

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



**Academic Program
and Course
Description Guide
Al-Ayen Iraqi University**

2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: AL-Ayen Iraqi National University

Faculty/Institute: College of Health and Medical Technologies

Scientific Department: . Dept. of Anesthesia techniques

Academic or Professional Program Name: College of Health and Medical Technologies/Department of Anesthesia Technologies

Final Certificate Name: Bachelor of Anesthesia Techniques

Academic System: semester

Description Preparation Date: 2025

File Completion Date: 22/1/2025

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

1. Program Vision

The Department of Anesthesia will be a distinguished academic and research center at the local and international levels, contributing to the development of the field of anesthesia and providing quality health services.

2. Program Mission

Preparing specialized cadres in the field of anesthesia capable of providing distinguished medical services, and promoting scientific research to develop medical technologies in a way that contributes to serving society and achieving sustainable development.

3. Program Objectives

1. Providing high-quality education in the field of anesthesia through an advanced academic environment.
2. Establishing advanced laboratories that allow practical training according to the latest medical technologies.
3. Encouraging scientific research and creativity in the field of anesthesia and related specialties.
4. Enhancing cooperation with health institutions and research centers locally and internationally.
5. Qualifying graduates capable of meeting the needs of the labor market and contributing to improving health care.
6. Establishing a virtual operating room that simulates what is found in teaching hospitals
7. Utilizing artificial intelligence technologies to develop students' skills

4. Program Accreditation

Under preparation

5. Other external influences

Theoretical study + educational laboratories

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2025/ First year	MTAN1104	Biochemistry	theoretical	30
			practical	60

8. Expected learning outcomes of the program

A.Knowledge	
Learning Outcomes	1. Basic principles of biochemistry and their applications 2. Understanding protein metabolism and associated abnormalities 3. Understanding factors affecting enzyme activity and enzyme inhibition 4. Linking diseases to abnormal changes in blood and other body components
B.Skills	
Learning Outcomes	1. The ability to conduct chemical experiments safely and accurately. 2. Use laboratory tools and equipment correctly. 3. Analyze chemical data and interpret results. 4. Apply chemical knowledge to solve practical problems.
C.Ethics	
Learning Outcomes	1. Commitment to the ethics of scientific research and professional practice. 2. Awareness of the importance of safety in chemical laboratories. 3. Appreciation of the role of chemistry in society and solving environmental and industrial problems. 4. Commitment to updating knowledge and skills through participation in training courses and scientific conferences

9. Teaching and Learning Strategies

- Blended learning
- Lectures (interactive)
- Online lectures (interactive)

- Use of strategy, collaborative learning, discussion, brainstorming and practical discussion
- Problem solving

10. Evaluation methods

- 1- Midterm and final exams
- 2- Written exams
- 3- Lab reports

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Dr. ahmed jaber ibrahim	biochemistry	Clinical chemistry				1

Professional Development

Mentoring new faculty members

Professional development of faculty members

1. Participation in training courses held within the college.
2. Participation in professional courses held within the college within the prescribed curricula, as well as professional education courses
3. There are specific units within the personal development programme that give students the opportunity and encourage them to engage in professionally relevant qualifications that allow students to reflect on their professional development.

12. Acceptance Criterion

This is done according to the acceptance rate in the medical group (College of Medical and Health Technologies) within the electronic form approved by the Ministry of Higher Education and Scientific Research.

13. The most important sources of information about the program

1. The official website of the college or university: Colleges and universities provide a special section on their official websites that contains:

- Description of the study program.
- Curricula and academic plan.
- Admission and registration requirements.
- Job opportunities after graduation.

Example: Visit the website of the Ministry of Higher Education or the website of the technical university that offers the program.

2. Academic guides

Academic guides published by colleges, such as the student guide, which contain comprehensive information about the program, objectives, and study plans.

Department Professors

Communicating with program professors or teaching staff is a valuable resource for understanding the nature of the study, its requirements, and its future prospects.

4. Program Students and Graduates

Current students or graduates can share their personal experience about the program, its difficulties, and the best ways to succeed in it.

5. Scientific articles and research

View research and articles related to anesthesia techniques published in:

Medical journals.

Academic databases such as PubMed, Elsevier, Springer.

6. Specialized books and references

Scientific books on anesthesia techniques, including topics such as:

Basics of anesthesia.

Use of devices and technology in anesthesia.

Critical case management.

7. Conferences and workshops

Attend medical conferences or workshops that address the latest developments in the field of anesthesia techniques.

14. Program Development Plan

1. Curriculum Development

- **Updating Academic Content:**

- Introduce new courses covering advanced anesthesia techniques, such as smart anesthesia and image-guided anesthesia.
- Add specialized courses in emerging fields, such as pediatric and geriatric anesthesia techniques.

- **Aligning with Global Standards:**

- Benchmark the curriculum against similar international programs and ensure compliance with global accreditation standards.

- **Enhancing Practical Training:**

- Increase the number of hours dedicated to hands-on training in hospitals

2. Upgrading Infrastructure

- **Modern Laboratories:**

- Equip simulation labs with advanced anesthesia systems to train students for real-world scenarios.

- **Advanced Equipment:**

- Provide state-of-the-art devices, such as automated anesthesia machines, patient monitoring systems, and mechanical ventilators.

3. Strengthening Practical and Clinical Training

- **Partnerships with Hospitals:**

- Establish agreements with leading hospitals and medical centers to offer students extensive field training opportunities.

- **Advanced Training Programs:**

- Provide specialized training opportunities locally and internationally, such as regional anesthesia and advanced surgical anesthesia.

4. Faculty Development

- **Skill Enhancement for Instructors:**

- Offer training workshops for faculty members on the latest techniques and teaching methodologies.
- Recruit professionals and practitioners in the field of anesthesia to enrich the teaching experience and bring practical expertise.

5. Advancing Scientific Research

- **Encouraging Student Research:**

- Motivate students to conduct research on anesthesia techniques and present their findings at scientific

conferences.

6. Developing Students' Professional and Soft Skills

- **Soft Skills Training:**
 - Conduct workshops on communication skills for interacting with medical teams and patients.
 - **Safety and Quality Principles:**
 - Promote a culture of patient safety and risk management during surgeries.
-

7. Enhancing Employment Opportunities for Graduates

- **Graduate Follow-Up Office:**
 - Support graduates in securing job opportunities through partnerships with hospitals and healthcare facilities.
 - **Career Fairs:**
 - Organize career fairs to connect students with employers in the healthcare sector.
-

8. Integrating Technology in Education

- **E-Learning Platforms:**
 - Implement e-learning systems and virtual simulation tools for teaching theoretical and practical courses.

9. Community Engagement

- **Raising Awareness of Anesthesia Technologists' Role:**
 - Organize seminars and awareness campaigns to highlight the importance of the anesthesia technologist profession.
- **Continuous Education Programs:**
 - Offer continuing education programs for professionals to update their skills and knowledge.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2025/ first level	MTAN1104	Biochemistry	Basic	√	√	√	√	√	√	√	√	√	√	√	√

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name:	
biochemistry	
2. Course Code:	
MTAN1104	
3. Semester / Year:	
Semester (1) / 1 st level	
4. Description Preparation Date:	
22/3/2025	
5. Available Attendance Forms:	
Full-time and official attendance hours	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Lecture: 2 , Practical: 4 , Total: 6 (2+4)	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecture Dr. ahmed jaber ibrahim Email: ahmed.jibrahim@alayen.edu.iq.	
8. Course Objectives	
General objective: By the end of the academic year, the student will be able to perform various techniques for descriptive and quantitative analysis of blood components and other body fluids in humans in both healthy and diseased states.	Specific Objectives: By the end of the year, the student will be able to: 1. Understand the basic principles of biochemistry and their applications. 2. Relate diseases to abnormal changes in blood and body fluid components. 3. Be able to collect and process biological samples. 4. Be able to use and maintain laboratory equipment and instruments. 5. Be able to estimate blood and other body fluid components both qualitatively and quantitatively. 6. Be able to work safely in laboratories.
9. Teaching and Learning Strategies	
Strategy	Blended learning • Lectures (Interactive) - Online Lectures (Interactive) - Role play - Team-based learning (group discussion, presentation) - Discussion - Problem solving
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Metabolism of protein abnormalities.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
2	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Enzymes, definition, classification, general properties and function.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
3	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Factors affecting enzymes activity, enzyme inhibition.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
4	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Enzymes in clinical diagnosis	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
5	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Vitamins and coenzymes, fat soluble vitamins, water soluble vitamins.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
6	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Nutrition and energy requirements.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation)	Midterm exams Final exams evaluations

				Discussion Problem solving	
7	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Hormones, definition, chemical nature, steroid hormones, proteins, amines.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
8	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Liver function tests, bilirubin, conjugated and non conjugated bile pigment, Brom Sulfone Phthalien (BSP), diagnosis of various types of jaundice.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
9	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Liver diseases, hepatitis, cirrhosis, necrosis.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
10	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Changes in serum enzymes in liver disease.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
11	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Biosynthesis and catabolism of fatty acids	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
12	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Steroid Biosynthesis, Nitrogen metabolism	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion	Midterm exams Final exams evaluations

				Problem solving	
13	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Kidney function tests, measurement of glomerular filtration, tubular filtration, renal blood flow.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
14	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Formation and composition of urine, changes in urine volume, specific gravity, constituents.	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations
15	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Urea, urea clearance test, creatinine, creatinine clearance test, insulin test, phenol sulfonphthalein (PSP), concentration test, dilution test	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning presentation) Discussion Problem solving	Midterm exams Final exams evaluations

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Non
Main references (sources)	1. Lehninger Principles of Biochemistry" by David Nelson and Michael M. Cox
Recommended books and references (scientific journals, reports...)	Handbook of biochemistry
Electronic References, Websites	University educational platform

وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
جامعة العين العراقية

كلية التقنيات الصحية و الطبية قسم التخدير

نموذج وصف المقرر

1. اسم المقرر:
اساسيات الحاسوب
2. رمز المقرر:
MTAN1109
3. الفصل/ السنة:

2025-2024-الفصل الثاني					
4. تاريخ إعداد هذا الوصف:					
2025-2-15					
5. اشكال الحضور المتاحة :					
القاء المحاضرات حضوريا					
6. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي)					
60 \ ساعة 4 وحدات					
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)					
الاسم : م.م فاطمة غالي دحل					
الايميل: fatema@alayen.edu.iq					
8. اهداف المقرر					
اهداف المادة الدراسية : 1 اكساب الطالب مهارات التعامل مع التطبيقات المكتبية الأساسية وانشاء الملفات والمستندات المكتبية. واستخدام نظام التشغيل فضلا عن اساسيات العمل ضمن البيئة الرقمية. 2 اكساب الطالب المعرفة في ادارة واستخدام تطبيقات الحاسوب المختلفة			1- يكون قادر على تشغيل الحاسوب بشكل سهل 2- اجراء تجارب لانشاء وادارة الملفات في أنظمة التشغيل الأساسية 3- القدرة على استخدام بعض البرمجيات الضرورية لكتابة النصوص		
9. استراتيجيات التعليم والتعلم					
الاستراتيجية			التعليم النشط: المناقشات الجماعية : تشجيع الطلاب على المشاركة في مناقشات تفاعلية حول مواضيع دراسية مما يعزز التفكير النقدي والتعبير عن الاراء التعليم القائم على المشاريع : مشاريع جماعية : تكليف الطلاب بمشاريع تتطلب البحث والتعاون مثل اعداد تقارير او تقديم عروض تقديمية. مشاريع فردية: تشجيع الطلاب على اجراء ابحاث مستقلة حول مواضيع تهمهم مما يعزز من مهارات الكتابة حول اختصاصاتهم		
10. بنية المقرر					
الاسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	2 ساعة نظري 2 ساعة عملي	أ1 / أ2 / أ3 ج 1 / ج 2	مقدمة عن تشغيل برنامج مايكروسوفت وورد مكونات واجهة البرنامج	محاضرات نظرية و عملية	امتحان في اخر 10 دقائق
2	2 ساعة نظري 2 ساعة عملي	أ1 / أ2 / أ3 ج 1 / ج 2	تبويب ملف تبويب ادراج	محاضرات نظرية و عملية	شرح تقارير من قبل الطلاب
3	2 ساعة نظري	أ1 / أ2 / أ3 ج 1 / ج 2	تبويب الصفحة الرئيسية تبويب التصميم	محاضرات نظرية و عملية	اسئلة العصف الذهني في نهاية

المحاضرة				2 ساعة عملي	
توزيع الطلاب على شكل مجاميع والتطبيق على الاجهزة	محاضرات نظرية و عملية	تبويب مراجعة وتدقيق اللغة والتعليقات بالإضافة الى المميزات الأخرى التي يوفرها البرنامج والتبويبات والأشرطة الأخرى	أ1 / 2 / 3 ج 1 / 2	4ساعات نظري 4ساعة عملي	5+4
امتحان شفوي	محاضرات نظرية و عملية	مقدمة عن تشغيل برنامج مايكروسوفت اكسل مكونات واجهة البرنامج	أ1 / 2 / 3 ج 1 / 2	2 ساعة نظري 2 ساعة عملي	6
العمل على تشغيل الاجهزة	محاضرات نظرية و عملية	تبويب ملف تبويب ادراج	أ1 / 2 / 3 ج 1 / 2	2 ساعة نظري 2 ساعة عملي	7
امتحان في اخر 10 دقائق	محاضرات نظرية و عملية	تبويب الصفحة الرئيسية تبويب بيانات	أ1 / 2 / 3 ج 1 / 2	2 ساعة نظري 2 ساعة عملي	8
نوجبه الاسئلة الشفهية	محاضرات نظرية و عملية	الدوال الرياضية في برنامج الاكسل الدوال الإحصائية في برنامج الاكسل الدوال المنطقية في برنامج الاكسل بالإضافة الى الدوال الأخرى	أ1 / 2 / 3 ج 1 / 2	4ساعات نظري 4ساعة عملي	9+10
اسئلة حوارية اثناء المحاضرة	محاضرات نظرية و عملية	برنامج تشغيل مايكروسوفت بوربوينت مكونات واجهة البرنامج الرئيسية	أ1 / 2 / 3 ج 1 / 2	4ساعات نظري 2ساعة عملي	12+11
توجيه الاسئلة المباشرة للطلبة	محاضرات نظرية و عملية	التصميم بالإضافة الى التبويبات الأخرى مثل الانتقالات و الرسوم المتحركة و عرض الشرائح	أ1 / 2 / 3 ج 1 / 2	2 ساعة نظري 4 ساعة عملي	13
اسئلة شفوية	محاضرات نظرية و عملية	-نبذه تاريخية عن الأنترنت والبريد الإلكتروني -استخدامات الأنترنت في الجوانب العملية	أ1 / 2 / 3 ج 1 / 2	2 ساعة نظري 2 ساعة عملي	14

اسئلة حوارية اثناء المحاضرة	محاضرات نظرية و عملية	متصفحات الويب	أ1 / 2 / 3 ج 1 / ج 2	2 ساعة نظري 2 ساعة عملي	15
11. تقييم المقرر					
توزع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير السعي 40(25 نظري & 10 عملي & 5 حضور وامتحانات يومية) النهائي 60(35 نظري & 25 عملي)					
12. مصادر التعلم والتدريس					
beginning Microsoft Word 2010, by T. Anderson, Guy Hart-Davis			الكتب المقررة المطلوبة (المنهجية أن وجدت)		
			المراجع الرئيسة (المصادر)		
www.dcc.vccs.edu/TLTR/Blackboard9			الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية , التقارير...)		
ogle scholar , pumped and web of science			المراجع الالكترونية, مواقع الانترنت		

Academic Program Description Form

University Name: Alayen university.....

Faculty/Institute: Health and Medical Technologies

Scientific Department: Anesthesia Department

Academic or Professional Program Name: .. Health and Medical Technologies/.
Anesthesia Department

Final Certificate Name: Bachelor of Anesthesia Techniques

Academic System: Annual

Description Preparation Date: 18/3/2025

File Completion Date: 18/3/2025

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision
The Department of Anesthesia will be a distinguished academic and research center at the local and international levels, contributing to the development of the field of anesthesia and providing quality health services.

2. Program Mission
Preparing specialized cadres in the field of anesthesia capable of providing

distinguished medical services, and promoting scientific research to develop medical technologies in a way that contributes to serving society and achieving sustainable development.

3. Program Objectives

1. Providing high-quality education in the field of anesthesia through an advanced academic environment.
2. Establishing advanced laboratories that allow practical training according to the latest medical technologies.
3. Encouraging scientific research and creativity in the field of anesthesia and related specialties.
4. Enhancing cooperation with health institutions and research centers locally and internationally.
5. Qualifying graduates capable of meeting the needs of the labor market and contributing to improving health care.
6. Establishing a virtual operating room that simulates what is found in teaching hospitals
7. Utilizing artificial intelligence technologies to develop students' skills

4. Program Accreditation

Under preparation

5. Other external influences

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
first		Microbiology	4	2*2

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	- The student learned what are microorganism, their general characteristics, and their classification, structure and function, 2- Study bacteria: their structure, classification, and their role in the environment, and what are the bacterial diseases affect humans (Diagnosis, prevention, treatments) 3- Learn methods of laboratory analysis of pathogenic microorganisms. 4- Definition of antibiotics and antibiotic resistance 5- Study of the fungi: their structure and classification, and what are the fungal diseases that infect humans (diagnosis, prevention, treatment). 6- Study of the viruses: structure and classification, and what are the viral diseases that infect humans (diagnosis, prevention, treatment). 7- Study of the parasites: their relationship with the host, classification, and what are the parasitic diseases that infect humans (diagnosis, prevention, treatment). 8- Learn methods of sterilizing and disinfecting tools, materials, and surfaces to kill microorganisms that are pathogenic to humans. 9- immune system, reactions between antigens and antibodies, the innate and adaptive immunity.
Skills	
	1- Gain experience and knowledge in the field of human pathogenic microorganisms ((diagnosis, prevention, treatment). 2- Knowledge of the rang of scientific research in the field microbiology.
Ethics	
	1- Accurate and correct understanding of human pathogenic microorganisms, their infection, their pathogenic effects, treatment and prevention. 2- Interacting with recent developments in the field: Detection and elimination of the biological pathogens 3- Commitment to updating knowledge and skills through participation in training courses and scientific conferences in the field of medical microbiology.

9. Teaching and Learning Strategies

Blended learning
• Lectures (Interactive)
Online Lectures (Interactive)
Tutorial
Role play
Computer-based learning (computers e-learning, free downloadable software usage, Webinar)
Team-based learning (group dissuasion, presentation)
Discussion
Case study
Problem solving

10. Evaluation methods
Midterm and final exam
Evaluations

11.Faculty						
Faculty Members						
Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer

Professional Development
Mentoring new faculty members
Professional development of faculty members
1. Participation in training courses held within the college. 2. Participation in professional courses held within the college within the prescribed curricula, as well as professional education courses

12. Acceptance Criterion

This is done according to the acceptance rate in the medical group (College of Medical and Health Technologies) within the electronic form approved by the Ministry of Higher Education and Scientific Research.

13. The most important sources of information about the program

1. The official website of the college or university: Colleges and universities provide a special section on their official websites that contains:

- Description of the study program.
- Curricula and academic plan.
- Admission and registration requirements.
- Job opportunities after graduation.

Example: Visit the website of the Ministry of Higher Education or the website of the technical university that offers the program.

2. Academic guides

Academic guides published by colleges, such as the student guide, which contain comprehensive information about the program, objectives, and study plans.

Department Professors

Communicating with program professors or teaching staff is a valuable resource for understanding the nature of the study, its requirements, and its future prospects.

4. Program Students and Graduates

Current students or graduates can share their personal experience about the program, its difficulties, and the best ways to succeed in it.

5. Scientific articles and research

View research and articles related to anesthesia techniques published in: Medical journals.

Academic databases such as PubMed, Elsevier, Springer.

6. Specialized books and references

Scientific books on anesthesia techniques, including topics such as: Basics of anesthesia.

Use of devices and technology in anesthesia.

Critical case management.

7. Conferences and workshops

Attend medical conferences or workshops that address the latest developments in

the field of anesthesia techniques.

14. Program Development Plan

. Curriculum Development

- Updating Academic Content:
 - o Introduce new courses covering advanced anesthesia techniques, such as smart anesthesia and image-guided anesthesia.
 - o Add specialized courses in emerging fields, such as pediatric and geriatric anesthesia techniques.
- Aligning with Global Standards:
 - o Benchmark the curriculum against similar international programs and ensure compliance with global accreditation standards.
- Enhancing Practical Training:
 - o Increase the number of hours dedicated to hands-on training in hospitals

2. Upgrading Infrastructure

- Modern Laboratories:
 - o Equip simulation labs with advanced anesthesia systems to train students for real-world scenarios.
- Advanced Equipment:
 - o Provide state-of-the-art devices, such as automated anesthesia machines, patient monitoring systems, and mechanical ventilators.

3. Strengthening Practical and Clinical Training

- Partnerships with Hospitals:
 - o Establish agreements with leading hospitals and medical centers to offer students extensive field training opportunities.
- Advanced Training Programs:
 - o Provide specialized training opportunities locally and internationally, such as regional anesthesia and advanced surgical anesthesia.

4. Faculty Development

- Skill Enhancement for Instructors:
 - o Offer training workshops for faculty members on the latest techniques and teaching methodologies.
 - o Recruit professionals and practitioners in the field of anesthesia to enrich the teaching experience and bring practical expertise.

5. Advancing Scientific Research

- Encouraging Student Research:
 - o Motivate students to conduct research on anesthesia techniques and present their findings at scientific conferences.

6. Developing Students' Professional and Soft Skills

- Soft Skills Training:
 - o Conduct workshops on communication skills for interacting with medical teams and patients.
- Safety and Quality Principles:
 - o Promote a culture of patient safety and risk management during surgeries.

7. Enhancing Employment Opportunities for Graduates

- Graduate Follow-Up Office:
 - o Support graduates in securing job opportunities through partnerships with hospitals and healthcare facilities.
- Career Fairs:
 - o Organize career fairs to connect students with employers in the healthcare sector.

8. Integrating Technology in Education

- E-Learning Platforms:
 - o Implement e-learning systems and virtual simulation tools for teaching theoretical and practical courses.

9. Community Engagement

- Raising Awareness of Anesthesia Technologists' Role:
 - o Organize seminars and awareness campaigns to highlight the importance of the anesthesia technologist profession.
- Continuous Education Programs:
 - o Offer continuing education programs for professionals to update their skills and knowledge.

Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
		Microbiology	basic	√	√	√	√	√	√	√	√	√	√	√	√

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name: Microbiology					
2. Course Code:					
3. Semester / Year: First level					
4. Description Preparation Date: 22/1/2025					
5. Available Attendance Forms:					
Full-time and official attendance hours					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Lecture: 2 , Practical: 2 , Total: 4 (2+2)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Amal Ebrahim Dayoub Email: aamaldd@yahoo.com					
8. Course Objectives					
Course objectives: The teaching of the course aims to provide students with basic knowledge about microbiology and their types and role in the environment, and the classification of pathogenic microorganisms, methods of diagnosis and treatment, the immune system and types of immunity.			At the end of the year, the student will be aware of the types of microorganisms and their pathogenic effects on humans Students learn various methods for diagnosing diseases caused by microorganisms. Students will learn the various methods and the range of chemical materials used in sterilization and disinfection.		
9. Teaching and Learning Strategies					
Strategy					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	A 1/A2/A4	The microorganism	Lectures (Interactive) Online	Midterm exams Final exams

		B1/B2/B3/B4 C1/C2/C3/C4		Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	evaluations
2+3	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Bacteria: classification structure and function	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
4	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Media and culture	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
5	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Fungi: characteristics reproductive classification	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
6	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Virus: structure classification reproductive	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
7	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Parasites: introduction parasite and host relationship, diagnosis	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations

8	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Class of parasites (protozoa, helminths and ectoparasites)	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
9	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Helminthes: Structure and classification	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
10+11	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	The immune system, mechanism of immune system (innate and adaptive immunity).	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
12	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Antibiotics and Antibiotic resistance	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
12	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Antigen, antibody reaction	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
12	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Sterilization and Disinfection	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning	Midterm exams Final exams evaluations

				presentation) Discussion Problem solving	
11.Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc					
12.Learning and Teaching Resources					
Required textbooks (curricular books, if any)					
Main references (sources)			1- Ref- Fritz H, Kurt. A., Johannes, E. Rolf. M. Medical Microbiology, Thieme Stuttgart- Newyork. 2005		
Recommended books and references (scientific journals, reports...)			.2. Levinson,W. Medical microbiology and immunology (thirteenth edition),2014 3. parija,S.CH. Microbiology and Immunology,2 nd Edition, INDIA, 2012		
Electronic References, Websites			University educational platform		

Academic Program Description Form

University Name: Alayen Iraqi University.....

Faculty/Institute: Health and Medical Technologies

Scientific Department: Anesthesia Department

Academic or Professional Program Name: .. Health and Medical Technologies college /. Anesthesia Department

Final Certificate Name: Bachelor of Anesthesia Techniques

Academic System: semester

Description Preparation Date: 26/3/2025

File Completion Date: 26/3/2025

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision
The Department of Anesthesia will be a distinguished academic and research center at the local and international levels, contributing to the development of the field of anesthesia and providing quality health services.

2. Program Mission
Preparing specialized cadres in the field of anesthesia capable of providing

distinguished medical services, and promoting scientific research to develop medical technologies in a way that contributes to serving society and achieving sustainable development.

3. Program Objectives

1. Providing high-quality education in the field of anesthesia through an advanced academic environment.
2. Establishing advanced laboratories that allow practical training according to the latest medical technologies.
3. Encouraging scientific research and creativity in the field of anesthesia and related specialties.
4. Enhancing cooperation with health institutions and research centers locally and internationally.
5. Qualifying graduates capable of meeting the needs of the labor market and contributing to improving health care.
6. Establishing a virtual operating room that simulates what is found in teaching hospitals
7. Utilizing artificial intelligence technologies to develop students' skills

4. Program Accreditation

Under preparation

5. Other external influences

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
First stage		General physiology 1	60 hours	30 theoretical course
				30 hours practical course

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	General objective: At the end of the academic year, the student will be able to understand the general Physiology Specific objectives: The student will be able to: - To recognize the importance and function of The all vital body systems such as the respiratory, cardiac, muscular and nervous systems, urinary , reproduction and endocrine systems.
Skills	
	B - The skills objectives of the course. 1 - The student is able to understand the principles of Physiology 2- Using the vocabulary and skills acquired in the course to understand the impact of anesthetic substances on the body's systems
Ethics	
	1- Accurate and correct understanding of human body physiology and correct knowledge of how to link basic concepts of physiology with other medical courses in the third and fourth educational stages in the Department of Anesthesia, for which physiology is a basic requirement. 2- Interaction with recent developments in the field of physiology 3- Commitment to updating knowledge and skills through participation in training courses and scientific conferences

9. Teaching and Learning Strategies
- Blended learning - Lectures (Interactive) - Online Lectures (Interactive) - Tutorial
Role play
Computer-based learning (computers e-learning, free downloadable software usage, Webinar)
Team-based learning (group discussion, presentation)

Discussion
Case study
Problem solving

10. Evaluation methods
- Midterm and final exam - Evaluations

11.Faculty						
Faculty Members						
Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Associated professor Bassel Adel Ismail	PhD	Molecular and cellular biology				

Professional Development
Mentoring new faculty members
Professional development of faculty members
1. Participation in training courses held within the college. 2. Participation in professional courses held within the college within the prescribed curricula, as well as professional education courses

12.Acceptance Criterion
This is done according to the acceptance rate in the medical group (College of Medical and Health Technologies) within the electronic form approved by the Ministry of Higher Education and Scientific Research.

13.The most important sources of information about the program
1.The official website of the college or university: Colleges and universities provide a special section on their official websites that contains: • Description of the study program.

- Curricula and academic plan.
- Admission and registration requirements.
- Job opportunities after graduation.

Example: Visit the website of the Ministry of Higher Education or the website of the technical university that offers the program.

2. Academic guides

Academic guides published by colleges, such as the student guide, which contain comprehensive information about the program, objectives, and study plans.

Department Professors

Communicating with program professors or teaching staff is a valuable resource for understanding the nature of the study, its requirements, and its future prospects.

4. Program Students and Graduates

Current students or graduates can share their personal experience about the program, its difficulties, and the best ways to succeed in it.

5. Scientific articles and research

View research and articles related to anesthesia techniques published in:

Medical journals.

Academic databases such as PubMed, Elsevier, Springer.

6. Specialized books and references

Scientific books on anesthesia techniques, including topics such as:

Basics of anesthesia.

Use of devices and technology in anesthesia.

Critical case management.

7. Conferences and workshops

Attend medical conferences or workshops that address the latest developments in the field of anesthesia techniques.

14. Program Development Plan

. Curriculum Development

• Updating Academic Content:

- o Introduce new courses covering advanced anesthesia techniques, such as smart anesthesia and image-guided anesthesia.
- o Add specialized courses in emerging fields, such as pediatric and geriatric anesthesia techniques.

• Aligning with Global Standards:

- o Benchmark the curriculum against similar international programs and ensure compliance with global accreditation standards.

• Enhancing Practical Training:

- o Increase the number of hours dedicated to hands-on training in hospitals

2. Upgrading Infrastructure

• Modern Laboratories:

- o Equip simulation labs with advanced anesthesia systems to train students for real-world scenarios.

• Advanced Equipment:

- o Provide state-of-the-art devices, such as automated anesthesia machines, patient monitoring

systems, and mechanical ventilators.

3. Strengthening Practical and Clinical Training

- Partnerships with Hospitals:
 - o Establish agreements with leading hospitals and medical centers to offer students extensive field training opportunities.
- Advanced Training Programs:
 - o Provide specialized training opportunities locally and internationally, such as regional anesthesia and advanced surgical anesthesia.

4. Faculty Development

- Skill Enhancement for Instructors:
 - o Offer training workshops for faculty members on the latest techniques and teaching methodologies.
 - o Recruit professionals and practitioners in the field of anesthesia to enrich the teaching experience and bring practical expertise.

5. Advancing Scientific Research

- Encouraging Student Research:
 - o Motivate students to conduct research on anesthesia techniques and present their findings at scientific conferences.

6. Developing Students' Professional and Soft Skills

- Soft Skills Training:
 - o Conduct workshops on communication skills for interacting with medical teams and patients.
- Safety and Quality Principles:
 - o Promote a culture of patient safety and risk management during surgeries.

7. Enhancing Employment Opportunities for Graduates

- Graduate Follow-Up Office:
 - o Support graduates in securing job opportunities through partnerships with hospitals and healthcare facilities.
- Career Fairs:
 - o Organize career fairs to connect students with employers in the healthcare sector.

8. Integrating Technology in Education

- E-Learning Platforms:
 - o Implement e-learning systems and virtual simulation tools for teaching theoretical and practical courses.

9. Community Engagement

- Raising Awareness of Anesthesia Technologists' Role:
 - o Organize seminars and awareness campaigns to highlight the importance of the anesthesia technologist profession.
- Continuous Education Programs:
 - o Offer continuing education programs for professionals to update their skills and knowledge.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First stage		General physiology	Basic	√	√	√	√	√	√	√	√	√	√	√	√

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name: General physiology 2					
2. Course Code:					
3. Semester / Year: First year- second semester					
4. Description Preparation Date: 26/1/2025					
5. Available Attendance Forms:					
Full-time and official attendance hours					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Theory Lecture: 2 hours , Practical: 2 , Total: 4 (2+2) per week 60 hours per semester					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Bassel Adel Ismail Email: bassel.adel@alayen.edu.iq					
8. Course Objectives					
General Objective: At the end of the academic year, the provide students with knowledge about Basic general physiology of human body and student will be able to understand the functions of the various body systems and how to act in emergency and sick situations and their relationship to anesthesia.			Specific Objectives: The aims to provide students with basic knowledge about general Physiology and the functions of the human body in particular. - To be able to understand how the physiological activities of the body are of the heart, blood circulation and respiratory system). - To be able to recognize the effect of the activity of the human vital system , respiratory system, nervous system and urinary system and other system anesthesia field.		
9. Teaching and Learning Strategies					
Strategy		Lectures (Interactive), Role play, Team-based learning presentation) Discussion, Problem solving			
10. Course Structure Theoretical					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	A1/A2/A4 B1/B2/B3/B4	Physiology of digestive system, organ of digestion, functions	Attendance • Lectures	Weekly, monthly examinations

		C 1/C 2/C 3/C 4		(interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion brainstorming and practical discussion	Scientific Discu
2	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Accessory organs of digestion and function	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion brainstorm g and practical discussion	Weekly, monthl examinations Scientific Discu
3	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Steps of digestion (carbohydrates, protein, fat digestion and absorption)	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion brainstorming and practical discussion	Weekly, monthl examinations Scientific Discu
4	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Urinary system, Renal functions, Urine formation	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion brainstorm g and practical discussion	Weekly, monthl examinations Scientific Discu
5	2	A1/A2/A4 B1/B2/B3/B4	Organs of urinary system and	Attendance • Lectures (interactive)	Weekly, monthl examinations Scientific Discu

		C 1/C 2/C 3/C 4	their function	Online lectures (interactive) Use strategies collaborative learning, discussion brainstorming and practical discussion	
6	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Role of kidney to maintain body fluids to regulate B.Pr., acid base balance	Attendance • Lectures (interactive) Online lectures (interactive) Use strategies collaborative learning, discussion brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
7	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Body temperature regulation and control	Attendance • Lectures (interactive) Online lectures (interactive) Use strategies collaborative learning, discussion brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
8	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Nervous system , CNS brain function and centers	Attendance • Lectures (interactive) Online lectures (interactive) Use strategies collaborative learning, discussion brainstorming and	Weekly, monthly examinations Scientific Discussion

				practical discussion	
9	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Spinal cord, CSF, Spinal reflexes	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
10	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	PNS, autonomic and sensory	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
11	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Endocrine system, control of hormone, type and secretion	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
12	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Hormonal secretion from different glands	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion

13	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Reproductive system, male and female reproductive system	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
14	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Skeletal system physiology	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion
15	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Special sense physiology (vision, hearing, Smell and taste)	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations Scientific Discussion

Syllabus of The Practical Course

1	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	ABO blood types : Slide method: true method	Attendance • Lectures (interactive) Online lectures (interactive) Use strategy, collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly examinations reporting examinations Scientific Discussion
2	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Rh, Factor: Slide method: tube method	Attendance • Lectures (interactive) Online lectures	Weekly, monthly examinations reporting examinations

				(interactive) Use strategy collaborative learning, discussion, brainstorming and practical discussion	Scientific Discussion
3	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Cross, match test	Attendance • Lecture (interactive) Online lectures (interactive) Use strategy collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly and reporting examinations Scientific Discussion
4	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Blood coagulation Tests, platelets count	Attendance • Lecture (interactive) Online lectures (interactive) Use strategy collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly and reporting examinations Scientific Discussion
5	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	The specific gravity blood and plasma	Attendance • Lecture (interactive) Online lectures (interactive) Use strategy collaborative learning, discussion, brainstorming and practical discussion	Weekly, monthly and reporting examinations Scientific Discussion
6	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Bleeding time (ducks method Ivy's method)	Attendance • Lecture (interactive) Online lectures (interactive) Use strategy collaborative	Weekly, monthly and reporting examinations Scientific Discussion

				learning, discussion, brainstormi and practice discussion	
7	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Clotting time (capillary tube method, Lid method)	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
8	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Clotting time (Lee and white method)	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
9	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Scientific movies Show bleeding And blood Transfusion)	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
10	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Fragility test (RBC fragility test)	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi	Weekly, monthly a reporting examinations Scientific Discussio

				and practice discussion	
11	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Determination of viscosity of blood)	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
12	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	Examination of Urine, Urine collection, physical examination,	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
13	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	The chemical examination of Urine : urine creatine	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
14	2	A1/A2/A4 B1/B2/B3/B4 C 1/C 2/C 3/C 4	The microscopic examination of urine	Attendance • Lectu (interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practice discussion	Weekly, monthly a reporting examinations Scientific Discussio
15	2	A1/A2/A4	The pulmonary	Attendance • Lectu	Weekly, monthly a

		B1/B2/B3/B4 C 1/C 2/C 3/C 4	function test	(interactive) Online lectures (interactive) Use strateg collaborativ learning, discussion, brainstormi and practic discussion	reporting examinations Scientific Discussio
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11.Course Evaluation

The grade of 100 is distributed according to the student's mandated tasks such as daily preparation, daily, oral, monthly and final examinations: according to the following order
40 degrees midterm exam distributed to 20 degrees theoretical, 15 degrees practical and 5 degrees for participation, attendance and non-class activities
60 degrees final exam distributed to 25 degrees for practical and 35 degrees for theory

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Guyton and Hall , Physiology review 2th edition
Recommended books and references (scientific journals, reports...)	Ganongs' Review of Medical Physiology 26th Edition Elsevier, Sciencedirect springer link, Pdfdrive
Electronic References, Websites	University educational platform www.who.int

Academic Program Description Form

University Name: Alayen Iraqi University AUIQ

Faculty/Institute: Health and Medical Technologies

Scientific Department: Anesthesia Technologies Department

Academic or Professional Program Name: .. Health and Medical Technologies/.
Anesthesia Department

Final Certificate Name: Bachelor of Anesthesia Techniques

Academic System: Annual - semester

Description Preparation Date: 24/1/2025

File Completion Date: 24/1/2025

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

The Department of Anesthesia will be a distinguished academic and research center at the local and international levels, contributing to the development of the field of anesthesia and providing quality health services.

2. Program Mission

Preparing specialized cadres in the field of anesthesia capable of providing

distinguished medical services, and promoting scientific research to develop medical technologies in a way that contributes to serving society and achieving sustainable development.

3. Program Objectives

1. Providing high-quality education in the field of anesthesia through an advanced academic environment.
2. Establishing advanced laboratories that allow practical training according to the latest medical technologies.
3. Encouraging scientific research and creativity in the field of anesthesia and related specialties.
4. Enhancing cooperation with health institutions and research centers locally and internationally.
5. Qualifying graduates capable of meeting the needs of the labor market and contributing to improving health care.
6. Establishing a virtual operating room that simulates what is found in teaching hospitals
7. Utilizing artificial intelligence technologies to develop students' skills

4. Program Accreditation

Under preparation

5. Other external influences

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
First year- semester 2		General anatomy 2	60 hours	30 theoretical course
				30 hours practical course

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	1- Anatomy 2 is a supplement to anatomy 1 and shares with him knowledge of anatomy and branching sciences, how to arrange human body organs and their role and work with more emphasis on internal body systems. 2- It understands the principles, fundamentals and vocabulary of anatomy in general. 3- It trains the organs of the human body and its components and its work and connects them with its specialization
Skills	
	1 - The student is able to understand the principles of anatomy. 2- Using the vocabulary and skills acquired in the course to understand the impact of anesthetic substances on the body's systems
Ethics	
	1- Accurate and correct understanding of the anatomy and organs of the human body and correct knowledge of how to link the basic concepts of anatomy with other medical teaching courses in the second, third and fourth stages of the anesthesia department for which anatomy is a basic requirement. 2- Interact with recent developments in anesthesia. 3- Commitment to upgrade knowledge and skills through participation in training courses and scientific conferences

9. Teaching and Learning Strategies
Blended learning • Lectures (Interactive) Online Lectures (Interactive) Tutorial
Role play
Computer-based learning (computers e-learning, free downloadable software usage, Webinar)

Team-based learning (group discussion, presentation)
Discussion

10. Evaluation methods
Midterm and final exam Evaluations

11.Faculty						
Faculty Members						
Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer

Professional Development
Mentoring new faculty members
Professional development of faculty members
1. Participation in training courses held within the college. 2. Participation in professional courses held within the college within the prescribed curricula, as well as professional education courses

12.Acceptance Criterion
This is done according to the acceptance rate in the medical group (College of Medical and Health Technologies) within the electronic form approved by the Ministry of Higher Education and Scientific Research.

13.The most important sources of information about the program

1.The official website of the college or university: Colleges and universities provide a special section on their official websites that contains:

- Description of the study program.
- Curricula and academic plan.
- Admission and registration requirements.
- Job opportunities after graduation.

Example: Visit the website of the Ministry of Higher Education or the website of the technical university that offers the program.

2. Academic guides

Academic guides published by colleges, such as the student guide, which contain comprehensive information about the program, objectives, and study plans.

Department Professors

Communicating with program professors or teaching staff is a valuable resource for understanding the nature of the study, its requirements, and its future prospects.

4. Program Students and Graduates

Current students or graduates can share their personal experience about the program, its difficulties, and the best ways to succeed in it.

5. Scientific articles and research

View research and articles related to anesthesia techniques published in: Medical journals.

Academic databases such as PubMed, Elsevier, Springer.

6. Specialized books and references

Scientific books on anesthesia techniques, including topics such as:

Basics of anesthesia.

Use of devices and technology in anesthesia.

Critical case management.

7. Conferences and workshops

Attend medical conferences or workshops that address the latest developments in the field of anesthesia techniques.

14.Program Development Plan

. Curriculum Development

- Updating Academic Content:
 - o Introduce new courses covering advanced anesthesia techniques, such as smart anesthesia and image-guided anesthesia.
 - o Add specialized courses in emerging fields, such as pediatric and geriatric anesthesia techniques.
 - Aligning with Global Standards:
 - o Benchmark the curriculum against similar international programs and ensure compliance with global accreditation standards.
 - Enhancing Practical Training:
 - o Increase the number of hours dedicated to hands-on training in hospitals
- ## 2. Upgrading Infrastructure
- Modern Laboratories:
 - o Equip simulation labs with advanced anesthesia systems to train students for real-world scenarios.
 - Advanced Equipment:
 - o Provide state-of-the-art devices, such as automated anesthesia machines, patient monitoring systems, and mechanical ventilators.

3. Strengthening Practical and Clinical Training

- Partnerships with Hospitals:
 - o Establish agreements with leading hospitals and medical centers to offer students extensive field training opportunities.
- Advanced Training Programs:
 - o Provide specialized training opportunities locally and internationally, such as regional anesthesia and advanced surgical anesthesia.

4. Faculty Development

- Skill Enhancement for Instructors:
 - o Offer training workshops for faculty members on the latest techniques and teaching methodologies.
 - o Recruit professionals and practitioners in the field of anesthesia to enrich the teaching experience and bring practical expertise.

5. Advancing Scientific Research

- Encouraging Student Research:
 - o Motivate students to conduct research on anesthesia techniques and present their findings at scientific conferences.

6. Developing Students' Professional and Soft Skills

- Soft Skills Training:
 - o Conduct workshops on communication skills for interacting with medical teams and patients.
- Safety and Quality Principles:

- o Promote a culture of patient safety and risk management during surgeries.
-

7. Enhancing Employment Opportunities for Graduates

- Graduate Follow-Up Office:
 - o Support graduates in securing job opportunities through partnerships with hospitals and healthcare facilities.
 - Career Fairs:
 - o Organize career fairs to connect students with employers in the healthcare sector.
-

8. Integrating Technology in Education

- E-Learning Platforms:
 - o Implement e-learning systems and virtual simulation tools for teaching theoretical and practical courses.

9. Community Engagement

- Raising Awareness of Anesthesia Technologists' Role:
 - o Organize seminars and awareness campaigns to highlight the importance of the anesthesia technologist profession.
- Continuous Education Programs:
 - o Offer continuing education programs for professionals to update their skills and knowledge.

Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
	MTAN1105	General biology	basic	√	√	√	√	√	√	√	√	√	√	√	√

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name: General anatomy 2					
2. Course Code:					
3. Semester / Year: First year- first semester					
4. Description Preparation Date: 24/1/2025					
5. Available Attendance Forms:					
Full-time and official attendance hours					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Theory Lecture: 2 hours , Practical: 2 , Total: 4 (2+2) per week 60 hours per semester					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Bassel Adel Ismail Email: bassel.adel@alayen.edu.iq					
8. Course Objectives					
Objectives of the subject: The purpose of teaching the subject is to provide student with knowledge about Basic about anatomy in general and anatomy of human body in particular The structure and functions of the body organs			At the end of the year, the student is generally trained and qualified to know the parts of the human body and ready to understand the course in subsequent years • General understanding of the functions of the body's organs while linking them to substances used in anesthesia techniques.		
9. Teaching and Learning Strategies					
Strategy					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1+2+3	2+2+2	A 1/A2/A4 B1/B2/B3/B4	Central nervous systems and	Lectures (Interactive) Online	Midterm exams Final exams

		C1/C2/C3/C4	functions + Peripheral nervous systems spinal nervous + Sensory and motor nervous systems	Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	evaluations
4	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	GIT systems: parts, structure of walls and stomach	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
5	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Salivary glands, Pancreas and gall bladder	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
6	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Liver anatomy and structures functions	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
7	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Urinary system: Kidneys, Ureters, urinary bladder ureters	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
8	2+2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Muscular system	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning	Midterm exams Final exams evaluations

				presentation) Discussion Problem solving	
9+10	2+2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Reproductive system- genitalia + Female reproductive organs	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
11+12	2+2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Endocrine glands anatomy functions	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
13	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Special anatomy series	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
14	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Skeletal system anatomy	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations
15	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	The development and Inheritance	Lectures (Interactive) Online Lectures (Interactive) Role play Team-based learning (presentation) Discussion Problem solving	Midterm exams Final exams evaluations Upper lower limb
11.Course Evaluation					
The grade of 100 is distributed according to the student's mandated tasks such as daily preparation, daily, oral, monthly and final examinations: according to the following order					

40 degrees midterm exam distributed to 20 degrees theoretical, 15 degrees practical and 5 degrees for participation, attendance and non-class activities 60 degrees final exam distributed to 25 degrees for operation and 35 degrees for theory	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	Grant's Atlas of Anatomy, 12th Edition Agur, Anne M.R.; Dalley, Arthur F.
Recommended books and references (scientific journals, reports...)	Elsevier, Sciencedirect springer link, Pdfdrive
Electronic References, Websites	www.who.int

Academic description of Human rights and democracy

1. Course Name: Human rights and democracy					
2. Course Code:					
3. Semester / Year: First semester/first year					
4. Description Preparation Date: 27/1/2025					
5. Available Attendance Forms: Theoretical in the classroom					
6. Number of Credit Hours (Total) / Number of Units (Total): 15 theoretical hours / 2					
7. Course administrator's name (mention all, if more than one name)					
Name: Ali Al-Hadi Khairallah Waheed					
Email:					
8. Course Objectives					
Course Objectives	1. Enabling the student to become familiar with local and international laws, especially those dealing with human rights issues and violations committed against them, and raising the level of his legal culture that enables him to adopt them to reject these violations, whether within or outside the state system to which he belongs. 2. Learn about the concept of human rights and their importance. 3. Identify the international and regional contents of human rights. 4. Study the constitutional, judicial and political guarantees of human rights 5. The role of international organizations in protecting freedoms. 6. Empowering students about the importance of education and its role in spreading the culture of human rights in a civilized society on the basis of good governance, the most important components of which are the preservation and consolidation of rights and freedoms.				
9. Teaching and Learning Strategies					
Strategy	- the explanation - Brainstorming - Dialogue and discussion - Secret test				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	1	Understand the lecture	Familiarity with the concept of human rights (right, human rights, human being) in language and terminology	theoretical	Question answer

Second	1	Understand the lecture	Introducing human rights	theoretical	Question answer
Third	1	Understand the lecture	Human rights in ancient civilizations	theoretical	Question answer
Forth	1	Understand the lecture	Human rights in heavenly messages	theoretical	Question answer
Fifth	1	Understand the lecture	Human rights in the Middle and Modern Ages	theoretical	Question answer
Sixth	1	Understand the lecture	Contemporary recognition of human rights	theoretical	Question answer
Seventh	1	Understand the lecture	Non-governmental organizations and their role in the fields of human rights	theoretical	Question answer
Eighth			Mid-term exam		
Ninth	1	Understand the lecture	Human rights in regional conventions	theoretical	Question answer
Tenth	1	Understand the lecture	Human rights in national legislation	theoretical	Question answer
Eleventh	1	Understand the lecture	Forms and generations of human rights	theoretical	Question answer
Twelfth	1	Understand the lecture	Human rights guarantees and protection	theoretical	Question answer
Thirteenth	1	Understand the lecture	The role of national non-governmental organizations	theoretical	Question answer
Fourteenth	1	Understand the lecture	Human rights guarantees and protection at the regional and international levels	theoretical	Question answer
Fifteenth	1	Understand the lecture	The role of regional associations in Protection of human rights	theoretical	Question answer

11.Course Evaluation

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

Daily exams: 20%

Semester exams: 70%

Preparing reports: 10%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Human rights, their development - their contents - their protection, Dr. Riad Aziz Hadi, 2019. Human Rights and Democracy, Badr Khan Al-Sindi, College of Education, Ibn Rushd, University of Baghdad, 2012.
Main references (sources)	Hadi, Riyad Aziz, human rights, their development - their contents - their protection, The Legal Library, Baghdad, 2019. Majzab, Ghassan Karim, Human Rights and Democracy, Baghdad, 2019.
Recommended books and references (scientific journals, reports...)	Al-Dulaimi, Hafez Alwan, A Contemporary Reading of the Human Rights Issue, Baghdad, 2009
Electronic References, Websites	Methods, education and culture of human rights, published on the Internet, http://ghrorg-learning.blogspot.com

**Republic of Iraq
Ministry of Higher
Education
& Scientific Research
Al-Ayen Iraqi University
College of Health and Medical
Technologies**



**Al-Ayen Iraqi University
College of Health and Medical
Technologies
Department of Anesthesia
Technologies
Quality Assurance Unit
Course Description**

1. Course Name:	
Medical physics (1)	
2. Course Code: MTAN1107	
3. Semester / Year:	
second semester / 2024-2025	
4. Description Preparation Date:	
22-3-2025	
5. Available Attendance Forms:	
Daily attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
"2 theoretical + 2 practical (per week)" /Number of units (3)	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Emad Omar Abdel-Muttalib Mohammed Email: emaddomarr78@gmail.com	
8. Course Objectives	
Course Objectives	• To be able to identify pressures, fluids, viscosity and temperature. • To be able to recognize the laws of gases, real and ideal gases, methods of heat transfer, and the laws of thermodynamics and electricity. • To be able to know the medical phenomena that he observes during his working life such as blood flow, a device that reads the heart or brain rate, the temperature of the human body, and pressures.
9. Teaching and Learning Strategies	
Strategy	• Asking questions and guiding students to discover the answers themselves. • Using animations and videos to explain scientific concepts. • Using discussions and interactive activities to increase engagement and understanding. • Assessing students' progress through continuous evaluations like short questions. • Allowing students to train in a real-world environment to acquire practical skills.

10. Course Structure					
Wee k	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physical of lung and breathing	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
2	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physical of lung and breathing	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
3	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physical of lung and breathing	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
4	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Evaporation of liquids, vapoure pressure and boiling point, humidity	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
5	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Evaporation of liquids, vapoure pressure and boiling point, humidity	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
6	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physics of cardiovascular system	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
7	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physics of cardiovascular system	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
8	2	A 1/A2/A4 B1/B2/B3/B4	Physics of cardiovascular	Delivering lectures using	Conducting practical and

		C1/C2/C3/C4	system	information technology (computer).	theoretical exams (midterm + final semester exam).
9	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physics of eye and vision, physics of air and hearing	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
10	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physics of eye and vision, physics of air and hearing	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
11	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Electricity within the body	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
12	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Application of electricity and magnetism in medicine	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
13	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Light in medicine, sound in medicine	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
14	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physics of nuclear medicine, radiotherapy, radiation protection	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
15	2	A 1/A2/A4 B1/B2/B3/B4 C1/C2/C3/C4	Physics of nuclear medicine, radiotherapy, radiation protection	Delivering lectures using information technology (computer).	Conducting practical and theoretical exams (midterm + final semester exam).
11.Course Evaluation					

The students will be assessed through a midterm exam (40 marks) + a final exam (60 marks), with a total of 100 marks.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Introduction to Medical Physics, 2022. 2. Physics of the body, 1999.
Main references (sources)	1. Zabel, Hartmut. Volume 1 Physical Aspects of the Human Body, Berlin, Boston: De Gruyter, 2023. https://doi.org/10.1515/9783110756951. 2. https://www.freebookcentre.net/physics-books-download/Medical-Physics-by-Dr.-Y.-Ajiboye.html.
Recommended books and references (scientific journals, reports...)	1. Journal of Medical Physics. 2. Journal of Physica Medica.
Electronic References, Websites	https://journals.lww.com/JOMP/pages/default.aspx