليل التغيرات	إنزيمات الكبد	2	10

:Practical aspect

طريقة التقييم	طريقة التعلم	مخرجات التعلم	التجربة	الساعات	الأسبوع
تقرير	مختبر	قياس البروتين	البروتين الكلي	3	1
اختبار	مختبر	قياس اليوريا	اليوريا	3	2
تقرير	مختبر	قياسه	حمض اليوريك	3	3
اختبار	مختبر	قياسه	الكرياتينين	3	4
تقرير	مختبر	قياسه	الفسفور	3	5
اختبار	مختبر	قياسه	الأميليز	3	6
تقرير	مختبر	قياسه	الليباز	3	7
اختبار	مختبر	قياسه	ALP	3	8
تقرير	مختبر	قياسه	ACP	3	9
اختبار	مختبر	قياسه	ALT	3	10
تقرير	مختبر	قياسه	AST	3	11
اختبار	مختبر	قياسه	فيتامين C	3	12
تقرير	مختبر	قياسه	البيليروبين	3	13
امتحان عملي	مختبر	فحص كامل	تحليل البول	3	14
امتحان نهائي	مختبر	تحليلها	تحليل الحصوات	3	15

23. Course evaluation

The grade out of 100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc

Annual grades divided into 25 grades for theory + 15 grades for practical (40)

Final exam marks divided into 35 marks for theory + 25 marks for practical (60)

24. Learning and teaching resources

- Lehninger Principles of Biochemistry - Harper's Illustrated Biochemistry	Required textbooks (methodology, if applicable)
- Fundamentals of Biochemistry: Life at the Molecular Level - Biochemistry - Textbook of Biochemistry with Clinical Correlations	References (sources)
- Journal of Biological Chemistry - Clinical Chemistry - Nature Reviews Molecular Cell Biology :Scientific reports - World Health Organization WHO (reports) - Recent clinical laboratory reports	Recommended supporting books and references (scientific journals, reports...)
- PubMed - To search for the latest medical and biochemical research - National Center for Biotechnology Information (NCBI) - A reliable source for articles and studies - Google Scholar - For general academic research - World Health Organization (WHO)	Electronic references, websites

Course description template

25. : Course Name					
Anatomy					
26. Course code					
ANEST103,104					
27. Semester/Year					
2026-2025					
28. Date this description was prepared					
23 / 7 /2026					
29. Available forms of attendance					
Weekly (theory + practical)					
30. Number of study hours (total) / Number of units (total)					
) Theory2) Practical (5) Number of units (4 (					
31. .Name of the course coordinator (if there is more than one, please mention it)					
Name: Dr. Samir Abdul :email address A's -Muhammad Abdul samir@alfarabiuc.edu.iq					
. objectives Course					
To recognize the importance of the subject - of anatomy in relation to the scientific and .professional development of the student To identify and describe the anatomical - .levels of the human body To identify the locations of the main body - .organs and describe their tissue components			Course objectives		
33. Teaching and learning strategies					
- .Explaining the importance of studying human anatomy - Defining anatomical planes and using them to describe the relative positions of .body organs - Discussion of the anatomical locations of major organs, including how they .relate to clinical conditions such as pain - Describe the types of tissues that make up each organ, focusing on their .structural and functional characteristics - .Involve students in questions related to the topic					strategy
34. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Attendance and discussion	screen	Introduction to Anatomy		2	1
		Levels of organization		2	2
		Anatomical positions		2	3
		Body areas and cavities		2	4
		Body levels and sections		2	5

		Trend terminology	2	6
		tissues and membranes	2	7
		Epithelial and connective	2	8
		tissues	2	9
		Muscular and nervous	2	10
		tissues	2	11
		gut	2	12
		accessory glands	2	13
		respiratory system	2	14
		blood	2	15
		circulatory system		
		nervous system		

35. Course evaluation

:Attendance5 :Discussion5 :Two monthly exams90 converted to)25) % +15 Practical+ 60 Final

36. Learning and teaching resources

	Required textbooks (methodology, if applicable)
Gartner, LP, & Hiatt, JL (2022) "Color Textbook of Histology" 5th ^{ed} . Elsevier Vaughn,P. (2016) Anatomy and physiology	Main references (sources)
	Recommended supporting books and references (scientific journals, reports...)
Google and chat GPT	Electronic references, websites

Course description template

37. Course Name					
Arabic					
38. Course code					
ANEST114					
39. Semester/Year					
2024-2025					
40. Date this description was prepared					
26.7.2026					
41. Available forms of attendance					
Theoretical attendance in the classroom					
42. Number of study hours (total) / Number of units (total)					
30 study hours weeks 15*2 2 credit hours					
43. Name of the course coordinator (if there is more than one, please mention it)					
:Email .A -Name: M.M. Majid Jassim Nayef Almajid.jassim@alfarabiuc.edu.iq					
44. objectives Course					
- Understanding Arabic grammar rules - The student should be able to form and , construct correct sentencesand also succeed in recognizing correct usage and .identifying errors when they exist				Course objectives	
45. Teaching and learning strategies					
It includes all teaching procedures and educational practices that aim to activate the student's role and transform him from a recipient and listener of information to a central focus in his learning process, where learning takes place through .work, research, and the student's self-reliance in acquiring knowledge					strategy
46. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
Testing on blackboard	Theoretical lecture	Writing the hamza al-'qat	Strengthening the student's knowledge of the subject	2	1
oral exam	Theoretical lecture	Punctuation and punctuation marks In sentences	Strengthening the student's knowledge of the subject	2	2

oral exam	Theoretical lecture	-	Strengthening the student's knowledge of the subject	2	3
oral exam	Theoretical lecture	ض Writing the letters ظ and	Strengthening the student's knowledge of the subject	2	4
oral exam	Theoretical lecture	Writing the soft alif	Strengthening the student's knowledge of the subject	2	5
homework	Theoretical lecture	Writing the letter ta' marbuta	Strengthening the student's knowledge of the subject	2	6
Preparing for the exam	-	Writing the open "taa" +How to find words in a dictionary	Strengthening the student's knowledge of the subject	2	7
oral exam	Theoretical lecture	The distinctive – features of the verb The letter	Strengthening the student's knowledge of the subject	2	8
Written exam	-	End-of-term exam the first	Student assessment	2	9
homework	Theoretical lecture	Verb division – verb the past	Strengthening the student's knowledge of the subject	2	10
homework	Theoretical lecture	Present tense verb + verb The matter	Strengthening the student's knowledge of the subject	2	11
homework	Theoretical lecture	The indeclinable and the declinable	Strengthening the student's knowledge of the subject	2	12
homework	Theoretical lecture	Letters – their categories And her work	Strengthening the student's knowledge of the subject	2	13
homework	Theoretical lecture	number	Strengthening the student's knowledge of the subject	2	14
homework	Theoretical lecture	Linguistic corrections	Strengthening the student's knowledge of the subject	2	15

47. Course evaluation

is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily and oral exams, monthly written exams, reports, etc

48. Learning and teaching resources

A Concise Guide to the Arabic Language by Dr. Muhi Hilal Al-Sarhan Arabic Language for Non-Specialists by • Professor Hamid Mukhlif Al-Hiti and Professor Abdul Qadir Hassan Ibn Aqil's commentary on Ibn Malik's • Alfiyya	Required textbooks (methodology, if applicable)
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The book “Al-Minhaj fi Qawa'id al-Lughah • wa al-I'rab” by al-Antaki	
-	Main references (sources)
-	Recommended supporting books and references (scientific journals, reports...)
Wikipedia.com	Electronic references, websites

Course description template

49. Course Name
Physiology1+2
50. Course code
ANEST105.106
51. Semester/Year
2026-2025
52. Date this description was prepared
26.7.2026
53. Available forms of attendance
Theoretical attendance in the classroom+ laboratories
54. Number of study hours (total) / Number of units (total)
Hours 6 / Number of units 4
55. .Name of the course coordinator (if there is more than one, please mention it)
:Email .A -Name: Dr. Riam Ahmad Faris Rashk Alriam.ahmad@alfarabiuc.edu.iq
56. objectives Course

Course Objectives: General Objective: To familiarize the student with the components of body cells and the different components of blood to enable the student to prepare for their future .work Specific objective: To study the organs of a living .organism and the systems that make them up			Course objectives		
57. Teaching and learning strategies					
It includes all teaching procedures and educational practices that aim to activate the student’s role and transform him from a recipient and listener of information to a central focus in his learning process, where learning takes place through .work, research, and the student’s self-reliance in acquiring knowledge					strategy
58. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
discussion	Theoretical lecture	General Introduction to Physiology	Understanding and comprehension	2	1
homework	Theoretical lecture + practical	Cell Physiology: General Functions, Cell Membrane Transport	Understanding and comprehension	2	2
Short test	Theoretical lecture	General Idea about Body fluids: Types, Composition, and Functions. Unit of Measurement, Conversion and Conversion factor.	Understanding and comprehension	2	3
discussion	Theoretical lecture	RBCs: Definition, Structure, and Normal Value; Hb Definition, Structure, and Normal Value; Blood groups.	Understanding and comprehension	2	4
Short test	Theoretical lecture	Erythropoiesis, homeostasis, death and disposal.	Understanding and comprehension	2	5
homework	Theoretical lecture	White Blood Cells: Classification, Specific Function, Normal Value.	Understanding and comprehension	2	6
Written exam	Theoretical lecture + practical session	Platelet: Definition, Function, Normal Value, Thrombopoiesis and Hemostasis.	Understanding and comprehension	2	7
discussion	Theoretical lecture	Heart Physiology: Conductive System, Cardiac Output (Mechanics and	Understanding and comprehension	2	8

		Control), and Factor Affecting.			
Short test	Theoretical lecture	Anatomical positions and terms, planes of body	Understanding and comprehension	2	9
homework	Theoretical lecture + practical session	Lymphatic Physiology:	Understanding and comprehension	2	10
discussion	Theoretical lecture	Pathology and abnormal conditions: tumors, infections and inflammations	Understanding and comprehension	2	11
Short test	Theoretical lecture	Respiratory Physiology:	Understanding and comprehension	2	12
homework	Theoretical lecture	External respiration	Understanding and comprehension	2	13
Open discussion	Theoretical lecture + practical session	Lung Volumes:	Understanding and comprehension	2	14

59. Course evaluation

The grade out of 100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc marks for annual coursework, divided into 25 marks for theory + 15 marks for practical work 40 .
Final exam marks divided into 35 marks for theory + 25 marks for practical (60)

60. Learning and teaching resources

Medical physiology	Required textbooks (methodology, if applicable)
Guyton and Hall Textbook of Medical Physiology	Main references (sources)
Fundamentals of Anatomy and Physiology	Recommended supporting books and references (scientific journals, reports...)
-	Electronic references, websites

Course description template

61. Course Name
English language
62. Course code
ANEST111
63. Semester/Year
2026-2025

64. Date this description was prepared					
26.7.2026					
65. Available forms of attendance					
Theoretical attendance in the classroom					
66. Number of study hours (total) / Number of units (total)					
Hours1 Number of units /2					
67. .Name of the course coordinator (if there is more than one, please mention it)					
:Email .A -Name: M.M. Mohammed Nassif Jassim Almohammed.nosaef@alfarabiuc.edu.iq					
68. objectives Course					
Course Objectives: General Objective: 1. To provide a clear overview of linguistics and its history. 2. To help the student become familiar with some common linguistic concepts and how to acquire a native and foreign language. 3. To help the student understand the relationship of language to society and other .sciences Specific objective: To develop the ability to respond critically to .different opinions presented on topics of language and society				Course objectives	
69. Teaching and learning strategies					
It includes all teaching procedures and educational practices that aim to activate the student's role and transform him from a recipient and listener of information to a central focus in his learning process, where learning takes place through work, research, and the .student's self-reliance in acquiring knowledge					strategy
70. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
discussion	Theoretical lecture	History of linguistics and its origins	Understanding and comprehension	1	1
homework	Theoretical lecture	Phonetics and phonology of English language	Understanding and comprehension	1	2
Short test	Theoretical lecture	Syntax of English language	Understanding and comprehension	1	3
discussion	Theoretical lecture	Morphology of English language	Understanding and comprehension	1	4
Short test	Theoretical lecture	semantics	Understanding and comprehension	1	5
homework	Theoretical lecture	pragmatics	Understanding and comprehension	1	6
Written exam	Theoretical lecture	Discourse analysis	Understanding and comprehension	1	7
discussion	Theoretical lecture	First language acquisition	Understanding	1	8

			and comprehension		
71. Course evaluation					
The grade out of 100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc					
72. Learning and teaching resources					
Oxford English language reference			Required textbooks (methodology, (applicable		
Reference guide to English			Main references (sources)		
English handbook and study guide			Recommended supporting books and references (scientific journals, (...reports		
=			Electronic references, websites		

Course description template

73.Course Name	
Biology	
74.Course code	
ANEST109	
75.Semester/Year	
/ First semester2026-2027	
76.Date this description was prepared	
20.4.2026	
77.Available forms of attendance	
Theoretical attendance in the classroom + practical laboratory work	
78.Number of study hours (total) / Number of units (total)	
:Number of hours6 Number of units /: 4	
79.Name of the course coordinator (if there is more than one, please mention .(it	
:Email .A -Name: M.M. Yasin Hamid Mohammed yasin.hamid@alfarabiuc.edu.iq	
80.objectives Course	
- Introducing students to the basic concepts of biology, cell structure, its .components and functions, and the types of cells in the human body - To enable students to understand the basic biological processes in the cell, including diffusion, osmosis, active transport, and their relationship to cell .functions - To provide students with knowledge of the mechanisms of cell division, especially mitosisand meiosis, and their importance in growth and .regeneration - Introducing students to nucleic acidsDNA andRNA , the mechanisms of DNA replication and protein formation, and linking them to the vital .functions of cells - Introducing students to the types of tissues in the human body, with a .focus on epithelial, muscular, nervous, and connective tissues - To equip students with the ability to identify different cells and tissues	Course objectives

.using a light microscope and to distinguish their basic characteristics • Developing students' practical skills in preparing microscopic slides, examining samples, and handling laboratory tools and equipment .correctly • Promoting adherence to laboratory safety rules and proper handling of .samples, equipment and materials used in the laboratory	
81. Teaching and learning strategies	
Education strategies - Presenting the basic concepts and asking questions during the lecture. - Simplifying biological concepts using images and diagrams. - Explaining the steps for using the microscope and conducting laboratory applications. - Asking scientific questions and discussing the answers with the students. - Presenting simple cases related to cell and tissue functions. - Training students in microscopic examinations and observations. - Using presentations, videos, and microscopic images. Learning strategies - Student participation in activities, questions, and discussions. - Working in groups to carry out laboratory activities and applications. - Observing slides, cells, and tissues using a microscope. - Analyzing biological problems and questions to arrive at a solution. - Applying theoretical concepts through practical activities and experiments. .Utilize digital resources and educational videos	strategy
82. Course structure	

Theoretical aspect

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
a test		Introduction to Biology and Cells	The student should be able to define biology and distinguish between prokaryotic and eukaryotic cells, and between plant and .animal cells	2	1
a test	a lecture	Cell structure, types, shape and size	The student should identify the components of a cell and describe the shapes, sizes, and functions of the .cells	4	2 -3
a test	a lecture	Movement inside and outside cells	The student should explain the mechanisms of material transport	4	4 -5

			across the cell .membrane		
a test	a lecture	Cell division	The student should explain the stages of cell division and differentiate between Mitosis ,Meiosis , andAmitosis .	2	6
a test	a lecture	s	The student should be able to defineDNA and RNA and identify the structure and .function of each	2	7
a test	Lecture + Educational Video	DNA replication	should know the steps ofDNA replication and its importance in the .cell	2	8
a test	+ Lecture Educational Video	Protein synthesis	The student should explain the concept of protein synthesis and the roleof DNA andRNA .in it	2	9
a test	a lecture	epithelial tissues	The student should be able to define epithelial tissues, classify their types, and identify their .functions	4	10-11
a test	a lecture	muscle and nerve tissues	The student should describe the structure of muscle and nerve tissues and distinguish their .characteristics	4	12 -13
a test	a lecture	Connective tissues: bones and cartilage	The student should be able to identify connective tissues and differentiate between bone and cartilage in terms of structure and .function	2	14
Final exam	a lecture	Blood: red blood cells, white blood cells, and .lymph	The student should be able to distinguish the main components of blood, the functions ofRBC ,WBC and lymph and their importance in the .body	2	15

practical aspect

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
control practical	Direct application on * the microscope	The microscope, its components and types	The student should learn about the parts of the light microscope and the function of each part, and use it correctly	4	1
practical control	Slide presentation, microscopic examination	Cell structure, types, shape, and size	The student should be able to distinguish between prokaryotic and eukaryotic cells, and between animal and plant cells, and to recognize the shapes and sizes of cells under a microscope	8	2 +3
practical control	practical experience	Movement within and outside cells: diffusion, osmosis, and active transport	The student should be able to apply the principles of diffusion, osmosis, and active transport, and interpret the results of laboratory experiments	8	4 -5
practical control	Examination of microscopic slides, practical demonstration	Cell division: direct division, mitosis, and meiosis	The student should be able to identify the stages of cell division and distinguish between Amitosis, Mitosis and Meiosis through microscopic slides	4	6
Practical test + report writing	Practical demonstration	Nucleic acids: Deoxyribonucleic acid (DNA) and (Ribonucleic acid) RNA - (DNA replication	The student should be able to identify the structure of DNA and RNA and differentiate between them, and explain the concept of DNA replication using models or diagrams	8	7-8
Practical questions + report writing	Diagrams + Explanatory Video	Protein synthesis	The student should explain the basic stages of protein synthesis and the role of DNA and RNA in the process	4	9
practical control	Examination of microscopic slides	Human body tissues: Epithelial tissues	The student should be able to identify epithelial tissues and distinguish their types based on microscopic characteristics	8	10-11
practical control	Examination of microscopic slides	muscle and nerve tissues	The student should be able to distinguish between muscle and nerve tissues through their structure and	8	12 +13

			microscopic .characteristics		
practical control	Examination of microscopic slides	Connective tissues: bones and cartilage	The student should be able to identify connective tissue and differentiate between bone and cartilage under a .microscope	4	14
Practical test + final exam	Preparing and examining blood smears	Blood: red blood cells, white blood .cells, and lymph	The student should be able to identify the components of blood and distinguish between RBC, WBC, and lymphocytes using microscopic .slides	4	15

83.Course evaluation

100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, .oral, monthly, and written exams, reports, etc
)40 Annual grades divided into (25 + grades for theory 15 grades for practical work
)60 Final exam marks divided into (35 + marks for theory 25 marks for practical

84.Learning and teaching resources

- Clark, M. A., Douglas, M., & Choi, J. (2018). <i>Biology 2e</i> . - Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., & Reece, J.B. (2020). <i>Campbell biology in focus</i>. New York, NY: Pearson.	Required textbooks (methodology, if applicable)
- Alberts, B. (2017). <i>Molecular biology of the cell</i>. Garland science. - Pawlina, W., & Ross, M. H. (2018). <i>Histology: a text and atlas: with correlated cell and molecular biology</i>. Lippincott Williams & Wilkins. - Tortora, G. J., & Derrickson, B. H. (2008). <i>Principles of anatomy and physiology</i>. John wiley & sons.	Main references (sources)
- Cooper, G. M., & Adams, K. W. (2023). <i>The cell: a molecular approach</i>. Oxford University Press. - MD, ALK, & MD, LT (2021). <i>Histology and Cell Biology: An Introduction to Pathology 5th Edition</i> 2020. Book/Morphologia/Morfologiã, 15(1), 92-98. - Young, B. (2006). <i>Wheater's functional histology: a text and color atlas</i>. Elsevier Health Sciences TW.	Recommended supporting books and references (scientific journals, reports...)
- World Health Organization (WHO) . - NCBI Bookshelf – National Library of Medicine . - Khan Academy – Biology .	Electronic references, websites

Course description template

85.Course Name	
microbiology	
86.Course code	
ANEST110	
87.Semester/Year	
/ My second semester2025-2026	
88.Date this description was prepared	
11.7.2026	
89.Available forms of attendance	
Theoretical attendance in the classroom + practical laboratory work	
90.Number of study hours (total) / Number of units (total)	
:Number of hours6 Number of units /: 4	
91.Name of the course coordinator (if there is more than one, please mention .(it	
:Email .A -Name: M.M. Yasin Hamid Mohammed yasin.hamid@alfarabiuc.edu.iq	
92.objectives Course	
- To provide the student with the basic knowledge and practical skills necessary to deal with microorganisms in a healthcare setting - Basic understanding of microbiology: through understanding the nature of microorganisms (bacteria, fungi, viruses, and parasites) and their basic classifications.	Course objectives

- Mastering laboratory techniques through Understanding bacterial culture methods(Media and Culture) and the ability To deal with it in a laboratory setting.
- Understanding the mechanisms of antibiotic resistance through Understanding . how antibiotics work and the mechanisms by which bacteria resist them
- is through The causal awareness of the matter The link between the structure a microorganism (especially viruses and parasites) and its methods of reproduction and impact . the host On
- Understanding the immune response through Distinguishing between innate and acquired immunity, and understanding the mechanism of antigen interaction with antibodies, helps in understanding disease diagnosis.
- through Applying safety and sterilization standards Recognizing the "importance of "sterilization and disinfection . (Sterilization and Disinfection)

93. Teaching and learning strategies

Education strategies

- Providing the student with direct practical demonstrations by conducting sterilization experiments or pouring plates(Media) in front of the students before starting work to ensure a thorough understanding of the laboratory work steps.
- Present real-life cases (such as a bacterial infection in the operating room) and discuss with the student how to choose the appropriate antibiotic or the ideal disinfection method.
- Using multimedia (3D videos) to explain the structure of viruses or complex immune mechanisms to approximate abstract concepts.

Learning strategies

- Cooperative learning involves dividing students into small groups within the laboratory to conduct microscopic examinations or culture bacteria, which enhances the required teamwork skills.
- Give the student an unknown sample and ask them to identify its type (bacteria, fungi, or parasites) based on the characteristics they have studied.
- The student draws mind maps linking the types of antibodies and their interactions with the antigen to facilitate memorization of complex information in immunology.

strategy

94. Course structure

Theoretical aspect

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
a test		microorganisms	Definition of microorganisms and their types	2	1
duty	a	Bacteria: Classification, Structure, and Functions	Classifying bacteria and	2	2

	lecture		understanding their structure and functions		
a test	a lecture	a	Identifying culture media, their types, and their uses	2	3
a test	a lecture	Antibiotics and antibiotic resistance	Understanding the mechanism of action of antibiotics and bacterial resistance	2	4
a test	a lecture	Fungi: their characteristics, reproduction, and classification	Distinguishing fungi, their methods of reproduction, and their classification	2	5
a test	a lecture	e	Understanding the structure of viruses	2	6
a test	Lecture + Educational Video	Viruses: Classification and Replication	An explanation of virus classification and replication mechanisms	2	7
a test	a lecture	Parasite: Introduction, Host-Host Relationship, and Diagnosis	Understanding the parasite-host relationship and its diagnosis	2	8
a test	a lecture	Types of parasites	Parasite classification	2	9
a test	a lecture	Parasitic worms: structure and classification	Study of worms, their structure and classification	2	10
a test	a lecture	The immune system (innate immunity)	Understanding innate immunity and its mechanisms	2	11
a test	a lecture	The immune system (acquired immunity)	Understanding acquired immunity	2	12
a test	a lecture	Antigen and antibodies	Definition of antigens and antibodies	2	13
a test	a lecture	antigen-antibody reaction	Explanation of immune reactions	2	14
Final exam	a lecture	Sterilization and disinfection	Understanding sterilization and disinfection methods	2	15

practical aspect

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
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control practical	Direct application on * the microscope	microorganisms	* Familiarization with laboratory tools, equipment, and biosafety rules. Using a light * microscope to explore the sizes and shapes of microorganisms.	4	1
practical control	*Bacterial staining experiment Inspection of prepared chips	Bacteria: Classification, Structure, and Functions	Distinguishing the * shapes of bacteria and their basic structures under a microscope Mastering the skill of *) compound staining Gram Stain to distinguish (between Gram positive and Gram negative	4	2
practical control	Preparing and processing culture media		Identifying culture media, their types, and their uses	4	3
practical control	*Performing a sensitivity test on Mueller-Hinton media. Read the results and * compare them to the standard table.	Antibiotics and antibiotic resistance	Understanding and applying antibiotic susceptibility testing of bacteria Measurement and * interpretation of inhibition zones	4	4
practical control	Examination of fungal slides and drawing of reproductive structures.	Fungi: their characteristics, reproduction, and classification	Identifying the morphological characteristics of fungi (molds and yeasts).	4	5
Report writing	Demonstration/Tutorial Video on Diagnostic Mechanisms.		Understanding the practical concepts of dealing with viruses and the diagnostic methods used. Learn about the serological and molecular tests used in detection (Serology & PCR basics).	8	6 -7
practical control	Examination of clinical and microscopic samples	Parasitology : Introduction Host-Host Relationship and , Diagnosis	Understanding the parasite-host relationship and methods of direct diagnosis	4	8
practical control	Examination of prepared slides for the morphological features of parasites	Types of parasites	Distinguishing between the main groups of parasites under a microscope. Identifying the different *	4	9

			stages of the parasite (Trophozoite, Cysts, Eggs)		
Report writing		Parasitic worms: structure and classification	Examination of prepared slides for the morphological features of parasites	4	10
practical control	Performing a blood smear and staining it with (Leishman/Giemsa).	The immune system (innate immunity) Acquired immunity	Understanding the components of the immune system and isolating white blood cells	8	11 -12
practical control	Performing a blood typing test (Blood Grouping)	Antigen and antibodies	antigen- and antibody- based immune reactions	4	13
practical control	Performing serological tests practically (such as Widal or CRP)	antigen- antibody reaction	Application of advanced * immunoagglutination and precipitation tests	4	14
Practical test + final exam	Applying a process for sterilization using heat and pressure.	Sterilization and disinfection	Distinguishing between sterilization and disinfection methods used in surgery and anesthesia	4	15

95.Course evaluation

100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, .oral, monthly, and written exams, reports, etc
)40 Annual grades divided into (25 + grades for theory 15 grades for practical work
)60 Final exam marks divided into (35 + marks for theory 25 marks for practical

96.Learning and teaching resources

• Tille, PM Bailey & Scott's Diagnostic Microbiology . Elsevier . • Murray, PR, Rosenthal, KS, & Pfaller, MA Medical Microbiology . Elsevier .	Required textbooks (methodology, if applicable)
• Murray, PR, Rosenthal, KS, & Pfaller, MA Medical Microbiology . Elsevier . • Jawetz, Melnick & Adelberg's Medical Microbiology . McGraw-Hill Education. • Tille, PM Bailey & Scott's Diagnostic Microbiology . Elsevier. • Carroll, KC, et al. Manual of Clinical Microbiology . ASM Press.	Main references (sources)
• Madigan, MT, et al. Brock Biology of Microorganisms . Pearson . • Willey, J.M., Sherwood, L., & Woolverton, C.J Prescott's Microbiology . McGraw-Hill. • Clinical Microbiology Reviews – American Society for Microbiology (ASM).	Recommended supporting books and references (scientific journals, reports...)
• World Health Organization (WHO) .	Electronic references, websites

- Centers for Disease Control and Prevention (CDC).
- American Society for Microbiology (ASM) .
- National Center for Biotechnology Information (NCBI).

Course description template

97.Course Name	
Medical Physics	
98.Course code	
ANEST101,102	
99.Semester/Year	
/ My second semester2025-2026	
100. Date this description was prepared	
11.7.2026	
101. Available forms of attendance	
Theoretical attendance in the classroom + practical laboratory work	
102. Number of study hours (total) / Number of units (total)	
:Number of hours6 Number of units /: 4	
103. Name of the course coordinator (if there is more than one, please .(mention it	
:Ayyil - Al Taqa Akram successor Hassan .Name: M taqa.akram@alfarabiuc.edu.iq	
104. objectives Course	
• identification Students In principles Physical Basic Related jobs devices body man and its applications Medical. •to explain Principles Physical To work The device My heart vascular And link it By measurements and indicators Medical. • Recognition on basics laser Its characteristics And most important Its applications in Medicine. • clarification concept electricity inside body and signals Electric Vitality and principles Register it And its measurement. • statement Applications electricity and magnetism in Fields Medical Diagnostic And therapeutic. • Recognition on features light And the voice and their applications in Medicine. • presentation basics Physics nuclear Medicine nuclear Treatment radioactive and principles Protection from Radiation.	Course objectives

• Development capacity Students on explanation phenomenon Physical Medical In picture Scientific And link it . With applications Clinical					
105. Teaching and learning strategies					
• Theoretical lectures organized using PowerPoint graphics, and , .diagrams • Classroom discussions and interactive questions during the .lecture • Solving physics problems and examples related to medical .applications • Simplified case studies and clinical examples to link theoretical .concepts to medical practice • Use educational videos and images when needed to illustrate .devices and phenomena • Assigning students short assignments or reports on applications .of medical physics • .Self-learning and external reading from scientific references					strategy
106. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
a test	a lecture	Physics of Cardiovascular System	Understanding the physical principles related to the cardiovascular system and linking them to medical .applications	2	1
duty	Lecture + Problem Solving + Applications	Physics of Cardiovascular System	T. Tafseer Physical concepts related to pressure, flow and resistance , in the circulatory system	2	2
Oral questions	Lecture + Practical Demonstration	Physics of Cardiovascular System	Analysis of some physical phenomena and measurements related to the cardiovascular	2	3

			system		
a test	a lecture	Laser in Medicine	Understanding the principles of lasers, their basic properties, and their applications in the medical field	2	4
a report	+ Lecture Explanatory Video	Laser in Medicine	Explaining the interaction of lasers with tissues and their most important medical applications	2	5
a test	a lecture	Electricity within the Body	to understand Concepts Basic For electricity electrical signals inside the human body	2	6
a report	a lecture	Electricity within the Body	Interpreting bioelectrical signals and linking them to medical applications	2	7
Oral questions	Lecture + Practical Application	Electricity within the Body	Applying electrical concepts to the interpretation of certain phenomena and biometric measurements	2	8
seminar	Lecture + Discussion + Applications	Application of Electricity and Magnetism in Medicine	Understanding the basic principles of applying electricity and magnetism in the medical field	2	9

a report	Lecture + Practical Application	Application of Electricity and Magnetism in Medicine	Linking electrical and magnetic principles to medical devices and applications	2	10
a test	Lecture + Applications	Light in Medicine	Understanding the properties of light and linking them to medical applications	2	11
a report	Lecture + Practical Application	Sound in Medicine	Understanding the properties of sound waves and identifying their applications in the medical field	2	12
a test	a lecture	Physics of Nuclear Medicine	Understanding the basic principles of nuclear physics and their applications in nuclear medicine	2	13
a report\ seminar	+ Lecture Photo Presentation	Radiotherapy	Understanding the basic physical principles of radiation therapy and linking them to medical applications	2	14
Final exam	a lecture	Radiation Protection	identification On the principles of radiation protection and methods of reducing exposure and radiation hazards	2	15

107. Course evaluation

100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc

40 Annual grades divided into (25 + grades for theory 15 grades for practical work

60 Final exam marks divided into (35 + marks for theory 25 marks for practical

108. Learning and teaching resources

• Cameron, JR & Skofronick, JG, <i>Medical Physics</i> . • Hobbie, RK & Roth, BJ, <i>Intermediate Physics for Medicine and Biology</i>	Required textbooks (methodology, if applicable)
• Hobbie, RK & Roth, BJ, <i>Intermediate Physics for Medicine and Biology</i> . • Bushberg, JT et al., <i>The Essential Physics of Medical Imaging</i> . • Podgorsak, E.B., <i>Radiation Physics for Medical Physicists</i> . • Khan, FM & Gibbons, JP, <i>The Physics of Radiation Therapy</i> .	Main references (sources)
• <i>Journal of Applied Clinical Medical Physics (JACMP)</i>. • <i>Physics in Medicine and Biology</i>. • <i>Physica Medica – European Journal of Medical Physics</i>. • <i>AAPM Reports – American Association of Physicists in Medicine</i>.	Recommended supporting books and references (scientific journals, reports...)
• International Atomic Energy Agency (IAEA) – Human Health Campus • American Association of Physicists in Medicine (AAPM) – Education and Publications • National Center for Biotechnology Information (NCBI) – Bookshelf • PubMed – National Library of Medicine	Electronic references, websites

Course Description

109. Course Name	
Computer Principles1+2	
110. Course code	
ANEST112,113	
111. Semester/Year	
2026-2025	
112. Date this description was prepared	
26.7.2026	
113. Available forms of attendance	
Theoretical attendance in the classroom	
114. Number of study hours (total) / Number of units (total)	
:Number of hours3 Number of units /: 2	
115. .Name of the course coordinator (if there is more than one, please mention it)	
:Name: M.M. Haider Mahmoud Hassan Emailhadermaster76@gmail.com	
116. objectives Course	
• Teaching the student the basic rules for • dealing with and managing the computer to help him complete projects, print materials, prepare statistics and graphs, create presentations, design engineering .plans, and more • Specific objective: To teach the student • how to use the computer, given the role of the internet in many fields, including education, scientific research, commerce, and marketing through electronic correspondence, web pages, .and electronic chat	Course objectives

117. Teaching and learning strategies

It includes all teaching procedures and educational practices that aim to activate the student's role and transform him from a recipient and listener of information to a central focus in his learning process, where learning takes place through work, research, and the student's self-reliance in acquiring knowledge	strategy
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118. Course structure

Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
discussion	Theoretical lecture	Computer course, generations, data, and information	Understanding and comprehension	2	1
homework	Theoretical lecture	Computer characteristics, areas of use, and components	Understanding and comprehension	2	2
Short test	Theoretical lecture	Types of computers and their classification	Understanding and comprehension	2	3
discussion	Theoretical lecture	Computer components: Hardware, input/output devices	Understanding and comprehension	2	4
Short test	Theoretical lecture	Computer architecture and software	Understanding and comprehension	2	5
homework	Theoretical lecture	Setup systems and personal computers	Understanding and comprehension	2	6
Written exam	Theoretical lecture	Computer platforms and factors to consider when buying a computer	Understanding and comprehension	2	7
discussion	Theoretical lecture	Key features of personal computers and chapter questions	Understanding and comprehension	2	8
Short test	Theoretical lecture	Ethics of online work, types of violations, and computer security	Understanding and comprehension	2	9
homework	Theoretical lecture	Intellectual property and cyber piracy	Understanding and comprehension	2	10
discussion	Theoretical lecture	Cyber piracy and its types	Understanding and comprehension	2	11
Short test	Theoretical lecture	The most common sources of hacking and security risks	Understanding and comprehension	2	12
homework	Theoretical lecture	Malware - Computer Viruses	Understanding and comprehension	2	13
Open discussion	Theoretical lecture	The damage caused by viruses and their characteristics	Understanding and comprehension	2	14

119. Course evaluation

The grade out of 100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc marks for annual coursework, divided into 25 marks for theory + 15 marks for practical work 40

Final exam marks divided into 35 marks for theory + 25 marks for practical (60)

120. Learning and teaching resources

Computer Fundamentals and Office Applications- Ministry of Higher Education and Scientific Research - Research and Development Department	Required textbooks (methodology, if applicable)
Yusr Al-Mustafa Science Series: Computer " " and Internet Fundamentals	Main references (sources)
Computing Fundamentals, Innovative training works USA, Inc, 2006	Recommended supporting books and references (scientific journals, reports...)
-	Electronic references, websites