



**Ministry of Higher Education and  
Scientific Research**

**Scientific Supervision and Evaluation  
Authority**



**Diyala University/ College of Medicine**

**Quality Assurance and Academic**

# Medical Academic Program

## Description Form

*2024-2025*

## *Academic description of the Faculty of Medicine*

**University of Diyala**

**College of Medicine**

**Scientific Department: Medicine**

**File filling date:**



**Signature**

**Department Head**

**Prof. Dr. Ismail Ibrahim Latif**



**Signature**

**Associate Dean for Scientific Affairs**

**Jalil Ibrahim Kadhim**

**The file has already been checked by:**

Quality Assurance and University Performance unit

Director of the Division of Quality Assurance and University Performance of the college of Medicine

**Lecturer. Manar Abd Alrazaq Hassan**

**Date :2024**

**Signature**



**Approval of the Dean**

**Prof. Dr. Ismail Ibrahim Latif**

# Academic Description Program for the colleg of Medicine

## **Introduction:**

The educational program is considered a coordinated and organized package of academic courses that includes procedures and experiences organized in the form of academic vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs such as the External Examiner Program.

The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that are being worked on to acquire for students based on the objectives of the academic program, and the importance of this description is evident because it represents the cornerstone in obtaining program accreditation and is written jointly by the teaching staff under the supervision of the scientific committees in the scientific departments. This guide, in its second version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly) system, as well as the adoption of the description of the academic program circulated under the letter of the Department of Studies TM 2906/3 on 3/5/2023 with regard to programs that adopt the Bologna track as a basis for their work. In this regard, we can only emphasize the importance of writing a description of academic programs and courses to ensure the proper functioning of the educational process.

## **General description of the Faculty of Medicine .....**

### **1- Program Vision**

Upon graduation, our students will be able to work in a multidisciplinary team in the health sector to ensure Optimal team performance and effective patient outcomes.

### **2- Program Mission**

Our college seeks to obtain international accreditation, and rise to the global level in terms of quality of outputs, and graduating highly qualified doctors in patient care, medical education research, and community service.

### 3- Program Objectives

1. Graduating doctors and scientists with scientific backgrounds and clinical and research skills
2. Seeking to obtain a degree of specialization in various medical specialties
3. Contribute to the preparation of future leaders in the fields of health and education
4. Introducing modern educational means and advanced technologies in teaching methods, preparing educational programs for the college , and employing information and communication technologies in the process of transferring production, knowledge and scientific research and in preparing scientific programs .
5. Activating participation, coordination and integration between the college and the community through the establishment of seminars, conferences and seminars to discuss health and scientific issues of the country.
6. Establishing cultural exchange relations and bilateral or collective agreements with Arab and international universities and professional organizations

### 4- Program Accreditation

Applied for

### 5- Other external influences

Teaching Hospital, Library, Internet, Community, Medical Syndicate.

### 6. Program Structure

Program Structure	Number of Courses	Unit of study	Percentage	Reviews*
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Table details are available for each branch in the Faculty of Medicine and include all the required

- Notes may include whether the course is basic or optional.

### 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours
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Table details are available for each branch in the Faculty of Medicine and include all the required

## **8. Expected learning outcomes of the program**

### **Knowledge**

- 1 .The student should know the systems of the human body and the function of each part of it.
2. The student should get acquainted with the components of each part of the body and study its functions , starting from the smallest component.
3. To distinguish between normal and abnormal state through his study of body functions .
4. To devise appropriate solutions to correct abnormal situations.
5. To be able to know the external influences on the health of the individual and society and avoid their damage and use Useful ones.

### **Skills**

1. Be able to apply the results of the theoretical study practically during dealing with pathological cases.
2. Being able to use modern devices in studying the functions of the organs of the body and diagnosing pathological conditions.
3. Being able to conduct scientific studies and research to solve the problems of the individual and society

### **Values**

1. Commitment to medical ethics in the practice of the profession and in accordance with the values of society.
2. Commitment to attend seminars effectively.
3. Commitment to respect the rights of his colleagues to participate in scientific discussions to solve problems.
4. Appreciate the importance of continuous study and renewal of information to keep pace with scientific development.

## **9. Teaching and Learning Strategies**

1. L am a man of the same age Theoretical lectures using legends.
2. Practical application of concepts studied in specialized laboratories and teaching hospitals.
- 3Seminars (students are assigned to a topic within the curriculum for presentation and discussion)
- 4.Solving scientific and medical problems by discussing their merits in small groups to reach the right solution .
5. Blended in-person and electronic learning for student activities through the e-learning platform (Class Room).

## 10. Evaluation methods

1. Daily exams (theoretical and practical).
2. Mid-course exams and end of course.
3. Weekly seminars and seminars.
4. Medical scientific activities.

## 11-Faculty

### Faculty Members

Academic rank	Specialization		Special Requirements/Skills (if any)	Preparation of the teaching staff	
	general	special		staff	lecturer

Table details are available for each branch in the Faculty of Medicine and include all the required

## 12. Professional Development

Orientation of new faculty members

Preparing seminars and introductory courses for new teachers with periodic meetings to introduce them to the work contexts

Daily guidance, continuous follow-up, and giving advice and guidance.

## 13- Professional development of faculty members

Continuous learning by searching for updates using the library and the Internet in addition to attending seminars

Discussions and specialized scientific seminars, as well as active attendance in teaching hospitals to refine the hallers.

## 14. Acceptance Criterion

Admission is centralized through the Ministry of Higher Education and Scientific Research depending on the student's grades in

The sixth is scientific after preparing the form for that electronically.

## 15- The most important sources of information about the program

The website of the university and the college in addition to the website of the Ministry of Higher Education and Scientific Research as well as College Library and Central Library at the University.

## 16. Program Development Plan

- Developing the scientific and administrative staff in the college through annual evaluation files, which reveal weaknesses and strength.
- Carrying out evaluation studies related to the development and improvement of the performance of senior leaders, faculty members and employees working in the college.
- Provide advice and guidance on what the institution should do in order to improve for the better in full compliance with Accreditation Criteria
- Being able to use modern devices to study the functions of the organs of the body and diagnose pathological conditions.
- Being able to conduct scientific studies and research to solve the problems of the individual and society.
- Striving towards the development, refinement and mastery of the skills necessary to be able to rise to the top through the use of Abilities, qualifications and information acquired during theoretical, practical and applied study Learning  
Continuous search for updates using the library and the Internet
- Attending seminars and specialized scientific seminars
- Active presence in teaching hospitals to hone skills and break the barrier of fear and hesitation.
- Proposing strategies, plans and executive policies to ensure quality and reliability.
- Develop guidelines for the methods of applying quality and academic accreditation in order to reach the best.
- Develop detailed data and statistics about the college, its objectives, departments, activities and future plans  
To be accomplished.

## 17. Program Structure

### Program structure for the first academic level

Article Code	Material Name	Credit Hours	
		theoretical	practical
COM111	Computers	1 hour	2 hours

COM112	Arabic	1 hour	-
ARAB113	Human Rights	1 hour	-
ARAB114	Anatomy	2 hours	4 hours
HR115	Principle of Medical chemistry& Biochemistry	3 hours	2 hours
HR116	Medical Physics	2 hours	2 hours
BIOC103	Medical Biology	2 hours	2 hours
ME102	Medical Terminology	1 hour	-
ENG208	English Language	2 hours	-
CLSK210	Clinical Skills	-	30

### Program structure for the second academic level

Article Code	Material Name	Credit Hours	
		theoretical	Practical
ME203 ME204	Anatomy	2 hours	4 hours
HIS205	Hestology	2 hours	2 hours
EMB206	Embryology	1 hour	-
PHY207	Physiology	4 hours	4 hours
BIOC201 BIOC202	Biochemistry & Metabolism	3 hours	2 hours

### Program structure for the third academic level

Article Code	Material Name	Credit Hours	
		theoretical	Practical
MPR301	Medical Protozoology	2 hours	2 hours
MBM303	Medical bacteriology and mycology	2 hours	2 hours
BMV305	Basic medical virology and DNA viral diseases	1 hour	2 hours
BMI307	Basic medical immunology	2 hours	2 hours
PHA309	Pharmacology 1	3 hours	3 hours
PAT311	Pathology 1	2 hours	2 hours
COM313	Family & community medicine	1 hour	2 hours
MED315	Medicine 1	1 hour	2 hours

SUR317	Surgery 1	1 hour	-
MPH302	Parasitology Helminth	2 hours	3 hours
CLSK318	Clinical skills	-	2 hours
DM 319	Diagnostic Microbiology	2 hours	2 hours
DISR320	Dissertation	-	2 hours



### Program structure for the fourth academic level

Article Code	Material Name	Credit Hours	
		theoretical	Practical
MED400 MED401	Medicine	4 hours	3 hours
SURG403 SURG404	Surgery	3 hours	2 hours
OBGY405 OBGY406	Obstetrics	2 hours	2 hours
PATH407 PATH408	Pathology	2 hours	2 hours
FMED409 FMED410	Forensic medicine	1 hour	2 hours
CMED411 CMED412	Family & community medicine	3 hours	4 o'clock
MDIG414	Medical Dialogue	1 hour	-
CLSK415	Clinical skills	-	2 hours
PROJ416	Community Project	-	2 hours



### Program structure for the fifth academic level

Article Code	Material Name	Credit Hours	
		theoretical	Practical
URO501	Urosurgery	1 hour	2 hours
RAD503	Radiology	1 hour	2 hours
OPH505	Ophthalmology	1 hour	2 hours
ORT509	Orthopedics	2 hours	2 hours
ENT413	YOU	2hour	2 hours
GYN511	Gynaecology	2 hours	There is no practical
PSY513	Psychiatry	1 hour	-
PED515	Pediatrics	2 hours	3 hours
DER517	Dermatology	1 hour	-
HEM519	Haematology	1 hour	-
PHA521	Clinical pharmacology	1 hour	-
NUM525	Neuromedicine	1 hour	2 hours



## Program structure for the sixth academic level

Article code	Material Name	Credit Hours	
		theoretical	practical
ObGy 603	Obstetrics& Gynecology	-	300
Ped 604	Pediatrics	-	360
ULT 608	Sonography	7 Hour Seminar	Practical & 15 hours discussion
MED600	Internal medicine	4 hours	20 hours
SURG601	Surgery		360 hours
OBGY602	Gynecology & Obstetrics	4 hours	18 hours
	Sonography	-	15 hours
RAD605	Radiology Course	-	15 hours
END 606	Endoscopy Course	-	15 hours
PHST 607	Physiotherapy Course	-	15 hours



## Curriculum Skills Outline

Year/Level	Article Code	Material Name	Cognitive goals				Program Skills Objectives				Emotional and value goals				General and qualifying skills transferred (other skills related to employability and personal development)			
			A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
<b>The first</b>	COM111 COM112	Computers	√	√	√													
	ARAB113 ARAB114	Arabic	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	HR115 HR116	Human Rights	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√
	ME101 ME102	Anatomy	√	√	√	√	√	√			√	√	√	√	√	√		
	BIOC103	Principle of Medical chemistry & Biochemistry	√	√	√		√	√			√	√			√	√	√	√
	MPH105 MPH106	Medical Physics	√	√	√		√	√	√		√	√			√	√		
	MB107	Medical Biology	√	√	√	√	√	√	√		√							
	MT109	Medical Terminology	√	√	√	√	√	√	√		√	√						

	BIO106	Biology	√	√	√	√	√	√	√	√	√	√	√						
<b>Second</b>	ENG208	English Language	√	√	√	√	√	√	√	√	√	√	√						
	COMP209	Computers	√	√	√	√	√	√	√	√	√	√	√						
	CLSK210	Clinical Skills	√	√	√	√	√	√	√	√	√	√	√						
	ME203 ME204	Anatomy	√	√	√	√	√								√	√	√		
	HIS205	Hestology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	EMB206	Embryology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	PHY207	Physiology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	BIOC201	Biochemistry & Metabolism	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>Third</b>	ENG321	English language				√				√				√					√
	COMP322	Computers	√	√	√	√	√	√	√	√	√	√	√						
	MPR301	Medical Protozoology																	
	MBM303	Medical bacteriology and mycology	√	√	√				√	√	√	√	√	√	√	√			
	BMV305	Basic medical virology and DNA viral diseases	√	√	√				√	√	√	√	√	√	√	√			
	BMI307	Basic medical immunology	√	√	√				√	√	√	√	√	√	√	√	√	√	√
	PHA309	Pharmacology 1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	PAT311	Pathology 1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	COM313	Family & community	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

		medicine																	
	MED315	Medicine 1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	MPH302	Parasitology Helminth	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	SUR317	Surgery 1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	CLSK318	Clinical skills	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
<b>Fourth</b>	MED400 MED401	Medicine	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	SURG403 SURG404	Surgery	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	OBGY405 OBGY406	Obstetrics	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	PATH407 PATH408	Pathology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	FMED409 FMED410	Forensic medicine	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
	CMED411 CMED412	Family & community medicine		√				√				√				√		√	
	ENT413	YOU		√				√				√				√		√	
	MDIG414	Medical Dialogue		√				√				√				√		√	
	CLSK415	Clinical skills		√				√				√				√		√	
	PROJ416	Community Project		√				√				√				√		√	
	MDIG414	Medical Dialogue		√				√				√				√		√	
	<b>Fifth</b>	URO501	Urosurgery		√				√				√				√		√
		RAD503	Radiology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
OPH505		Ophthalmology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
ORT509		Orthopedics	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
GYN511		Gynaecology	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	

	PSY513	Psychiatry		√				√				√				√		√
	PED515	Pediatrics		√				√				√				√		√
	DER517	Dermatology		√				√				√				√		√
	HEM519	Hematology		√				√				√				√		√
	PHA521	Clinical pharmacology		√				√				√				√		√
	NUM525	Neuromedicine		√	√	√		√	√	√		√	√	√		√		√
<b>Sixth</b>	ObGy 603	Obstetrics& Gynecology		√	√	√		√	√	√		√	√	√		√		√
	Ped 604	Pediatrics		√	√	√		√	√	√		√	√	√		√		√
	ULT 608	Sonography		√	√	√		√	√	√		√	√	√		√		√
	MED600	Internal medicine		√	√	√		√	√	√		√	√	√		√		√
	SURG601	Surgery		√				√				√	√	√		√		√
	OBGY602	Gynecology & Obstetrics	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	PED603	Pediatrics	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
		Sonography	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	RAD605	Radiology Course	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	END 606	Endoscopy Course		√				√				√				√		√
	PHST 607	Physiotherapy Course		√				√				√				√		√
		MED600	Internal medicine		√	√	√		√	√	√		√		√		√	
	SURG601	Surgery		√	√	√		√	√	√		√		√		√		√

## College of Medicine Course Description Form

<b>1. Name of the institution</b>	
College of Medicine	
<b>2. Course Code</b>	
There is a code for each course and subject in the description of each branch of the Faculty of Medicine	
<b>3. Semester/Year</b>	
2024/2025	
<b>4. Date of preparation of this description</b>	
2024	
<b>5. Available attendance forms</b>	
Attendance is mandatory	
<b>6. Number of credit hours (total) / number of units (total)</b>	
There is a detailed explanation of each subject in the description of each branch of the Faculty of Medicine	
<b>7 - The name of the course administrator (if more than one name is mentioned)</b>	
There is a detailed explanation of each subject in the description of each branch of the Faculty of Medicine	
<b>8- Course Objectives</b>	
The objectives of each course are found in the description of the branches of the Faculty of Medicine	
<b>9. Teaching and Learning Strategies</b>	
Strategy	<ol style="list-style-type: none"> <li>1. Theoretical lectures using legend means (interactive whiteboard and data show) to display various medical images</li> <li>2 Theoretical lectures laboratory and clinical practical application</li> <li>3. Weekly seminars and seminars</li> <li>4 Small group discussions to propose solutions to the problems of the individual and society.</li> <li>5 Blended learning in person and electronic for student activities through the education platform Electronic (Class Room).</li> </ol>

## *Academic description forms for the branches of the College of Medicine/University of Diyala*

- 1- • Academic description form for the pathology branch page 15
- 2- • Academic description form for the Obstetrics and Gynecology branch page 54
- 3- • Academic description form for the pediatric branch page 81
- 4- • Academic description form for the medicine branch page 103
- 5- • Academic description form for the biochemistry branch page 118
- 6- • Academic description form for the community and family medicine branch page 152
- 7- • Academic description form for the physiology and medical physics branch page 171
- 8- • Academic description form for the human anatomy branch page 189
- 9- • Academic description form for the surgery branch page 227
- 10- • Academic description form for the microbiology branch page 266
- 11- • Academic description form for the pharmacology branch page 305



## • *Academic Description Form For The Pathology Branch*

This course description provides a summary of the most important educational characteristics and objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description .

### **1. Program Vision**

Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.

### **2. Program Mission**

Our college seeks to get the international accreditation, rise to the global level in terms of the outcome's quality, and graduate medical doctors who are highly effective in patient care, medical education research, and community service.

### **3. Program Objectives**

- Achieving of quality standards and medical accreditation according to IGL derived on the basis of scientific institutional quality standards.
- Graduating medical doctors, with a bachelor's degree in medicine and general surgery, who will be well-prepared to conduct a patient examination, diagnose the disease, and dispense treatment on a scientific and medical basis, advanced clinical, and professional knowledge, skills, and attitudes they need to practice in an ethical manner to provide excellent health services and enable them for long life learning.
- Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.
- Preparing doctors who will be able to interact in the workplace and solve urgent problems in response to the needs of the health delivery system/ society and changing circumstances which make them capable of working in Iraq and internationally, as well as pursuing postgraduate study and training in any

medical branch.

- Graduating doctors with high skills and knowledge in conducting scientific research in basic, clinical, behavioral, and biomedical fields.
- Encouraging faculty, staff, and students to enhance their technical skills and utilize information and communication technology to convey knowledge, produce scientific research, and create curricula for educational programs.
- Implementing a development program for the faculty and staff.

#### 4. Program Accreditation

Applied for

#### 5. Other external influences

Teaching hospital, library, internet, community, doctors' syndicate.

#### 6- Program Structure

Program Structure	Number of courses	Credit hours	Percentag	Reviews*
Institution Requirements	ε	190	%٪١٠٠	
Requirements	ε	190	100%	
Department Requirements	4	190	100%	
Summer Training	no	no	No	
Other	no	no	No	

.Notes may include whether the course is core or elective •

#### 7. Program Description

Year/Level	Course code	Course name	Credit hour	
			Theoretical	Practical
٢٠٢٥-٢٠٢٤ First	ANA102	Medical Terminology	15 hr	None
2024-2025/Third	PAT٣١١	General Pathology	30 hr	30 hr
2024-2025/Fourth	PATH407 PATHε٠٨	Histopathology	30 hr	30 hr
2024-2025/Fourth	FMED409 FMED410	Forensic medicine	30 hr	30 hr

## 8- Expected learning outcomes of the program

### Knowledge

1. To introduce the student to the diseases of the human body
2. The effects of the disease on every part of the body.
3. Differentiating between normal and abnormal conditions by studying General diseases and identifying them clinically and histologically.
4. Learn about forensic science
5. How to deal with forensic cases received by health institutions.
6. How to write medical reports on the living and the dead.
7. How to write different death certificates and their importance.
8. Get acquainted with the rest of the relevant forensic sciences.
9. Encouraging students to engage in this rare specialty in the future

### Skills

- 1- Avoid making mistakes when writing forensic medical reports.
- 2 -Knowing how and safely sending forensic medical cases to the forensic medicine office when living and dead
- 3-Knowing the legal methods when receiving forensic medical cases from neighborhoods received to medical institutions.
- 4- The correct methods for diagnosing general diseases of humans

### Ethics

1. .Commitment to medical ethics in practicing the profession and following the values of society.
2. .Commitment to actively attend the seminars
3. .Commitment to respect the rights of his colleagues to participate in scientific discussions to solve problems.
4. Appreciating the importance of continuous study and updating information to keep pace with scientific development.

## 9- Teaching and Learning Strategies

1. Theoretical lectures using illustrations
2. Practical application of the concepts studied in specialized laboratories and teaching hospitals
3. Seminars (students are assigned a topic within the curriculum for presentation and discussion)
4. Field visits to the Forensic Medicine Department to learn how to examine the living and autopsy the dead.
5. Solving scientific and medical problems by discussing their merits within small groups to reach the correct solution.
6. In-person and electronic blended learning via the e-learning platform (Classroom).

## 10. Evaluation methods

1. Daily exams (theoretical and practical)
2. Mid-course exams and end-of-course exams
3. Seminars and weekly seminars
4. Medical scientific activities.

## 11- Faculty

### Faculty members

Academic rank	Specialization		staff	Number of the teaching staff Lecturer
	General	Special		
1. Assis .Prof.dr.Mustafa Ghani	Dentist	PHD of oral pathology	√	None
2. Assis .Prof.dr.Zahraa Najah	Medicine and General Surgery	Board of hematology	√	None
3. Assis .Prof.dr.Thura Abbas	Medicine and General Surgery	Board of histopathology	√	None
4. Assistant lec.Mohamed Sabaa	Medicine and General Surgery	Master of pathology	√	None
5. Lec. Halaa Yassin	Science	Master of animal	√	None
6. Lec.Maysaa Ghani	Veterinary medicine	Master of public health	√	None
7. Assis .Prof.Fatima Kadhim	Science	physiology	√	None
8. Assis.lec.Eman Salman Khames	Science	PHD of parasitology	√	None
9. Assis.lec.Rusul kareem Ismail Alagidie	Physical science	PHD of Physical	√	None

		science		
10. Lec.Dr.Baraa Hassan Latief	Chemical science	PHD of Chemical science	√	None
11. Assistant lec.Rahma Mohammed Abbas	Science	Master of microbiology	√	None
12. Assis.lec.Manar Ibrahim Hasan	Science	Master of microbiology	√	None
13. Assis.lec.Mohammed jasim mohammed	Chemical science	Master of Biochemical	√	None
14. Assis.lec.Noor Adnan Hasan	Science	Master of microbiology	√	None
15. Assis.lec.Hashim abed abass	Science	Master of microbiology	√	None
16. Assis.lec.Marwa Mansour Hussein	Science	Master of microbiology	√	None
17. Assis.lec.Mariam Sami Abdulazeez	Science	Master of microbiology	√	None
18. Assis.lec.Hiba Mohammed Jasim Al- darraji	Science	Master of microbiology	√	None
19. Assis.lec.Wisam Faisal Wadi	Science	Master of parasitology	√	None
20. Assis.lec. Lina Ali Hasballah	Science	Master of microbiology	√	None

### Professional Development

#### Mentoring new faculty members

Introductory seminars and symposia for new faculty members with periodic meetings to introduce them to the work with daily guidance and continuous follow up along with advising and instructing them.

#### Professional development of faculty members

Continuous learning by searching for developments using the library and the Internet, in addition to attending seminars and specialized scientific symposia, along with active attendance in teaching hospitals to hone skills.

### 12. Acceptance Criterion

The admission is centralized through the Ministry of Higher Education and Scientific Research, based on the student's score in the twelfth grade (scientific branch) after preparing the online form for that.

**13. The most important sources of information about the program**

University and college website, in addition to website of the Ministry of Higher Education and Scientific Research, along with college library and university's central library.

**14. Program Development Plan**

- Developing the scientific and administrative staff in the college through annual evaluation files that reveal strengths and weaknesses.
- Carrying out evaluation studies related to developing and improving the performance of senior leaders, faculty members and staff working in the college.
- Propose strategies, plans and operational policies to ensure quality and reliability.
- Develop guidelines for methods of applying quality and academic accreditation in order to reach the best.
- Developing detailed data and statistics about the college, its objectives, departments, activities and future plans to be accomplished.
- Providing advice and guidance on what the institution should do in order to improve for the best in full compliance with accreditation standards.

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
2024-2025/First	<b>ANA102</b>	Medical Terminology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2024-2025/ Third	<b>PAT311</b>	Pathology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2024-2025/Fourth	<b>PATH408</b> <b>PATH407</b>	Pathology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2024-2025/Fourth	<b>FMED409</b> <b>FMED410</b>	Forensic Medicine	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

### Course description template for Medical terminology

<b>1- Course Name</b>
<b>Medical Terminology</b>
<b>2. Course Code:</b>
<b>ANA102</b>
<b>3. Semester / Year:</b>
<b>2024-2025</b>
<b>4. Description Preparation Date:</b>
<b>2024</b>
<b>5. Available Attendance Forms:</b>
<b>Mandatory attendance</b>
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<b>Total number of hours : 30 hrs</b> <b>Number of Units :15 units</b>
<b>7. Course administrator's name</b>
<b>Name: Maysaa Ghani Taher</b>
<b>Email: <a href="mailto:M_ghany2011@yahoo.com">M_ghany2011@yahoo.com</a></b>
<b>8- Course Objectives</b>
Acquaintance with medical terms, which facilitates their use <sup>.....</sup> in the primary and higher school years <sub>.....</sub>
<b>9- Teaching and Learning Strategies</b>
<ol style="list-style-type: none"> <li>1..Theoretical lectures Using (Data Show ) to display medical images</li> <li>2.Seminars (students are assigned a topic within the curriculum for presentation and discussion)</li> <li>3.In-person and electronic blended learning via the e-learning platform (Classroom).</li> </ol>

<b>10 -The structure of the course for theoretical medical terminology first academic level / the first course /</b>					
week	hour	Required educational Goals	Unit name and/or topic	education method	Evaluation Method
1	\	Orientation of medical terminology	Medical Terminology	Lecture	Exam

2	\	Objectives of medical terminology	Medical Terminology	Lecture	Exam
3	\	Term of position and colors	Medical Terminology	Lecture	Exam
4	\	Term of numbers	Medical Terminology	Lecture	Exam
5	\	Term of negatives	Medical Terminology	Lecture	Exam
6	\	Term of skin disorder	Medical Terminology	Lecture	Exam
7	\	Term of musculoskeletal disorder	Medical Terminology	Lecture	Exam
8	\	Term of cardiovascular disorder (part 1)	Medical Terminology	Lecture	Exam
9	\	Term of cardiovascular disorder (part 2)	Medical Terminology	Lecture	Exam
10	\	Term of blood and blood formation organs	Medical Terminology	Lecture	Exam
11	\	Term of blood and blood formation organs	Medical Terminology	Lecture	Exam
12	\	Term of respiratory disorder	Medical Terminology	Lecture	Exam
13	\	Condition general	Medical Terminology	Exam	Lecture
14	\	Seminar	Medical Terminology	Exam	Lecture
15	\	Exam	Medical Terminology	Exam	Lecture

**11- The structure of the course for theoretical medical terminology / first academic level / the second course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>educatin method</b>	<b>evaluatin method</b>
1	1	Digestive disorders	Medical Terminology	Lecture	Exam
2	1	Urogenetal disorder	Medical Terminology	Lecture	Exam
3	1	Gynecological disorders	Medical Terminology	Lecture	Exam

4	1	Obstetrical disorders	Medical Terminology	Lecture	Exam
5	1	Fetal neonatal disorder	Medical Terminology	Lecture	Exam
6	1	Endocrine disorder	Medical Terminology	Lecture	Exam
7	1	Endocrine disorder	Medical Terminology	Lecture	Exam
8	1	Disorders of sense	Medical Terminology	Lecture	Exam
9	1	Disorders of vision	Medical Terminology	Lecture	Exam
10	1	Disorder of hearing	Medical Terminology	Lecture	Exam
11	1	Diagnostic disorders	Medical Terminology	Lecture	Exam
12	1	Symptomatic disorder	Medical Terminology	Lecture	Exam
13	1	Symptomatic disorder	Medical Terminology	Lecture	Exam
14	1	Seminar	Medical Terminology	Exam	Lecture
15	1	Exam	Medical Terminology	Exam	Lecture

**\*\* There is no practical in medical terminology second course**

<b>12.Cours Evaluation</b>	
1- Mid-course and final exams. 2- Pop quizzes.	
<b>13. Learning and Teaching Resources</b>	
1-Required course books	<b>Medical Terminology</b>
2- main references (sources)	Medical Terminology: Latin and Greek Origin with Arabic and <b>English Explanations</b>
3- Recommended books and references (scientific journals, reports)	Prefixes denoting numbers Medical Terminology Noun <b>Suffixes</b>
4- Electronic references, websites	<a href="https://globalrph.com/medterm/r/">https://globalrph.com/medterm/r/</a> <a href="https://aimseducation.edu/blog/all-essential-medical-terms">https://aimseducation.edu/blog/all-essential-medical-terms</a>

## Course description template for General pathology

<b>1. Course Name:</b>
<b>General pathology</b>
<b>2. Course Code:</b>
<b>PAT311</b>
<b>3. Semester / Year:</b>
<b>2024-2025</b>
<b>4. Description Preparation Date:</b>
<b>2024</b>
<b>5. Available Attendance Forms:</b>
<b>Mandatory attendance</b>
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<b>Total number of hours : 60 hrs -30 theoretical -30 practical</b> <b>Number of Units :60 units</b>
<b>7. Course administrator's name</b>
<b>Name:</b> <b>Mustafa ghani    <u><a href="mailto:mustafa.gheni.taher@gmail.com">Email : mustafa.gheni.taher@gmail.com</a></u>:</b> <b>Zahraa Najah    Email: <u><a href="mailto:Dr.zahraa_najah@yahoo.com">Dr.zahraa najah@yahoo.com</a></u></b> <b>Mohamed sabaa    Email: <u><a href="mailto:mohamedsabaa1977832@gmail.com">mohamedsabaa1977832@gmail.com</a></u></b>
<b>8. Course Objectives</b>
<ol style="list-style-type: none"><li>1. To introduce the student to the diseases of the human body and the effects of the disease on every part of the body.</li><li>2. Differentiating between normal and abnormal conditions by studying general diseases and identifying them clinically and histologically</li></ol>
<b>9. Teaching and Learning Strategies</b>
<ol style="list-style-type: none"><li>1. Theoretical lectures using the data show and interactive whiteboard to display the various medical images.</li><li>2. .Practical application of the concepts that have been studied in specialized laboratories</li><li>3. Seminars (students are assigned a topic within the curriculum for presentation and discussion)</li><li>4. Field visits to the forensic medicine department to learn how to examine the living and</li></ol>

dissection of the dead.

5. In-person and electronic blended education via e-learning platforms (Classroom).

**10. The structure of the course for theoretical General pathology / first course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Educationn Method</b>	<b>Evaluation method</b>
1	2	Introduction	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
2	2	Cell injury	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
3	2	Necrosis	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
4	2	Degeneration	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
5	2	Cellular adaption	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
6	2	Calcification	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
7	2	Healing and repair	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
8	2	Bone fracture	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
9	2	Acute and chronic inflammation	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
10	2	Neoplasm	General Pathology	Discussions, theoretical lectures	Discussions, reports and examinations
11	2	Differentiation and anaplasia	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations

12	2	Preinvasivemalignancy	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
13	2	Hemodynamicdisorder edema	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
14	2	Hemorrhage and thrombosis	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
15	2	Embolism andinfraction	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations

### 11. The structure of the course for practical General pathology /first course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2	Introduction	General pathology	Pathology laboratory	exam/lab
2	2	Cell injury	General pathology	Pathology laboratory	exam/lab
3	2	Necrosis	General pathology	Pathology laboratory	exam/lab
4	2	Degeneration	General pathology	Pathology laboratory	exam/lab
5	2	Cellular adaption	General pathology	Pathology laboratory	exam/lab
6	2	Calcification	General pathology	Pathology laboratory	exam/lab
7	2	Healing and repair	General pathology	Pathology laboratory	exam/lab
8	2	Bone fracture	General pathology	Pathology laboratory	exam/lab
9	2	Acute and chronic inflammation	General pathology	Pathology laboratory	exam/lab
10	2	Neoplasm	General pathology	Pathology laboratory	exam/lab
11	2	Differentiation and anaplasia	General pathology	Pathology laboratory	exam/lab

12	2	Preinvasive malignancy	General pathology	Pathology laboratory	exam/lab
13	2	Hemodynamic disorder edema	General pathology	Pathology laboratory	exam/lab
14	2	Hemorrhage and thrombosis	General pathology	Pathology laboratory	exam/lab
15	2	Embolism and infraction	General pathology	Pathology laboratory	exam/lab

### 12. The structure of the course for theoretical General pathology // the second course

Week	hours	Required educationalgoals	Unit name and/or topic	Educationn method	Evaluation method
1	2	Hematopoiesis	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
2	2	Anemia : classification	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
3	2	Leukemia : classification	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
4	2	Myeloproliferative disorder	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
5	2	Coagulation disorder	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
6	2	General pathology of infectious disease	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
7	2	General pathology of bacterial infections	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
8	2	General pathology of viral infections'	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations

9	2	General pathology of parasitic and fungal infections	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
10	2	Sexually transmitted disease	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
11	2	Classification of genetic Disease	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
12	2	Single gene disease	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
13	2	Immunopathology	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
14	2	Immunodeficiency	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations
15	2	Autoimmune disease, - Transfusion medicine	General pathology	Discussions, theoretical lectures	Discussions, reports and examinations

**13. The structure of the course for practical General pathology /third academic level /the second course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>education method</b>	<b>evaluation method</b>
1	2	Hematopoiesis	General pathology	Pathology laboratory	exam/lab
2	2	Anemia : classification	General pathology	Pathology laboratory	exam/lab
3	2	Leukemia : classification	General pathology	Pathology laboratory	exam/lab
4	2	Myeloproliferative disorder	General pathology	Pathology laboratory	exam/lab
5	2	Coagulation disorder	General pathology	Pathology	exam/lab

				laboratory	
6	2	General pathology of infectious disease	General pathology	Pathology laboratory	exam/lab
7	2	General pathology of bacterial infections	General pathology	Pathology laboratory	exam/lab
8	2	General pathology of viral infections'	General pathology	Pathology laboratory	exam/lab
9	2	General pathology of parasitic and fungal infections	General pathology	Pathology laboratory	exam/lab
10	2	Sexual transmitted disease	General pathology	Pathology laboratory	exam/lab
11	2	Classification of genetic Disease	General pathology	Pathology laboratory	exam/lab
12	2	Single gene disease	General pathology	Pathology laboratory	exam/lab
13	2	Immunopathology	General pathology	Pathology laboratory	exam/lab
14	2	Immunodeficiency	General pathology	Pathology laboratory	exam/lab
15	2	Autoimmune disease, - Transfusion medicine	General pathology	Pathology laboratory	exam/lab

#### 14. Cours Evaluation

1. Mid-course and final exams.
2. 2- Pop quizzes.
3. 4- Oral, practical and clinical examinations.
4. 5- Reports.

### 15. Infrastructure of general pathology

1-Required course books	Robbins Basic Pathology Hoffbrand's Essential Haematology
2- main references (sources)	Robbins and Cotran reviews of Pathology  Rapid Review Pathology by Edward F. Goljan Robbins and Cotran Review of Pathology by Klatt and Kumar  Hoffbrand's Essential Haematology
3- Recommended books and references (scientific journals, reports)	The American Journal of pathology  Wiley, <i>The Journal of Pathology</i>
4- Electronic references, websites	<a href="https://webpath.med.utah.edu/GENERAL.html">https://webpath.med.utah.edu/GENERAL.html</a>  <a href="https://diagnosticpathology.biomedcentral.com/">https://diagnosticpathology.biomedcentral.com/</a>

## Course description template for Histopathology

<b>1. Course Name:</b>	<b>Histopathology</b>
<b>2. Course Code:</b>	<b>PATH408</b> <b>PATH407</b>
<b>3. Semester / Year:</b>	<b>2024-2025</b>
<b>4. Description Preparation Date:</b>	<b>2024</b>
<b>5. Available Attendance Forms:</b>	<b>Mandatory attendance</b>
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	<b>Total number of hours : 60 hrs</b> <b>Number of Units :60 units</b>
<b>7. Course administrator's name (mention all, if more than one name)</b>	<p><b>Name:</b></p> <p><b>Thura abbas      Email: <a href="mailto:Thura.abbas.ib@gmail.com">Thura.abbas.ib@gmail.com</a></b></p> <p><b>Mohamed sabaa      Email: <a href="mailto:mohamedsabaa1977832@gmail.com">mohamedsabaa1977832@gmail.com</a></b></p>
<b>8. Course Objectives</b>	<p>1.To introduce the student to the diseases of the human body and The effects of the disease on every part of the body.</p> <p>2.Differentiating between normal and abnormal conditions by studying general diseases and identifying them clinically and histologically</p>
<b>9. Teaching and Learning Strategies</b>	<p>1. Theoretical lectures using the( data show and Electronic whiteboard) to display the various medical images.</p> <p>2. Practical application of the concepts that have been studied in specialized laboratories</p> <p>3. Seminars (students are assigned a topic within the curriculum for presentation and discussion)</p> <p>4. Field visits to the forensic medicine department to learn how to examine the living</p>

and dissection of the dead.

5. In-person and electronic blended education via e-learning platforms (Classroom).

**10. The structure of the course for theoretical histopathology / first course**

<b>Week</b>	<b>Hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluation method</b>
1	2	Gastrointestinal pathology ,oral cavity oropharynx, and salivary glands	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
2	2	Esophagus pathology ,stomach, gastritis	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
3	2	Tumors of stomach	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
4	2	Duodenal peptic ulcer ,intestinal tumors	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
5	2	Liver pathology, patterns of hepatic injury	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
6	2	Pathogenesis of liver cirrhosis, alcoholic liver disease	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
7	2	Breast anatomy and histology ,pathological classification of breast disease	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
8	2	WHO pathological classification of breast tumors	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
9	2	The male breast	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations

10	2	diseases of female genital system, malignant tumors	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
11	2	Endometrial tumors, classification of ovarian tumors	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
12	2	Pathology of male genital tract	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
13	2	Diseases of kidney and urinary tract, nephritis, haematuria .	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
14	2	Renal changes in hypertension UTI	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations
15	2	Tuberculosis in kidney ,renal tumors	Histopathology	Discussions, theoretical lectures	Discussions, reports and examinations

### 11. The structure of the course for practical histopathology / firstcourse

Week	hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	2	Gastrointestinal pathology ,oral cavity oropharynx, and salivary glands	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
2	2	Esophagus pathology ,stomach, gastritis	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
3	2	Tumors of stomach	Histopathology	Discussions,	Discussions,

				theoretical lectures and practical sessions	reports, tests and examinations
4	2	Duodenal peptic ulcer ,intestinal tumors	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
5	2	Liver pathology,patterns of hepaticinjury	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
6	2	Pathogenesis of liver cirrhosis, alcoholicliver disease	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
7	2	Breast anatomy and histology ,pathological classification of breast disease	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
8	2	Who pathological classification of breast tumors	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
9	2	The male breast	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
10	2	diseases of female genital system, malignant tumors	Histopathology	Discussions, theoretical lectures and practical	Discussions, reports, tests and

				sessions	examinations
11	2	Endometrial tumors classification of ovarian tumors	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
12	2	Pathology of male genital tract	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
13	2	Diseases of kidney and urinary tract, nephritis, hematuria	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
14	2	Renal changes in hypertension UTI	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
15	2	Tuberculosis in kidney ,renal tumors	Histopathology	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations

**12. The structure of the course for theoretical histopathology / second course**

<b>Week</b>	<b>Hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Educational Method</b>	<b>Evaluation method</b>
1	2	Bone pathology	Histopathology	Lecture	Exam
2	2	Diseases of blood and lymphatic vessels ,atherosclerosis ,hypertension	Histopathology	Lecture	Exam

3	2	Inflammation diseases of blood vessels	Histopathology	Lecture	Exam
4	2	Ischemic heart diseases	Histopathology	Lecture	Exam
5	2	Cardiomyopathy	Histopathology	Lecture	exam
6	2	Congenital heart diseases	Histopathology	Lecture	Exam
7	2	Respiratory system, bronchitis	Histopathology	Lecture	Exam
8	2	Pneumonia	Histopathology	Lecture	Exam
9	2	Occupational lung diseases	Histopathology	Lecture	Exam
10	2	The pleura	Histopathology	Lecture	Exam
11	2	Pathology of endocrine system, thyroid gland	Histopathology	Lecture	Exam
12	2	Thyroiditis, adrenal gland	Histopathology	Lecture	Exam
13	2	parathyroid gland	Histopathology	Lecture	Exam
14	2	Diseases of the skin	Histopathology	Lecture	Exam
15	2	Diseases of nervous system	Histopathology	Lecture	Exam

### 13. The structure of the course for practical histopathology/fourth academic level /second course

Week	Hours	Required educational goals	Unit name and /or topic	Education method	Evaluation method
1	2	Bone pathology	Histopathology	Pathology laboratory	exam/lab
2	2	Diseases of blood and lymphatic vessels ,atherosclerosis	histopathology	Pathology laboratory	exam/lab

		,hypertension			
3	2	Inflammation diseases of blood vessels	Histopathology	Pathology laboratory	exam/lab
4	2	Ischemic heart diseases	Histopathology	Pathology laboratory	exam/lab
5	2	Cardiomyopathy	Histopathology	Pathology laboratory	exam/lab
6	2	Congenital heart diseases	Histopathology	Pathology laboratory	exam/lab
7	2	Respiratory system, bronchitis	Histopathology	Pathology laboratory	exam/lab
8	2	Pneumonia	Histopathology	Pathology laboratory	exam/lab
9	2	Occupational lung diseases	Histopathology	Pathology laboratory	exam/lab
10	2	The pleura	Histopathology	Pathology laboratory	exam/lab
11	2	Pathology of endocrine system, thyroid gland	Histopathology	Pathology laboratory	exam/lab
12	2	Thyroiditis, adrenal gland	Histopathology	Pathology laboratory	exam/lab
13	2	parathyroid gland	Histopathology	Pathology laboratory	exam/lab
14	2	Diseases of the skin	Histopathology	Pathology laboratory	exam/lab
15	2	Diseases of nervous system	Histopathology	Pathology laboratory	exam/lab

## 14. Cours Evaluation

1. Mid-course and final exams.
2. Pop quizzes.
3. Oral, practical and clinical examinations.
4. 5- Reports.

## 15. Infrastructure of histopathology

1-Required course books	Robbins and Cotran reviews of Pathology
2- main references (sources)	surgicalPathology Ackerman and Rosai Rapid Review Pathology by Edward F. Goljan , Robbins and Cotran Review of Pathology by Klatt and Kumar
3- Recommended books and references (scientific journals, reports)	The American Journal of pathology Pathology outlines
4- Electronic references, websites	<a href="https://webpath.med.utah.edu/GENERAL.html">https://webpath.med.utah.edu/GENERAL.html</a> <a href="https://diagnosticpathology.biomedcentral.com/">https://diagnosticpathology.biomedcentral.com/</a>

## Course description template for Forensic medicine

<b>1. Course Name:</b>	<b>Forensic medicine</b>
<b>2. Course Code:</b>	<b>FMED409</b> <b>FMED410</b>
<b>3. Semester / Year:</b>	<b>2024-2025</b>
<b>4. Description Preparation Date:</b>	<b>2024</b>
<b>5. Available Attendance Forms:</b>	<b>Mandatory attendance</b>
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	<b>Total number of hours : 60 hrs</b> <b>Number of Units :60 units</b>
<b>7. Course administrator's name (mention all, if more than one name)</b>	<b>Name:</b> <b>Mohamed sabaa    Email: <a href="mailto:mohamedsabaa1977832@gmail.com">mohamedsabaa1977832@gmail.com</a></b>
<b>8. Course Objectives</b>	<ol style="list-style-type: none"><li>1. Learn about forensic science</li><li>2. How to deal with forensic cases received by health institutions.</li><li>3. How to write medical reports on the living and the dead.</li><li>4. How to write different death certificates and their importance.</li><li>5. Get acquainted with the rest of the relevant forensic sciences.</li><li>6. Encouraging students to engage in this rare specialty in the future</li></ol>
<b>9. Teaching and Learning Strategies</b>	<ol style="list-style-type: none"><li>1. Theoretical lectures using the data show to display the various medical images.</li><li>2. .Practical application of the concepts that have been studied in specialized laboratories</li><li>3. Seminars (students are assigned a topic within the curriculum for presentation and discussion)</li><li>4. Field visits to the forensic medicine department to learn how to examine the living and dissection of the dead.</li></ol>

5. In-person and electronic blended education via e-learning platforms (Classroom).

**10. The structure of the course for theoretical forensic medicine / fourth academic level / first course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluative method</b>
1	2	Definition of death and signs of denial and emphatic death	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
2	2	Suspended life or apparent death, death spots or bloody Regression	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
3	2	Dead tic granulation	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
4	2	Decomposition, rolesor stages of decomposition, cirrhosis, embalming	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
5	2	Wounds, the mechanism or mechanism of the occurrence of wounds, classification of wounds, bruises, typesof traumatic injuries	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
6	2	Acute wounds, stab wounds, puncture wounds, puncture wounds, wound	forensic medicine	Discussions, theoretical lectures and practical	Discussions, reports, tests and examinations

		Complications		sessions	
7	2	Forensic medical reports	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
8	2	seminal spots	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
9	2	Miscarriage	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
10	2	Asphyxia and its types, roles of violent suffocation, signs of violent suffocation, classification of cases of mechanical suffocation	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
11	2	Self-mutilation and its signs Stinging and how it occurs	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
12	2	Recognition	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
13	2	sexual assaults	forensic medicine	Discussions, theoretical lectures and	Discussions, reports, tests and

				practical sessions	examinations
14	2	blood spots	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
15	2	salivary spots	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations

**11. The structure of the course for practical forensic medicine / fourth academic level / first course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>evaluation method</b>
1	2	Definition of death and signs of denial and emphatic death	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
2	2	Suspended life or apparent death, death spots or bloody Regression	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
3	2	Dead tic granulation	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
4	2	Decomposition, roles or stages of decomposition, cirrhosis, embalming	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations

5	2	Wounds, the mechanism or mechanism of the occurrence of wounds, classification of wounds, bruises, types of traumatic injuries	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
6	2	Acute wounds, stabwounds, puncture wounds, puncture wounds, wound complications	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
7	2	Forensic medical reports	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
8	2	seminal spots	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
9	2	Miscarriage	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
10	2	Asphyxia and its types, roles of violent suffocation, signs of violent suffocation, classification of cases of mechanical suffocation	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
11	2	Self-mutilation and its signs Stinging and how it occurs	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
12	2	Recognition	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
13	2	sexual assaults	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations

14	2	blood spots	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
15	2	salivary spots	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations

**12. The structure of the course for theoretical forensic medicine / second course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluative method</b>
1	2	The dead newborn and the killing of the child's temporal tortured meaning	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
2	2	Criminal Forensic Medicine	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
3	2	Writing medical and forensic reports	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
4	2	Birth and death Certificates	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations

5	2	toxicology- Introduction to poisons and their diagnosis	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
6	2	Eating toxins	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
7	2	Invasive toxins, volatile toxins	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
8	2	Plant and genetic toxins - insecticides	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
9	2	food poisoning	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
10	2	Professional behavior throughout history  In the Babylonian era - Hammurabi and Greek  Law	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
11	2	In Islamic times The development of the Hippocratic oath  by Arab doctors	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations

12	2	The responsibility of the doctor is more important than the Fault	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
13	2	Doctor and government laws Abortion, contraception, medical advice, and the involvement of colleagues in the responsibility of treating the patient and transmitting disease among themselves	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
14	2	Patient fees and charges Medical experiments on humans and the autopsy of the dead	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations
15	2	The character of the doctor and his relationship with people, patients and Colleagues	forensic medicine	Discussions, theoretical lectures and practical sessions	Discussions, reports, tests and examinations

**13. The structure of the course for practical forensic medicine / fourth academic level / second course**

<b>Week</b>	<b>hours</b>	<b>Required educational Goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluation method</b>
1	2	Hair and fiber check	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations

2	2	Chemical changes in the blood after death	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
3	2	Firearm wounds	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
4	2	dry burns	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
5	2	scalded burns	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
6	2	Burn complications	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
7	2	Introduction to forensic toxicology	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
8	2	Coal gas poisoning	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
9	2	collection of visceral sample	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
10	2	The fate of toxins in the body	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations

11	2	Sudden death	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
12	2	Estimated time spent on wounds	forensic medicine	Forensic medicine laboratory	Discussions, reports, tests and examinations
13	2	Road accidents and lightning injuries	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
14	2	Hymen and forensic medicine	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations
15	2	age estimate	forensic medicine	forensic medicine laboratory	Discussions, reports, tests and examinations

**14. The structure of the course for practical forensic medicine / fourth academic level /  
second course**

<b>Week</b>	<b>hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluation method</b>
1	2	Hair and fiber check	forensic medicine	Forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
2	2	Chemical changes in the blood after death	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical

					sessions
3	2	Firearm wounds	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
4	2	dry burns	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
5	2	scalded burns	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
6	2	Burn complications	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
7	2	Introduction to forensic toxicology	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
8	2	Coal gas poisoning	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
9	2	collection of visceral sample	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions

10	2	The fate of toxins in the body	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
11	2	Sudden death	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
12	2	Estimated time spent on wounds	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
13	2	Road accidents and lightning injuries	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
14	2	Hymen and forensic medicine	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions
15	2	age estimate	forensic medicine	forensic medicine laboratory	Discussions, theoretical lectures and practical sessions

### 15. Cours Evaluation

- 1- Mid-course and final exams.
- 2- Pop quizzes.
- 3- Oral, practical and clinical examinations.
- 4- 5- Reports.

## 16. Infrastructure of forensic medicine

1-Required course books	Textbook of Forensic Medicine and Toxicology. Jaypee Brothers, Medical Publishers. 2010. 2. Principles of Forensic Medicine and Toxicology. Rajesh Bardale. 2011
2- main references (sources)	Forensic Toxicology
3- Recommended books and references (scientific journals, reports)	Journal of Forensic Medicine
4- Electronic references, websites	<a href="http://www.ijfmt.com/">http://www.ijfmt.com/</a> <a href="https://www.bmj.com/content/2/5548/361">https://www.bmj.com/content/2/5548/361</a>



## • Academic Description Form For Obstetrics and Gynecology

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

### 1. Program Vision

\*Effective contribution to medical progress through education and preparing qualified doctors to provide the best medical services and continuing scientific research in all medical fields

\*Preparing doctors with competence and scientific experience to diagnose and treat women's diseases and problems of pregnancy and childbirth To which both the pregnant woman and the fetus are exposed

### 2. Program Mission

- Excellence in innovating and following advanced scientific methods in diagnosing and treating women's diseases and problems of pregnancy and childbirth  
Which both the pregnant woman and the fetus are exposed to, and the preparation of scientific medical research that contributes to community service.
- Establishing solid relations with researchers in international universities.

### 3. Program Objectives

1. Graduating doctors and scientists who possess scientific backgrounds and clinical and research skills
2. Strive to obtain a specialization degree in various medical specialties
3. Contributing to preparing future leaders in the health and educational fields
4. Introducing modern educational methods and advanced technologies into teaching methods and preparing educational programs for the college  
Employing information and communication technologies in the process of transferring production, knowledge, scientific research, and preparing programs Scientific.
5. Activating participation, coordination and integration between the college and society through holding seminars, conferences and seminars.  
Study session to discuss health and scientific issues of the country.
6. Establishing cultural exchange relations and bilateral or collective agreements with Arab universities and professional organizations  
Globalism

#### 4. Program Accreditation

Theoretical and practical study and discussions of in-person and electronic blended learning (via the Classroom platform)

#### 5. Other external influences

The teaching hospital, the library, the Internet, the community, the Doctors Syndicate

#### 6. Program Structure 4<sup>th</sup> academic level

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	1	6 hours 1 <sup>st</sup> course 6 hours 2 <sup>nd</sup> course	100	Basic
College requirements	1	6 hours 1 <sup>st</sup> course 6 hours 2 <sup>nd</sup> course	100	Basic
Department requirements	1	6 hours 1 <sup>st</sup> course 6 hours 2 <sup>nd</sup> course	100	Basic
summer training	nothing			

- Notes may include whether the course is core or elective.

#### 6. Program Structure 5<sup>th</sup> academic level

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	1	3 hours 1 <sup>st</sup> course + 3 hours 2 <sup>nd</sup> course	100	Basic
College requirements	1	3 hours 1 <sup>st</sup> course +3 hours 2 <sup>nd</sup> course	100	Basic
Department requirements	1	3 hours 1 <sup>st</sup> course +3 hours 2 <sup>nd</sup> course	100	Basic

summer training	nothing			
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### 6. Program Structure 6<sup>th</sup> academic level

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	1	12 hours	100	Basic
College requirements	1	12 hours	100	Basic
Department requirements	1	12 hours	100	Basic
summer training	nothing			

### 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
4 <sup>th</sup>	OBGY405 OBGY406	Obstetrics	120	120
5 <sup>th</sup>	GYN511	Gynecology	60	60
6 <sup>th</sup>	OBGY603	Obstetrics and gynecology	360	360

### 8. Expected learning outcomes of the program

#### Knowledge

-Learn to take a medical history and clinical examination for pregnant women -Learn the stages of human development	Explaining the physiological changes in a woman's body Statement of diseases affecting the reproductive system
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#### Skills

Performance skills by involving the student in the lesson and clinical training	Demonstrating the student's ability to diagnose and treat diseases
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Ethics	
-Enhancing the spirit of cooperation and teamwork -Enhancing moral and humanitarian aspects	Conducting awareness and guidance campaigns Highlighting the humanitarian and moral aspects

### 9. Teaching and Learning Strategies

1. Theoretical lectures and practical application
2. Weekly seminars and discussions
3. Small group discussions suggest solutions to individual and societal problems

### 10. Evaluation methods

1. Daily theoretical and practical exams
2. Mid-course and end-of-course exams
3. Seminars (each student is assigned a topic for presentation and discussion)

### 11. Faculty

#### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	General medicine and surgery	Gynecology and obstetrics specialist			4	None
assisted professor	General medicine and surgery	Gynecology and obstetrics specialist			1	None
teacher	General medicine and surgery	Gynecology and obstetrics specialist			2	None
College teaching assistant	General medicine and surgery				7	None

## **Professional Development**

### **Mentoring new faculty members**

Preparing seminars and introductory courses for new teachers, along with holding periodic meetings to introduce them to work contexts, daily guidance, continuous follow-up, and giving advice and directions.

### **Professional development of faculty members**

1. Using modern means to search for new information
2. Attending specialized scientific seminars to learn about developments in the medical field
3. Active participation in practical classes in specialized laboratories and teaching hospitals
4. Applying the accumulated information practically in teaching hospitals and conducting scientific research

## **12. Acceptance Criterion**

1. Admission will be centrally through the Ministry of Higher Education and Scientific Research, based on the student's grades in the sixth scientific year, after preparing the relevant form electronically.
2. Parallel acceptance channel

## **13. The most important sources of information about the program**

1. The university and college website
2. The website of the Ministry of Higher Education and Scientific Research
3. The college library and the central library at the university

## **14 . Program Development Plan**

Striving towards developing, refining and mastering the skills necessary to be able to rise to the top by using the capabilities, qualifications and information acquired during theoretical, practical and applied study. This is done by:

1. Continuous learning through searching for new developments using the library and the Internet
2. Attending specialized scientific seminars and seminars
3. Active presence in teaching hospitals to hone skills and break the barrier of fear and hesitation.

<b>Program Skill Outline</b>															
				<b>Required program Learning outcomes</b>											
<b>Year/Level</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Basic or optional</b>	<b>Knowledge</b>				<b>Skills</b>				<b>Ethics</b>			
				<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>	<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>
<b>4<sup>th</sup></b>	<b>OBGY405 OBGY406</b>	<b>Obstetrics</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>5<sup>th</sup></b>	<b>GYN511</b>	<b>Gynecology</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>6<sup>th</sup></b>	<b>OBGY603</b>	<b>Obstetrics and gynecology</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

## Course Description Form Gynecology and obstetrics

### 1. Course Name:

Gynecology and obstetrics

### 2. Course Code:

OBGY405 OBGY406

GYN511

OBGY 603

### 3. Semester / Year:

1<sup>st</sup> and 2<sup>nd</sup> course 2023 / 2024

### 4. Description Preparation Date:

2024

### 5. Available Attendance Forms:

Mandatory attendance

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

The fourth stage (first course) 60 hours (30 theoretical hours + 30 practical hours)

Fourth (second course) 60 hours (30 theoretical hours + 30 practical hours)

The fifth stage (first course) 30 hours of study

Fifth (second course) 30 hours of theory

The sixth stage: 360 hours (30 hours per week for 12 weeks)

### 7. Course administrator's name (mention all, if more than one name)

Name: SwsanTalib Email:

[sawsan@uodiyala.edu.iq](mailto:sawsan@uodiyala.edu.iq)

### 8. Course Objectives

#### Course Objectives

1. Acquire the knowledge and skills necessary to provide health maintenance and disease prevention for women.
2. Develop the cognitive and technical skills needed in outpatient clinics, emergency rooms, inpatient units, operating rooms and delivery rooms to manage obstetrics and gynecology problems.
3. To gain an understanding of the foundations of the basic sciences of clinical obstetrics and gynecology that will form the basis of evidence-based clinical practice and lifelong continuing medical education.
4. Develop the personal skills necessary to deal effectively with patients, other health professionals, and colleagues, and to work not only as students but also as teachers.

5. To gain an understanding of health care systems and management so as to advocate and deliver the highest quality patient care

9. Teaching and Learning Strategies

<b>Strategy</b>	<b>1.:Theoretical lectures and practical application</b> <b>2. Weekly seminars and discussions</b> <b>3. Small group discussions suggest solutions to individual and societal problems</b>
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**10- Structure of the text and theoretical and practical obstetrics and gynecology / fourth academic level / first course**

<b>Week</b>	<b>Hours</b>	<b>Required Learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation methods</b>
1	2 hrs	To know Early pregnancy change include ( Blood, respiratory tract, Cardiovascular system gastrointestinal changes, The kidneys and urinary tract, Reproductive organs	Normal pregnancy – physiological	lecture	exam
2	2 hrs	To know how the fetus is developing from a zygote to full developed fetus Clinical applications of embryonic development and early identification of developmental abnormality Summary of the aims of studying fetal development	Fetal growth and development	lecture	exam
3	2 hrs	1-Discuss the ERYTHROPOIESIS IN PREGNANCY 2- Identify Types of ANEMIA 3- Discuss EFFECTS OF ANAEMIA ON PREGNANCY 4- Identify the CLINICAL FEATURES OF IRONDEFICIENCY ANAEMIA 5-Outline of specific MANAGEMENT OF ANEMIA in pregnancy	Hematological abnormalities in pregnancy	lecture	exam

4	2 hrs	To know Diagnostic ultrasound in obstetric practice Clinical applications of ultrasound . Scanning schedule in clinical practice Ultrasound in the assessment of fetal well-being Ultrasound and invasive procedures Summary of the aims of obstetric ultrasound MRI	Antenatal imaging and assessment of fetal wellbeing	lecture	exam
5	2 hrs	1-To know the Every Visit need to asses / Weight, Blood pressure, Indications to go to hospital. 2-Discuss specific Prenatal labs 3- Estimated Detailed history and physical exam 4- Estimated date of delivery 5-Outline measures to asses fetal wellbieng in the 2 <sup>nd</sup> trimester include(Fetal heart rate tones (starting at 12 weeks( (nuchal translucency,;) Maternal serum screen (AFP, uE3, $\beta$ -hCG; Chorionic villus sampling (11-13 weeks) •Amniocentesis (15-17 weeks) •To know Detailed Ultrasound 6.asses Fetal surveillance	Prenatal diagnosis	lecture	exam
6	2 hrs	1- Identify the miscarriage 2--To evaluate factors associated with1st and second-trimester pregnancy	1st and 2nd trimester pregnancy loss	lecture	exam

		<p>loss</p> <p>3-To know causes of miscarriage</p> <p>4- Identify the Signs and symptoms of miscarriage</p> <p>5- Determine infection causes miscarriage and Outline measures of prevention</p> <p>6- List &amp; interpret lab. findings</p> <p>7- Discuss specific treatment And Outline management</p>			
7	2 hrs	<p>To know Anatomy of the female pelvis and the fetus relevant to labour</p> <p>Abnormality of pelvic organ that lead to abnormal labour</p>	<p>Minor disorders of pregnancy and problems due to abnormalities of pelvic organs</p>	lecture	exam
8	2 hrs	<p>To know the</p> <ol style="list-style-type: none"> <li>1. Pathogenesis ,risk factors</li> <li>2. Sign and symptom management</li> </ol>	<p>Venous thromboembolism</p>	lecture	exam
9	2 hrs	<ol style="list-style-type: none"> <li>1. Defined as vaginal bleeding from 24 wk to delivery of the baby</li> <li>2. to know placenta previa types, clinical feature, complications and treatment</li> <li>3. to know the placental abruption types, causes, sequelae, and treatments</li> <li>4. to know the postpartum hemorrhage definition, risk factors, causes, diagnosis and treatments</li> </ol>	<p>Antepartum and postpartum haemorrhage</p>	lecture	exam
10	2 hrs	<p>Define IUGR</p>	<p>IUGR and</p>	lecture	exam

		<p>Describe the pathophysiology of IUGR</p> <p>Identify the etiology Of IUGR</p> <p>Describe the types of IUFR</p> <p>Identify the Risk factors of IUGR</p> <p>Describe the clinical approach to IUGR &amp; how to differentiate between symmetrical &amp; asymmetrical IUGR</p> <p>Outline the management of IUGR</p> <p>Explain the effects, Mechanism &amp; complications of each line of management</p>	amniotic fluid abnormalities		
11	2 hrs	<p>1. Define malposition &amp; malpresentation</p> <p>2- identify the aetiological &amp; risk factors of malpresentation &amp; malposition</p> <p>3- Present an approach to recognizing &amp; treating the common types of malposition &amp; malpresentation</p> <p>4- Enumerate complications of each type</p> <p>5- Use the history &amp; physical exam. to recognize the presentation.</p>	Malposition and malpresentation	lecture	exam
12	2 hrs	<p>Definitions of twin pregnancy &amp; what is multiple pregnancy</p> <p>2- Explain the Causes of multiple pregnancy, types of twin pregnancy</p> <p>3- What are the complications encountered by each type of</p>	Multiple pregnancy	lecture	exam

		<p>twin</p> <p>4-outline management of each problem occur in each type</p> <p>5-Conduct a counseling &amp; education program for caregivers of pregnant women with twin pregnancy</p> <p>6-Conduct an ongoing program to monitor a pregnant with twin pregnancy</p> <p>7-Appropriately utilize hospitalization, consultation with other health professionals &amp; community resources</p> <p>Explain the mode of delivery according to the type of twin,presentation of first twin</p>			
13	2 hrs	<p>1-To know Classification of Hypertension in pregnancy</p> <p>2- Discuss the Diagnosis of Hypertension and Proteinuria</p> <p>3- Outline measures of Prediction and Prevention of Preeclampsia and Associated Complications</p> <p>4- Discuss specific treatment And Outline Management Principles for the Hypertensive Disorders of Pregnancy</p>	Hypertension in pregnancy	lecture	exam
14	2 hrs	<p>To know the Risk factors that predispose to preterm labour and PROM</p> <p>Management of preterm labour and PROM and how to differentiate between them</p>	Preterm labour and (PPROM)	lecture	exam

**11- Structure of the text and theoretical and practical obstetrics and gynecology / fourth academic level / second course**

<b>Weeks</b>	<b>Hours</b>	<b>Required Learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1	2 hrs	Know about management and complication of medical disease ( congenital heart disease ,epilepsy, asthma, renal ,thyroid disease )	Diabetes in pregnancy	lecture	exam
2	2 hrs	1. VIRAL HEPATITIS 2. TB IN PREGNANCY 3. SYPHILIS 4. GONORRHEA& CHLAMYDIA 5. GROUP B STREPTOCOCCAL 6. TOXOPLASMOSIS: 7. PYELONEPHRITIS IN PREGNANCY VIRAL INFECTIONS	Medical disorders in pregnancy	lecture	exam
3	2 hrs	1.Defines as a physiological process characterized by painful ,regular uterine contraction associated with cervical changes ending by delivery of fetus &placenta 2.Describe mechanism of labor and how to diagnose labor by sign &symptoms 3-Determine the stages of labor	Labour	lecture	exam
4	2 hrs	To know Indication and contraindication and complications of induction Mode of induction	Induction of labour and prolong pregnancy	lecture	exam
5	2 hrs	To know 1. Indications and contraindications of instrumental delivery 2.effect on mother and baby	Operative delivery	lecture	exam
6	2 hrs	1.Definition of episiotomy, indication. degree, and management	Haematoma.&perineal injuries	lecture	exam
7	2 hrs	1.recognized risk factors	Shoulder dystosia	lecture	exam

		for shoulder dystocia 2.utilized a systemic approach to managing shoulder dystocia 3.demonstrate appropriate maneuvers to reduce a shoulder dystocia using the HELPERR mnemonic			
8	2 hrs	1- Physiological changes of uterus ,cervix ,br east, and urinary system 2- Abnormalities es of the Puerperium 3- 1-Puerperal Pyrexia ,singe and symptom and management	Normal and abnormal puerperium	lecture	exam
9	2 hrs	To know All type of psychiatric problem How to differentiate between them	Psychiatric disorders in pregnancy and puerperium	lecture	exam
10	2 hrs	1-Describe the placental transfer of drugs and their effect on embryogenesis. 2-Identify the methods to screen for drugs in the mother and neonate. 3- Understand the short- and long-term adverse effects of some drugs in the newborn. 4-Identify therapies for the drugexposed neonate.	Neonatology and anesthesia and analgesia in pregnancy	lecture	exam
11	2 hrs	Complication during neonatal period Effect of different drugs during pregnancy	Drug misuse and physical abuse	lecture	exam
12	2 hrs	To know the 1.pathophysiol ogy of immunization 2. Prevention of rhesus isoimmunization 3. Indication for administration of antiD 4.prevention and management	RH isoimmunization	lecture	exam
13	2 hrs	To know the 1.uterin inversion etiology, epidemiology, diagnosis	Obestetric emergency	lecture	exam

		and management 2. Umbilical cord accidents (cord prolapse) Etiology and epidemiology Diagnosis, risk factors and management			
14	2 hrs	to know the 1.anatomy of fetal skull and diameters 2. the pelvic brim and types of pelvis	Anatomy of the female pelvis and the fetus relevant to labour	lecture	exam
15	2hrs	To know the 2. Pathophysiology of shock 3. Classification of shock 4. Manage ment of shock	Shock in obstetrics	lecture	exam

**12- Structure of the text and theoretical and practical obstetrics and gynecology / fifth academic level / first course**

<b>Week</b>	<b>Hours</b>	<b>Required Learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation methods</b>
1	2 hrs	1-TO know details history and physical examination 2- Elicit a history that is relevant, concise and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and/or management 3- Perform a focused physical examination that is relevant and accurate for the purposes of prevention an health promotion, diagnosis and/or management 4- Select medically appropriate investigative methods 5- Demonstrate effective clinical problem solving and judgment to address patient Problems	Gynecologic al assessment of the patient	lecture	exam
2	2 hrs	To know the Anatomy of pelvic organ and the	Embryology and Anatomy	lecture	exam

		embryological origin of organ			
3	2 hrs	To know causes and management of both Precocious and delayed puberty	Normal and abnormal sexual development and puberty	lecture	exam
4	2 hrs	1.To know the physiology of menstruation 2-Discuss the clinical application of menstruation 3.	The normal menstrual cycle	lecture	exam
5	2 hrs	differentiate between primary &secondary dysmenorrhea outline management of dysmenorrhea	Disorder of menstrual cycle	lecture	exam
6	2 hrs	1.To know all type of contraception hormonal, nonhormonal 2.diffrentiate between all type 3.knowlage mode of use and contraindications for each type	Fertility control	lecture	exam
7	2 hrs	To know aetiology of Hirsutism ,virilism and hyperprolactinemia and management	Hirsutism,virilism and hyperprolact inemia	lecture	exam
8	2 hrs	1.knowlage the normal physiology and defense mechanism 2.deffrentiatebetween all type of genital tract infections by history, clinical examination and laboratory test 3.know to counsel the patient about mode of transmission if sexually transmitted or not 4. how to treat and management and prevent recurrence	Lower genital tract infections	lecture	exam
9	2 hrs	To know instrument, indication and complication of both Laparoscopy and hysteroscopy	Laproscopy and hysteroscopy	lecture	exam
10	2 hrs	Determine Risk factors	Pelvic inflammatory	lecture	exam

		of Pelvic Organ Prolapse Identify Cystocele (anterior prolapse) Cytourethrocele Outline measures of prevention Outline of management and specific treatment	disease		
11 12 13	6 hrs	Definition of infertility All types of infertility male and female type Who to do assessment of infertile couple All investigation done for both partner Management for each type of Infertility	Infertility	lecture	exam
14	2 hrs	1-Definition of ectopic pregnancy 2- causes and sign ,symptom 3- management. 4- Definition,types management, risk factor And follow-up	Problems in early pregnancy	lecture	exam
15	2 hrs	1. Define recurrent pregnancy loss 2. Know the causes of RPL 3. Describe the routine investigation of RPL 4. Outline the management of RPL 5- Clarify how to counsel a women with RPL	Recurrent pregnancy loss(RPL)	lecture	exam

**13- Structure of the text and theoretical and practical obstetrics and gynecology / fifth academic level / second course**

Week	Hours	Required Learning Outcome	Unit or subject name	Learning method	Evaluation methods
1	2 hrs	1. know all type of endometrial hyperplasia & its risk of malignant transformation 2- Clarify different type of malignant uterine tumor 2. Discuss the role of	Benign diseases of uterus and cervix	Lecture	exam

		ultrasound, CT scan and MRI in diagnosis 3.List the risk factors of endometrial carcinoma 4. Clarify the staging of tumor and treatment by chemotherapy and surgery 5.Know how to do follow up to patient with endometrial carcinoma			
2	2 hrs	Disease risk factors, risk factors, etiology, diagnosis and treatment	Endometriosis and adenomyosis	Lecture	exam
3	2 hrs	1.know all type of ovarian tumor benign and malignant 2.role of ultrasound, CT scan and MRI in diagnosis 3.role of tumor marker in diagnosis of ovarian tumor 4.staging of tumor and treatment by chemotherapy and surgery 5. how to do follow up to patient with ovarian tumor	Benign and malignant Ovarian tumor	lecture	exam
4	2 hrs	1.know all type of endometrial hyperplasia & its risk of malignant transformation 2- Clarify different type of malignant uterine tumor 2. Discuss the role of ultrasound, CT scan and MRI in diagnosis 3.List the risk factors of endometrial carcinoma 4. Clarify the staging of tumour and treatment by chemotherapy and surgery 5.Know how to do follow up to patient with endometrial carcinoma	Malignant diseases of the uterus	Lecture	exam
5	2 hrs	1 -Demonstrate Types of Carcinoma of cervix 2 -outline of	Premalignant and malignant diseases of the cervix	Lecture	exam

		management and Treatments 3 -Identify Stages of malignancy 4- To know Risk factors 5- discuss the diagnosis And Managements			
6	2 hrs	1.To know Benign conditions that may affect the vagina and management 2.To know malignant conditions that may affect the vagina and management	Conditions affecting the vagina	Lecture	exam
7	2 hrs	1.To know Benign conditions that may affect the vulva and management 2.To know malignant conditions that may affect the vulva and management	Conditions affecting the vulva	Lecture	exam
8	2 hrs	1- Identify risk factors of urine incontinence 2- Identify stress and urge incontinence 3- Outline measures of prevention Outline of management and specific treatment	Urogynecology	Lecture	exam
9	2 hrs	2-Determine Risk factors of Pelvic Organ Prolapse 3- Identify Cystocele (anterior prolapse) Cystourethrocele 3- Outline measures of prevention 4- Outline of management and specific treatment	Pelvic organ prolapse	lecture	exam
10	2 hrs	1-Define menopause 2- discuss physiological changes that preceding menopause 3-list the type of menopause 4- clarify the signs& symptoms of	Menopause & Hormone replacement therapy(HR T	Lecture	exam

		menopause 5-know the complications of menopause 6-discuss how to manage menopause 7-discuss the indications, contraindications of HRT 8-discuss the association of menopause with osteoporosis			
11 12 13	6 hrs	To know the type of amenorrhea and its definition How to do investigation and management	Primary and secondary amenorrhea	Lecture	exam
14	2 hrs	To know the ethical aspect of examination and how to deal with patient	Psychologic al and ethical aspects of gynecology	Lecture	exam
15	2 hrs	Minor and major procedure in gynecology	Common gynecologic al procedures	Lecture	exam

#### 14- Structure of the text and theoretical and practical obstetrics and gynecology / sixth academic level

week	Seminar	Required educational goals	Hours	Practical	Required educational goals	hours
1 <sup>st</sup>	Antenatal imaging and assessment of fetal wellbeing	To know Diagnostic ultrasound in obstetric practice Clinical applications of ultrasound Scanning schedule in clinical practice Ultrasound in the assessment of fetal wellbeing Ultrasound and invasive procedures . Summary of	2	History and exam	training how to do assessment of fetal wellbeing and ultrasound role training how to do NST	30
2 <sup>nd</sup>	Venous thromboembolism	To know the Pathogenesis ,risk factors Sign and symptom	2	History and exam	Training to detect and diagnosed DVT and	30

		Management			manage it To know risk factors for development DVT How to advise the mother to prevent DVT	
3 <sup>rd</sup>	Antepartum and postpartum hemorrhage	1. Defined as vaginal bleeding from 24 wk to delivery of the baby 2. to know placenta previa types, clinical feature, complications and treatment 3. to know the placental abruption types, causes sequel and treatments 4. to know the postpartum hemorrhage definition, risk factors, causes, diagnosis and treatments	2	History and exam	Training how to differentiate between placenta prevail and abruption and how to do management Training how to manage patients in shock state and how to fallow the role ABCD	30
4 <sup>th</sup>	Malposition and malpresentation	Define malposition & malpresentation 2- identifies the etiological & risk factors of malpresentation & malposition 3- Present an approach to recognizing & treating the common types of malposion & malpresentation 4- Enumerate complications of each type 5- Use the history &	2	History and exam	- Doing scientific steps of examination in sequence, including inspection, palpation, percussion, and auscultation & Leopold maneuver to identify the type of malpresentation & malposition - Detection of	30

		physical exam. to recognize the presentation.			signs of the implicated type.	
5 <sup>th</sup>	Obstetric emergency	How to know 1.uterin inversion etiology, epidemiology, diagnosis and management 2. Umbilical cord accidents (cordprolapse) Etiology and epidemiology Diagnosis,risk factors and management 3.recognized risk factors for shoulder dystocia 4.utilized a systemic approach to managing shoulder dystocia 3.demonstrate appropriate maneuvers to reduce a shoulder dystocia using the HELPERR mnemonic	2	History and exam	How to deal with emergency obstetrics and how to do management demonstrate appropriate maneuvers to reduce a shoulder dystocia using the HELPERR mnemonic	30
6 <sup>th</sup>	Medical disorders in pregnancy Diabetes in pregnancy Hypertension in pregnancy	Know about management and complication of medical disease ( congenital heart disease ,epilepsy, asthma, renal ,thyroid disease ) To know the 1. Definitions 2. Maternal and fetal complications Counseling and management 1-To know Classification of Hypertension in	2	History and exam	How to deal with complication of medical obstetrics disease and how to do management Training to detect the high risk for diabetes and how to do management How to deal with emergency	30

		<p>pregnancy 2- Discuss the Diagnosis of Hypertension and Proteinuria 3- Outline measures of Prediction and Prevention of Preeclampsia and Associated Complications 4- Discuss specific treatment And Outline Management Principles for the Hypertensive Disorders of Pregnancy</p>			<p>obstetrics and how to do management of patient with ecliptics fit and preeclampsia.</p>	
7 <sup>th</sup>	labor & Operative delivery	<p>1.Defines as a physiological process characterized by painful ,regular uterine contraction associated with cervical changes ending by delivery of fetus&amp;placenta 2.Describe mechanism of labor and how to diagnose labor by sign &amp;symptoms 3- Determine the stages of labor To know 4. Indications and contraindications of instrumental delivery 2.effect on mother and baby</p>	2	History and exam	<p>Training how to diagnose labor clinically 2 - identify the point that differentiate true from false labor 3 - Outlines the items of history taking. Clinical skills to demonstrate the instrumental delivery</p>	30
8 <sup>th</sup>	Gynecological assessment of the patient	<p>1-TO know details history and physical examination 2- Elicit a history that is relevant, concise</p>	2	History and exam	<p>Training to do: 1-history and physical examination 2- Elicit a history that is</p>	30

		and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and/or management 3- Perform a focused physical examination that is relevant and accurate for the purposes of prevention and health promotion, diagnosis and/or management 4- Select medically appropriate investigative methods 5 - Demonstrate effective clinical problem solving and judgment to address patient Problems			relevant, concise and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and/or management 3- Perform a focused physical examination that is relevant and accurate for the purposes of prevention and health promotion, diagnosis and/or management 4 - Select medically appropriate investigative methods 5 - Demonstrate effective clinical problem solving and judgment to address patient Problems	
9 <sup>th</sup>	Fertility control	1.To know all type of contraception hormonal, non - hormonal 2.diffrentiate between all type 3.knowlage mode	2	History and exam	Visit fertility control unite to know and see types of contraception' s and how to use and side	30

		of use and contraindications for each type			effect, contraindications and selection for patients	
10 <sup>th</sup>	Genital tract infections and sexually transmitted disease	1.knowledge the normal physiology and defense mechanism 2.differentiate between all type of genital tract infections by history, clinical examination and laboratory test 3.know to counsel the patient about mode of transmission if sexually transmitted or not 4. how to treat and management and prevent recurrence	2	History and exam	Training how to take history and do pelvic examination to patients How to advise the patients about sexually transmitted disease	30
11	Malignant diseases of the uterus Premalignant and malignant diseases of the cervix	1.know all type of endometrial hyperplasia & its risk of malignant transformation 2- Clarify different type of malignant uterine tumor 2. Discuss the role of ultrasound, CT scan and MRI in diagnosis 3.List the risk factors of endometrial carcinoma 4. Clarify the staging of tumor and treatment by chemotherapy and surgery 5.Know how to do follow up to patient with endometrial	2	History and exam	Training 1- how to do DNC and instruments used, complications and how to manage 2- how to do pap smear and instruments used	30

		carcinoma 1- Demonstrate Types of Carcinoma of cervix 2-outline of management and Treatments 3- Identify Stages of malignancy 4-To know Risk factors 5-discuss the diagnosis And Managements				
12	Review					

## 11.Cours Evaluation

sixth academic level / / Annual pursuit degree							
obstetrics	gynecology	Lock book	Seminar	Attendance	Obs + gyn	Practical exam	total
2 %	2 %	1 %	1 %	1 %	7 %	6 %	20 %

Sixth academic level ( final exam )			
Theoretical exam	Practical exam	Slides	Total
40 %	20 %	20 %	60 %

$$20 \% + 60 \% = 100$$

Fifth academic level							
quizzes	Activities	Attendance	Theoretical exam 1	Theoretical exam 2	Annual pursuit degree	Final exam	Total
3%	6 %	1 %	15 %	15 %	40 %	60 %	100 %

Fourth academic level (Annual pursuit degree)				
slides	activities	Theoretical exam 1	Theoretical exam 2	Annual pursuit degree
10 %	5 %	12.5	12.5	40 %

Fourth academic level ( final exam )		
Theoretical exam	Practical exam	Total
40 %	20 %	60 %

$$40 \% + 60 \% = 100 \%$$

## 12. Learning and Teaching Resources

Required textbooks (curricular book , if any) :

**Ten Teachers Obstetrics**

Main references (source) :

**Essentials in Obstetrics**

**Illustrated Obstetrics**

Recommended book and references (scientific journals , reports .....)

**Dwuharts textbook of Obstetrics & Gynecology**

**William's textbook of Obstetrics, DC Dutta's Textbook of Obstetrics, 8th Edition**

Electronic References , Website

<https://www.rcog.org.uk/guidelines>

## • Academic description form for the pediatric branch

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description .

### 1. Program Vision

Obtaining the trust, support, and accreditation of colleges, universities, and reputable local and foreign scientific institutions, and improving the level of pediatrics in teaching and training.

### 2. Program Mission

- Providing high-quality academic service across a wide range of clinical, educational and research activities within teaching hospitals.
- Enhancing the clinical capabilities and skills of students in order to create a generation of qualified graduates.

.The branch seeks to achieve scientific and cognitive integration and reach international standards in the field of medical education in terms of quality and integrity, competing with the branches of pediatrics in Iraqi and international medical colleges, and supporting the process of progress in beloved Iraq.

- Meeting the country's need for pediatricians with high scientific qualifications who are qualified to be leaders in the medical and educational field by providing knowledge of the latest findings in pediatric medicine and high-level clinical training, and with a moral and patriotic sense that makes them able to advance the health situation and provide the best medical services to the community. Encouraging them to pursue medical research by reviewing the latest research.

### 3. Program Objectives

The main goal of the Pediatrics Branch is to prepare a doctor who possesses the knowledge and training that gives him the theoretical and clinical scientific ability and

capabilities necessary to perform his work and interact fully in his field of work and accomplish what is required of him to serve the patient, society and the state according to the work conditions and his capabilities and the ability to develop himself and his job to improve the job performance required of him and to which he aspires.

#### 4. Program Accreditation

The work is still in the process of applying for global accreditation

#### 5. Other external influences

The program's only connection is with the college, university, ministry, and other medical colleges in Iraq. There are no other external influences.

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institutes requirements	3	18	100 %	Basic
College requirements	3	18	100 %	Basic
Department Requirements	3	18	100%	Basic
Summer Training	1	12	-	Basic ( part of basic training in 6 <sup>th</sup> stage)
Other				

## 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
Fifth	PED515, PED541	Pediatrics	theoretical 60	practical 60
Sixth	PED603	Pediatrics		300 practical 60 seminars

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

## 8. Expected learning outcomes of the program

### Knowledge

<ol style="list-style-type: none"> <li>The student gets to know the systems of the human body and the function of each part of it.</li> <li>For the student to recognize and study the components of each part of the body Its functions starting from the smallest component.</li> <li>To be able to recognize external influences on the health of the individual and society and avoid their harms and use useful ones.</li> </ol>	To distinguish between normal and abnormal conditions through studying the body's functions.
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### Skills

<ol style="list-style-type: none"> <li>Being able to apply the results of the theoretical study practically By dealing with medical cases.</li> <li>Being able to conduct scientific studies and research to solve Individual and societal problems.</li> </ol>	<ol style="list-style-type: none"> <li>Obtain practical skills to work in Pediatrics field</li> <li>To devise appropriate solutions to correct situations Unnatural</li> </ol>
Ability to use modern equipment to study the functions of body organs and diagnose pathological conditions.	Acquiring laboratory skills

### Ethics

Commitment to medical ethics in practicing the profession Consistent with community values.	Respect the rights of his colleagues and participate positively In scientific discussions to solve problems.
Commitment to actively attending discussion sessions.	Appreciate the importance of continuous study and renewal Information to keep pace with scientific development.

## 9. Teaching and Learning Strategies

<ol style="list-style-type: none"> <li>Theoretical lectures using illustrations</li> <li>Scientific application of concepts studied in specialized laboratories and teaching hospitals</li> <li>Seminars and panel discussions</li> <li>Solve problems after discussing them in small groups to develop appropriate solutions</li> </ol>
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## 10. Evaluation methods

1. Daily theoretical and practical exams.
2. Semester exams (half of the first course and half of the second course) (and the final of the courses) (theoretical and practical).
3. Seminars (each student is assigned a topic for presentation and discussion).
4. Extracurricular events, activities, and workshops.
5. Daily attendance

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor					3	
Professor assistant					1	
Lecturer					1	
Lecturer assistant					1	
Bachelor					3	

## Professional Development

### Mentoring new faculty members

1. Active participation in the management of the branch and the requirements of the scientific and administrative committees, examination committees, and others.
2. Commitment to the assignments issued by the Deanship or the University Presidency against teaching staff from committees, seminars, or Lectures or others and coordinating this with the branch schedule.

### Professional development of faculty members

1. Urging them to follow the educational process and the requirements of modernity in student education, training, and methods for preparing questions And evaluation.
2. Urging them to prepare scientific research and apply for scientific promotions.
3. Urging them to follow what is new in pediatric science.

## 12. Acceptance Criterion

Central acceptance by the Ministry

### **13. The most important sources of information about the program**

1. A website for the university and college
2. Website of the Ministry of Higher Education and Scientific Research
3. The college library and the central library at the university

### **14. Program Development Plan**

1. Increasing the number of teaching staff.
2. Opening postgraduate studies with an Iraqi board.
3. Pushing towards obtaining precise specialization.
4. More effective participation in conferences, forums, seminars and scientific programs.

**Skills Outline 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
Fifth	PED515	Pediatrics	Basic												
	PED541	Pediatrics	Basic												
Sixth	PED603	Pediatrics	Basic												

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

## Course Description Form for Pediatrics

<b>1. Course Name:</b>	
Pediatrics	
<b>2. Course Code:</b>	
PED541 , PED515/ Fifth stage PED603/ Sixth stage	
<b>3. Semester / Year:</b>	
Fifth stage / courses: the first course is 15 weeks and the second course is 15 weeks Sixth stage / courses: 4 courses, each course lasts 12 weeks	
<b>4. Description Preparation Date:</b>	
2024	
<b>5. Available Attendance Forms:</b>	
Theoretical, practical and discussions	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
Stage Five / First course: 30 theoretical hours (2 units) + 30 practical hours (1 unit) Second course: 30 theoretical hours (2 units) + 30 practical hours (1 unit) Sixth stage: 300 practical hours (10 units) + 60 hours of seminars (2 units)	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
1. Mahdi Sh. Jabar ..... Email: mahdi@uodiyala.edu.iq .....	
2. Najdat Sh. Mahmood ..... Email: <a href="mailto:najdat@uodiyala.edu.iq">najdat@uodiyala.edu.iq</a> .....	
<b>8. Course Objectives</b>	
<ul style="list-style-type: none"> <li>. Study the theoretical basis of pediatrics in normal and pathological cases.</li> <li>• Teaching students how to examine children and the mechanism of diagnosis and treatment of these medical conditions, especially emergency cases.</li> <li>• In addition to developing their role in educating patients to prevent the spread of diseases and how to prevent them through primary health centers.</li> </ul>	
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1. Theoretical lectures using illustrations.</li> <li>2. Practical application of concepts studied in specialized laboratories and teaching hospitals.</li> <li>3. Seminars (students are assigned a topic within the curriculum for presentation and discussion).</li> <li>4. Solve scientific and medical problems by discussing their merits</li> </ol>

within small groups to reach the correct solution.  
 5. Using the skills laboratory to apply tests that are not possible for sick children.

## 10. Course Structure

### Pediatrics Fifth stage 1<sup>st</sup> course 15 weeks

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 <sup>st</sup>	2	1. Concept of Growth & Development 2. Assess and measure growth accurately 3. Determine the formation & eruption of teeth 4. Plot & interpret growth charts 5. Assess different stages of normal developmental milestones 6. Determine the Pattern of growth 7- Describe periods of growth 8- Describe the factors which affect the Growth 9- Describe the types infant feeding 10- Advantages of breast feeding 11- Contra-indications of breast feeding 12- How to prepare bottle feed ?	Growth, development, and Nutrition	Interactive theoretical lecture + Training clinical	- Daily exams - Daily attendance
2 <sup>nd</sup>	2	1- Overview of Nutritional Requirements 2- Use the history & physical exam. to evaluate nutritional status. 3- Identify etiologic categories of malnutrition, 1ry, 2ry, 4- Present an approach to recognizing & treating some common nutritional problem of childhood. 5- Display an understanding of the principles for managing severe childhood under nutrition. 6- Definition of Malnutrition 7- Explain the Causes of Malnutrition 8- Measurement and Types of Malnutrition (marasmus and kwashiorkor) 9- Mild/Moderate Malnutrition	Malnutrition	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance

		(Underweight and Stunting) 10- Identify the Nutritional Deficiencies (Iodine & Fe. Vitamins –A,B,C,D,E,K) 11- Outline management of Severe Malnutrition			
3 <sup>rd</sup>	2	1- define the basic of human genetics. 2- describe the basic & types of inherited diseases. 3- identify the most common types of genetic aberrations in human being.	Genetics	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
4 <sup>th</sup>	2	- Differentiate between(Live vaccines, Attenuated live vaccines, Inactivated (killed vaccines) - Identify Types of vaccines. - Discuss Route of administration - Education & counseling for child, parents. - Discuss the benefits of immunization programs. - Communicate to patients and parents about vaccine benefits and risks - Conduct an effective plan of management for children regarding immunization - List possible complications of immunization - Diagnose potentially lethal anaphylaxis and initiate immediate treatment	Immunization	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
5 <sup>th</sup>	2	- Determine the IP & possible route of communication. - Outline measures of prevention - Identify the presenting features of the infection - Determine the immunization status of the infants/children. - Determine Hx of contacts, travel, farm visits, ingestion of un-pasteurized milk or undercooked meat, source of water supply - Elicit a Hx of the pregnancy & delivery, maternal Hx of fever, rash, flu-like illness, litter, etc.(Rubella) - List & interpret clinical & lab.	Infectious - Typhoid. - Kala-azar. - Brucellosis. - Chickenpox - Measles, - Rubella	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance

		findings which were key in the processes of exclusion,DDx & Dx: - Describe rapid viral testing, stool tests, & viral serology. - Define Outline treatment of (Typhoid, Kala-azar, Brucellosis, ,Chicken pox, Measles, Rubella.) - Enumerate complications of each disease.			
6 <sup>th</sup>	2	- Determine the IP & possible route of communication - Outline measures of prevention to contain the spread of communicable disease. - Identify the presenting features of the infection. - Determine the immunization status of the infants/children. - Determine Hx of contacts. - Determine complications and prognosis of infectious diseases - List & interpret clinical & lab. findings which were key in the processes of exclusion,DDx & Dx. - Conduct an initial plan of Mx for a pt with a childhood communicable diseases - Outline Mx of specific communicable diseases.	Infectious - mumps. - pertussis -scarlet fever - Roseola.	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
7 <sup>yh</sup>	2	- Determine the IP & possible route of infection. - Outline measures of prevention of viral hepatitis. - Describe rapid viral testing for (HAV, HBV, HCV, HDV, HEV) - Identify complications of viral hepatitis. - Identify the presenting features of the infection - Discuss specific treatment - Outline management - Conduct a counseling	Infectious - hepatitis A,B,C,D,E.	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
8 <sup>th</sup>	2	Identify the concept of NN sepsis -Describe the risk factors for NN sepsis -Explain the types of NN sepsis according to the onset -Identify the different etiologies -Discuss the clinical approach to NN sepsis	Neonatology	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance

		-Describe the sepsis( infectious) screen - Outline the treatment			
9 <sup>th</sup>	2	Define the concept Describe the pathophysiology of jaundice Identify the etiology of NN jaundice Describe the types of NN jaundice Identify the Risk factors of NN jaundice Describe the clinical approach to NN jaundice Outline the management of NN jaundice Explain the effects, Mechanism & complications of Phototherapy Enumerate the indications & complications of Exchange transfusion	Neonatology	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
10 <sup>th</sup>	2	1-Definitions 2-Eplain the Causes 3-What are the Problems encountered by LGA & SGA 4-outline management 5-Conduct a counseling & education program for caregivers of children with poor growth. 6-Conduct an ongoing program to monitor the progress of such children. 7-Appropriately utilize hospitalization, consultation with other health professionals & community resources	Neonatology	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
11 <sup>th</sup>	2	Fetal lung characteristics ,Causes and classification of cyanosis Identify the signs of Respiratory Distress , Describe the Evaluation and Investigation of Neonatal cyanosis General Management, Differential diagnosis of Neonatal cyanosis RDS(Describe the pathophysiology, Risk factors, clinical findings, X ray findings, Outline Management. Prevention, Prognosis) Transient tachypnea of newborn(TTN)(Concept, Mechanism, Risk factors, clinical	Neonatology	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance

		findings, X-ray findings, Outline Management) Meconium Aspiration Syndrome(Describe the epidemiology, clinical Features, X ray findings, management) Diaphragmatic Hernia(Identify the concept , Types , Describe the Clinical Features X ray findings, Outline the Management) Congenital pneumonia ( explain the Pathophysiology, Identify the risk factors and common M.O. ,Describe Clinical findings, X ray findings, Outline Treatment.			
12 <sup>th</sup>	2	1- Identify the risks and risk factors for poisoning in children. 2-Describe the clinical presentation of the important common poisoning in children. 3-Outlines the most important steps of management of poisoning.	Poisoning	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
13 <sup>th</sup>	2	Pneumonia (Definition ,etiology ,to assess the predisposing factors for recurrent pneumonia, clinical manifestations ,to differentiate between viral &bacterial pneumonia& outline the management &its complications) Bronchiolitis (Definition, etiology , clinical manifestations ,to know the criteria for admission to hospital ,to outline management& prevention.	Respiratory system	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
14 <sup>th</sup>	2	Asthma(Definition, etiology , pathophysiology ,to classify asthma according to severity ,to assess risk factors of exacerbations ,to know the drugs used in the management of acute exacerbations &controller therapy)	Respiratory system	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
15 <sup>th</sup>	2	Sore throat & strider(How to approach to a case presented with strider ,causes & management.	Respiratory system	Interactive theoretical lecture + Training clinical	Daily exams - Daily attendance
1 <sup>st</sup>	2	Define chronic diarrhea as > 2 weeks in duration.	GIT	Interactive theoretical	Daily exams - Daily attendance

		<p>-Differentiate small bowel &amp; large bowel diarrhea</p> <p>-Differentiate osmotic from secretory diarrhea, &amp; maldigestion from Malabsorption</p> <p>-List &amp; interpret clinical &amp; lab. findings which were key in the processes of exclusion,DDx &amp; Dx</p> <p>-Outline plan of management for patients with ch. diarrhea, including the prevention &amp; treatment of related complications (e.g. pts with CD, pancreatic insufficiency, vitamin &amp; mineral deficiencies.</p> <p>Diarrhea :</p> <p>1-Definition, Etiology&amp; Mechanism of diarrhea &amp; vomiting</p> <p>2-Assess the degree of dehydration &amp;Electrolytes disturbance</p> <p>3-Differential Dx.</p> <p>4- Outline Management of diarrheal diseases</p> <p>5-Expected Complications &amp; Prevention</p>		<p>lecture + training Clinical</p>	
2 <sup>nd</sup>	2	<p>Dehydration &amp; electrolytes changes:</p> <p>1- Determine the degree and type of dehydration/volume depletion,</p> <p>2- investigate possibility of electrolyte abnormalities (sodium/potassium/hydrogen ion concentration, )</p> <p>3-Determine Types of Fluids used in Replacement</p> <p>4-Discuss Fluid Therapy in Pediatric age group .</p> <p>Pediatric surgery:</p> <p>Select patients with abdominal pain(AP) who require emergency Tx.</p> <p>-Elicit clinical findings which are key to establish the most likely etiology of the pain</p> <p>-Differentiate acute from chronic pain &amp; organic from functional</p> <p>-Interpret abdominal x-rays</p>	<p>GIT Pediatric surgery</p>	<p>Interactive theoretical lecture + training Clinical</p>	<p>Daily exams - Daily attendance</p>

		<ul style="list-style-type: none"> <li>-Conduct an effective plan of Mx for a pt with AP</li> <li>-Determine which pts have significant liver dysfunction &amp; its cause</li> <li>-Differentiate between the causes of jaundice</li> <li>-Describe the immunization status, past &amp; Family Hx.</li> <li>-Discuss abnormal LFT in the context of the clinical presentation, &amp; select pts requiring medical Mx.</li> <li>-Outline the epidemiology &amp; natural Hx of viral hepatitis</li> <li>Differentiate between the causes of jaundice &amp; determine if treatable; ask about drugs, hepatitis risk factors</li> <li>- Describe complications related to the presence of liver disease.</li> <li>- Interpret clinical &amp; lab. findings which were key in the processes of exclusion, differentiation, &amp; diagnosis .</li> <li>-List the indications for an abdominal U\S, spiral CT, MRI, ERCP&amp; PTC.</li> <li>-Conduct an effective plan of Mx for a pt with jaundice and its causes including acute liver failure</li> <li>-Select pts in need of specialized care and/or in need of urgent hospitalization.</li> </ul>			
3 <sup>rd</sup>	2	Define anemia, describe the clinical approach of anemia in children, Discuss the clinical presentations, management & prevention of IDA.	Hematology: Anemia & iron deficiency anemia	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
4 <sup>th</sup>	2	<ul style="list-style-type: none"> <li>- Describe the prevalence, clinical presentations, management and follow-up of thalassemia and G6PD deficiency.</li> <li>- Detect common causes of bleeding tendency in children, describe the clinical presentations, management &amp;</li> </ul>	Hematology: - Thalassemia & G6PD deficiency - Bleeding disorders (hemophilia, von-	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance

		prognosis of hemophilia, von-Willebrand disease & ITP	Willebrand disease & ITP)		
5 <sup>th</sup>	2	identify the prevalence, etiology & types of leukemia & lymphoma, describe the clinical presentations, management & prognosis of childhood leukemia & lymphoma.	Oncology: Leukemia & Lymphoma:	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
6 <sup>th</sup>	2	- Define nephrotic syndrome, describe types, etiology, pathophysiology, clinical presentations, complications, investigations, management & prognosis of nephrotic syndrome - Describe the definition, prevalence, etiology, pathophysiology, clinical presentations, complications, investigations, management & prognosis of acute post-streptococcal glomerulonephritis, Hemolytic-uremic syndrome & Henoch-Schonlein purpura.	Nephrology: -Nephrotic syndrome: Acute post streptococcal glomerulonephritis, Hemolytic-uremic syndrome, Henoch-Schonlein purpura:	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
7 <sup>th</sup>	2	Identify the concept, describe the prevalence, types, risk factors, clinical presentations, complications, investigations, management & prognosis of UTI & Enuresis.	Nephrology/ Urology UTI & Enuresis	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
8 <sup>th</sup>	2	- Identify causes - Elicit symptoms and signs - List and interpret clinical and laboratory findings - Expected Complications & Prevention - Identify dose of thyroxin and follow up of treatment - Determine whether the delay is global, isolated to speech/language or motor delay, includes abnormal social interaction - Outline the management	Endocrinology Thyroid gland - hypo/ hyperthyroidism.	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
9 <sup>th</sup>	2	- Clarify Different factors ,may contribute to type 1 diabetes - Identify signs and Symptoms of	Endocrinology - DM TYP1. - Diabetic	Interactive theoretical lecture	Daily exams - Daily attendance

		<p>DM1</p> <ul style="list-style-type: none"> <li>- Discuss diagnosis of DM1( blood test and urine test )</li> <li>- Education &amp; counseling for child, parents about DM1and diet control</li> <li>- Determine the Complications</li> <li>- Outline of management to child with DM TYPE1</li> <li>- Definition ,Etiology, Pathophysiology</li> <li>- Diagnostic Consideration Of DKA</li> <li>- How To Manage A ten Year old Child With DKA?</li> <li>- Describe Prevention &amp; Prognosis Of DKA</li> </ul>	Ketoacidosis (DKA)	+ training Clinical	
10 <sup>th</sup>	2	<p>CHD(classification of CHD..Cyanotic &amp; A cyanotic heart lesions),to know the common types of a cyanotic (VSD,ASD,PDA types ,presentations ,diagnosis &amp;management), to know the common types of Cyanotic (TOF,TGA, types ,presentations ,diagnosis &amp;management)</p>	Cardiovascular system	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
11 <sup>th</sup>	2	<p>Acquired heart disease(RF. Criteria for diagnosis ,to outline management &amp;prevention) Infective endocarditis (etiology ,major and minor criteria of diagnosis ,management )</p>	Cardiovascular system	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
12 <sup>th</sup>	2	<p>- CVS</p> <ol style="list-style-type: none"> <li>1- define heart failure and its pathophysiology.</li> <li>2- enumerate the most common causes of HF.</li> <li>3- perform management of HF.</li> </ol> <p>- seizure</p> <ol style="list-style-type: none"> <li>1- Define seizure.</li> <li>2- List causes of seizure in children.</li> <li>3- Describe the specific types and characters of seizure in children.</li> </ol>	Cardiovascular system  - Neurology: seizure	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
13 <sup>th</sup>	2	<p>FC:</p> <ol style="list-style-type: none"> <li>1- Diagnose FC.</li> <li>2- Evaluate febrile seizure.</li> </ol> <p>NS:</p>	Neurology - febrile convulsion - neonatal seizure	Interactive theoretical lecture + training	Daily exams - Daily attendance

		<p>1- Analyze why neonatal seizures are different?</p> <p>2- List the types of neonatal seizure.</p> <p>3- List the causes of neonatal seizure.</p> <p>4- Observe certain types of Neonatal seizure.</p> <p>5- Evaluate the neonatal seizure.</p> <p>SE:</p> <p>1- Define status epilepticus</p> <p>2- Determine the risks of Status Epilepticus.</p> <p>3- Perform management of status epilepticus.</p>	- Status epilepticus	Clinical	
14 <sup>th</sup>	2	<p>AFP:</p> <p>1- Define AFP</p> <p>2- Determine the clinical types of AFP.3- List the causes of each type of AFP.4- Describe the most common causes of AFP.5- Perform management of AFP.</p> <p>CP:</p> <p>1- Define CP.</p> <p>2-List its causes and types.</p> <p>3- Describe the most common types.</p> <p>4-Perform management.</p> <p>MR:</p> <p>1- Define MR.</p> <p>2- What are the grades and causes of MR?</p> <p>3- Evaluate the child with MR.</p>	<p>Neurology</p> <p>- AFP</p> <p>- cerebral palsy</p> <p>- Mental retardation:</p>	<p>Interactive theoretical lecture + training</p> <p>Clinical</p>	
15 <sup>th</sup>	2	<p>1- Define meningitis/ meningoencephalitis.</p> <p>2- How to predict CNS infections?</p> <p>3- Diagnose CNS infections.</p> <p>4- Performing of CNS infection management.</p> <p>4- Evaluate the patients for complications.</p>	<p>Neurology</p> <p>CNS infections</p>	<p>Interactive theoretical lecture + training</p> <p>Clinical</p>	

### Pediatrics Sixth stage Seminars

1 <sup>st</sup>	2	<p>TB (definition ,how to diagnose a case of TB &amp; management)</p> <p>- Causes of recurrent cough,approach&amp;management)</p>	<p>- Tuberculosis</p> <p>- Recurrent cough/SOB</p>	<p>Interactive theoretical lecture + training Clinical</p>	<p>Daily exams</p> <p>- Daily attendance</p>
2 <sup>nd</sup>	2	<p>- Classification of Arrhythmias,ECG findings,&amp; Management</p> <p>- Definition, Diagnosis&amp;management)</p>	<p>- Cardiac arrhythmia</p> <p>- Shock</p>	<p>Interactive theoretical lecture + training Clinical</p>	<p>Daily exams</p> <p>- Daily attendance</p>
3 <sup>rd</sup>	2	<p>-Define the concept of chronic diarrhea&amp;Malabsorption</p> <p>-Describe the anatomy &amp;histology of small intestine</p> <p>-Describe screening tests for Malabsorption</p> <p>-Explain the occurrence of celiac disease(CD)</p> <p>-Mention the clinical features of CD</p> <p>-Outline treatment of CD</p> <p>- Define the concept of acid-base balance</p> <p>-Define the types of acid-base disturbances</p> <p>-mention the causes of Acid-base disturbances</p> <p>Outline the management of different types of acid-base disturbances</p> <p>- Dehydration &amp; electrolytes changes: Determine the degree and type of dehydration/ volume depletion, with</p>	<p>- Malabsorption</p> <p>- Acid- Base Balance and disturbances</p>	<p>Interactive theoretical lecture + training Clinical</p>	<p>Daily exams</p> <p>- Daily attendance</p>

		management.			
4 <sup>th</sup>	2	-Determine the IP & possible route of transmission -Outline measures of prevention & to control the complications of the disease. - identify the cause & give hormones incriminated.	- TORCHS infection  - Ambiguous genitalia  - Short Stature	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
5 <sup>th</sup>	2	* Polyuria & Polydipsia including RTA 1. Detect the common causes of Polyuria & polydipsia 2. Define RTA including types & pathogenesis 3. Describe the clinical presentations, diagnosis & management & prognosis of RTA. * Renal failure 1. Define both acute kidney injury & chronic kidney disease 2. Identify causes of acute kidney injury & chronic kidney diseases. 3. Describe the clinical presentations, diagnosis, management & prognosis of acute kidney injury & chronic kidney disease.	- Polyuria and polydipsia, including RTA  - Renal Failure	Interactive theoretical lecture + training Clinical	Daily exams - Daily attendance
6 <sup>th</sup>	2	* Aplastic anemia 1. Define aplastic anemia 2. Detect causes of aplastic anemia (congenital & acquired) 3. Describe the clinical presentations, diagnosis, management &	- Aplastic Anemia  - Childhood Malignancies	Interactive theoretical lecture + training Clinical	-Daily exams - Daily attendance

		<p>prognosis of aplastic anemia.</p> <p>* Childhood malignancies</p> <p>1. Enumerate the most common childhood malignancies</p> <p>2. Discuss the clinical presentations, diagnosis, management, &amp; prognosis of the most common childhood malignancies</p>			
7yh	2	<p>-Identify normal level of blood glucose, calcium</p> <p>-Why hypoglycemia, hypocalcemia is a problem?</p> <p>-Identify the risk factors for Hypoglycemia, hypocalcemia,</p> <p>-Describe Factors that negatively affect glucose availability after birth</p> <p>Outline the management</p> <p>-Identify the concept</p> <p>-Describe the anatomy of biliary system</p> <p>-Know the differential diagnosis for neonatal cholestasis.</p> <p>-Understand how to evaluate the neonate with conjugated hyperbilirubinemia.</p> <p>-Determine the intra and extrahepatic etiologies of cholestasis</p> <p>-Know the therapeutic management of neonates with cholestasis</p>	<p>- Neonatal metabolic disorders: Hypoglycemia, hypocalcaemia, hypomagnesaemia</p> <p>- Cholestatic Jaundice</p>	<p>Interactive theoretical lecture + training Clinical</p>	<p>-Daily exams - Daily attendance</p>

8 <sup>th</sup>	2	<ul style="list-style-type: none"> <li>- Define Autism &amp;AD?HD</li> <li>Identify the criteria for diagnosis.</li> <li>Discuss Possible risk factors</li> <li>Outlines the management steps.</li> <li>- Define NTD</li> <li>Discuss embryogenesis and classify the clinical types</li> <li>Enumerate the complications</li> <li>How to manage NTD?</li> </ul>	<ul style="list-style-type: none"> <li>- Psychological Disorders in Children</li> <li>- Neural tube defects</li> </ul>	<ul style="list-style-type: none"> <li>Interactive theoretical lecture</li> <li>+ training</li> <li>Clinical</li> </ul>	<ul style="list-style-type: none"> <li>-Daily exams</li> <li>- Daily attendance</li> </ul>
9 <sup>th</sup>	2	<ul style="list-style-type: none"> <li>Vaccination:</li> <li>- Discuss Route of administration</li> <li>- Education &amp; counseling for child, parents.</li> <li>- List possible complications of immunization</li> <li>- Diagnose potentially lethal anaphylaxis and initiate immediate treatment</li> </ul>	Family/ community medicine	<ul style="list-style-type: none"> <li>Interactive theoretical lecture</li> <li>+ training</li> <li>Clinical</li> </ul>	<ul style="list-style-type: none"> <li>-Daily exams</li> <li>- Daily attendance</li> </ul>
10 <sup>th</sup>	2	----	<b>Review &amp; exam</b>	<ul style="list-style-type: none"> <li>Interactive theoretical lecture</li> <li>+ training</li> <li>Clinical</li> </ul>	<ul style="list-style-type: none"> <li>-Daily exams</li> <li>- Daily attendance</li> </ul>

## 11.Cours Evaluation

### Calculation of Fifth grades out of 100

\*\*\*\*\*

**\* Pursuit grade: 40 and is divided into theoretical and practical as follows:**

**\*Theoretical score: 27 and is divided into:**

- The score for the theoretical half-course exams: 15
- Daily exam score (Quizes): 5
- Scientific activities score: 7 (reports and health education)

**\* Practical grade: 13 and is divided into:**

- Practical course exam score: 10
- Attendance score: 3

**\* Final exam score: 60, divided into practical and theoretical as follows:**

- Practical exam score: 20**
- Theoretical exam score: 40**

**Calculating grades of 6th out of 100**

\*\*\*\*\*

**\* Pursuit score: 20 and is divided as follows:**

- Theoretical exam score: 7**
- Practical exam score: 7**
- Attendance score: 3**
- Seminars grade: 1**
- Logbook score: 1**
- Slide exam score: 1**

**\* Final exam score: 80, divided as follows:**

- Theoretical exam score: 40**
- Practical exam score: 40, divided as follows:**

**Long cases: 20**

**Short cases + oral: 20**

**12. Learning and Teaching Resources**

Required textbooks	-----
Main references	Nelson textbook of pediatrics
Recommended book and references	Essential Nelson of pediatrics Forfar and Arneils textbook of pediatrics
Electronic References , Website	<b>- American academy of Pediatrics</b> <a href="https://www.aap.org/en-us/about-the-aap/Pages/About-tAAP.aspx">https://www.aap.org/en-us/about-the-aap/Pages/About-tAAP.aspx</a> <b>- Pediatrics- medscape</b> <a href="https://www.medscape.com/pediat">https://www.medscape.com/pediat</a> <b>- Pediatrics update</b> <a href="pediatrics&amp;aqs=chrome..69i57j0l5.10977j0j4&amp;sourceid=ch&amp;ie=UTF-8">pediatrics&amp;aqs=chrome..69i57j0l5.10977j0j4&amp;sourceid=ch&amp;ie=UTF-8</a>

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description

### 1. Program Vision

After graduation, our students will be able to work in a multidisciplinary team in the health sector to ensure optimal team performance and effective patient outcomes.

### 2. Program Mission

Our college seeks to obtain international accreditation, rise to the global level in terms of quality of outputs, and graduate highly qualified doctors in patient care, medical education research, and community service.

### 3. Program Objectives

1-Achieving quality standards and medical accreditation according to IGL standards derived on the basis of scientific institutional quality standards.

2- Graduating doctors with a bachelor's degree in medicine and general surgery, who are well prepared to conduct a patient examination, diagnose the disease, provide treatment on scientific and medical grounds, and advanced clinical and professional skills, and practice their work in an ethical manner and with correct medical behavior to provide excellent health services and enable them to learn for life.

3 - After graduation, our students will be able to work in a multidisciplinary team in the health sector to ensure optimal team performance and effective patient outcomes.

4 - Preparing doctors who are able to interact in the workplace and solve urgent problems in response to the needs of the health care system/society and changing circumstances that make them able to work in Iraq and internationally, as well as pursue postgraduate studies and training in any branch of medicine.

5- Graduating doctors with high skills and knowledge in conducting scientific

research in the basic, clinical, behavioral and biomedical fields.

6 - Encouraging faculty members, staff and students to enhance their technical skills and take advantage of information and communications technology in transferring knowledge, producing scientific research, and creating curricula for educational programs.

7- Implementing a development program for faculty and staff.

#### 4. Program Accreditation

The work is still in the process of applying for global accreditation

#### 5. Other external influences

A teaching hospital, library, internet, community, doctors' syndicate

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	١١	٤٣	%١٠٠	
College requirements	١١	٤٣	%١٠٠	
Department requirements	١١	٤٣	%١٠٠	
summer training				
Others	\	\	\	

## 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
Third level	MED315	Medicine 1	60 theoretical hours	60 practical hours
Fourth level	MED400 MED401	Medicine	120 theoretical hours	60 practical hours
Fifth level	NUM525	Neuro medicine	75 theoretical hours	90 practical hours
	PSY513	Psychiatry	30 theoretical hours	30 practical hours
	DER517	Dermatology	30 theoretical hours	60 practical hours
Sixth level	MED600	Internal medicine	\	300 practical hours

## 8. Expected learning outcomes of the program

### Knowledge

- 1 -Studying various internal diseases, especially common ones or emergency cases that may face the doctor.
- 2 -Identify emergency internal cases and ways to treat them.
- 3 -Understanding the interactions between internal diseases and diseases in other branches.
- 4 -Knowing ways to prevent some diseases that may pose a danger to the doctor or patients.
- 5 -Knowing the legal responsibilities of some diseases, especially the transmissible ones.
- 6- Knowing the types of alternative medicine and their uses.

### Skills

- 1-Accurate medical history taking, especially in emergency cases.
- 2 - The correct methods of measuring blood pressure and other vital activities.
- 3- Clinical skills in examining the patient.

### Ethics

- 1-Self-development by dealing with emergency cases of internal diseases.
- 2 -Recognize the professional responsibility necessary to deal with internal diseases, especially communicable diseases.
- 3- Estimating and evaluating the uses of alternative and traditional medicine.

## 9. Teaching and Learning Strategies

- 1 .Theoretical lectures using illustrations .
- 2 .Practical application of the concepts that have been studied in specialized laboratories and teaching hospitals.
- 3 .Seminars (students are assigned a topic within the curriculum for presentation and discussion).
- 4 .Solving scientific and medical problems by discussing their merits within small groups to reach the correct solution.
5. In-person and electronic blended learning via the e-learning platform (Classroom).

## 10. Evaluation methods

- 1-Discussion in lectures
- 2-Mid-course exams and end-of-course exams
- 3-periodic evaluation
- 4-Small Education Groups
- 5-Practical exams

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching	
	General	Special			Staff	Lecturer
Ismail Ibrahim Latif	General medicine and surgery	Immunology and medical viruses			√	\
Adil Hassan Mohammed	General medicine and surgery	Internal Medicine			√	\
Khudair Khalaf Ibrahim	General medicine and surgery	Leather and genital			√	\
Ali Mousa Jaafar	General medicine and surgery	Internal Medicine			√	\

Ahmed Methab Athab	General medicine and surgery	Internal Medicine			√	\
Wissam Falih Hassan	General medicine and surgery	Neurological medicine			√	\
Muayad Kadhim Rashid	General medicine and surgery	Joint diseases and rehabilitation			√	\
Hanan Raheem Hassooni	Biology	Microbiology/molecular biology			√	\
Yasser Abdullah Khamis	General medicine and surgery	Leather and genital			√	\
Enas Ammar Mohammed	Biology	Microbiology			√	\

### Professional Development

#### Mentoring new faculty members

Guiding new faculty members through preparing courses and seminars, in addition to meetings of the college councils and branch council meetings, as well as through direct guidance, as well as through notifications on the official websites of the college and department.

#### Professional development of faculty members

Continuous and permanent learning through searching for new developments using the library, magazines, and the Internet, in addition to attending specialized scientific seminars and seminars, as well as active attendance in educational hospitals to hone skills.

### 12. Acceptance Criterion

- 1- Admission will be centrally through the Ministry of Higher Education and Scientific Research, based on the student's grades in the sixth scientific year, after preparing the relevant form electronically.
- 2- Parallel acceptance channel.

### 13. **Program**

- 1-The university and college website.
- 2- The website of the Ministry of Higher Education and Scientific Research.
- 3-The college library and the central library at the university.

### 14. **Program Development Plan**

Develop academic curricula annually and update them to suit the development in the treatment of internal diseases.

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
Third Level	MED315	Medicine 1	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Fourth Level	MED400	Medicine	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	MED401		Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PSY513	Psychiatry	Basic		√				√				√		
	NUM525	Neuro medicine	Basic		√	√	√		√	√	√		√	√	√
	DER517	Dermatology	Basic		√				√				√		
Sixth Level	MED600	Internal Medicine	Basic		√	√	√		√	√	√		√	√	√

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

## Course Description Form Medicine branch

<b>1. Course Name:</b>
Medicine
<b>2. Course Code:</b>
MED315, MED400, MED401, HEM519, NUM525, PSY513, DER517, MED600.
<b>3. Semester / Year:</b>
First course + second course \2024-2025
<b>4. Description Preparation Date:</b>
2024
<b>5. Available Attendance Forms:</b>
Actual mandatory attendance
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<ul style="list-style-type: none"><li>• third level: Theoretical 60 hours, practical 60 hours</li><li>• The fourth stage: Theoretical 120 hours, practical 60 hours</li><li>• level five Neurology/ Theoretical 75 hours Practical 90 hours Psychological/theoretical 30 hours practical 30 hours Dermatology/ theoretical 30 hours practical 60 hours</li><li>• Sixth stage/Practical 300 hours</li></ul>
<b>7. Course administrator's name (mention all, if more than one name)</b>
Name: Adil Hassan Mohammed                      Email: <a href="mailto:adil@uodiyala.edu.iq">adil@uodiyala.edu.iq</a>
<b>8. Course Objectives</b>
<p>1-Providing the scientific framework in terms of acquiring knowledge information and understanding its importance in various pathologica cases to facilitate the process of diagnosing and treating such cases.</p> <p>2 -Practicing clinical skills by communicating with the patient, collecting information, performing a clinical examination, and developing an integrated treatment plan, starting with the differential diagnosis an ending with following up on the patient's response.</p> <p>3 -The student should be able to take a medical history and examine patients in general with examining the various body system (cardiovascular system, respiratory system, digestive system and nervous system).</p> <p>4 -Attending the emergency of the teaching hospital and identifying the sick cases therein.</p> <p>5- Develop a plan to treat sick conditions and how to conduct medical examinations.</p> <p>6 -Watching the pathological cases in the inner halls of the people of Nador, the Echo and the Unit of Psychiatry, Joints and Dermatology.</p> <p>7- The student should be able to search in medical journals for a diseased condition that he witnessed during the scientific training and discuss this case through seminars.</p>

## 9. Teaching and Learning Strategies

<b>Strategy</b>	<p>1- Giving theoretical lectures.</p> <p>2- In-person and electronic blended learning (via the Classroom platform).</p> <p>3 - Use of computers - plasma screens - modern scientific equipment - audio-visual devices</p> <p>4- Clinical rounds</p> <p>5- Educational seminars, discussions and seminars.</p> <p>6-Practical and clinical application in teaching hospitals.</p>
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## 10. The structure of the course for medicin /third academic level / the first course

Week	Hours	Required Learning Outcomes	Unit or Subject name	Learning Methods	Evaluation
1	Theoretical Practical 2	Introduction to clinical medicine	Introduction to internal medicine	Lecture + practical	Exam
2	Theoretical Practical 2	Introduction to clinical medicine	Introduction to internal medicine	Lecture + practical	Exam
3	Theoretical Practical 2	Introduction to clinical medicine	Introduction to internal medicine	Lecture + practical	Exam
4	Theoretical Practical 2	Pulse and temperature	Introduction to internal medicine	Lecture + practical	Exam
5	Theoretical Practical 2	Pain Headache	Introduction to internal medicine	Lecture + practical	Exam
6	Theoretical Practical 2	Pulse and temperature	Introduction to internal medicine	Lecture +..... practical	Exam
7	Theoretical Practical 2	Cyanosis	Introduction to internal medicine	Lecture + practical	Exam
8	Theoretical Practical 2	Temperature	Introduction to internal medicine	Lecture + practical	Exam
9	Theoretical Practical 2	Oral diseases	Introduction to internal medicine	Lecture + practical	Exam

10	Theoretical Practical 2	Dysphagia	Introduction to internal medicine	Lecture + practical	Exam
11	Theoretical Practical 2	Vomiting Hematamesis and Constipation	Introduction to internal medicine	Lecture + practical	Exam
12	Theoretical Practical 2	Diarrhea and malabsorption	Introduction to internal medicine	Lecture + practical	Exam
13	Theoretical Practical 2	Urinary symptoms	Introduction to internal medicine	Lecture + practical	Exam
14	Theoretical Practical 2	Dyspnea and cough	Introduction to internal medicine	Lecture + practical	Exam
15	Theoretical Practical 2	Palpitation	Introduction to internal medicine	Lecture + practical	Exam

**The structure of the course for medicine /third academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation Method</b>
1	Theoretical Practical 2	Electrolyte disturbance	Introduction to internal medicine	Lecture + practical	Exam
2	Theoretical Practical 2	Obesity	Introduction to internal medicine	Lecture + practical	Exam
3	Theoretical Practical 2	Dehydration and fluid overload	Introduction to internal medicine	Lecture + practical	Exam
4	Theoretical Practical 2	Edema	Introduction to internal medicine	Lecture + practical	Exam
5	Theoretical Practical 2	Bone diseases	Introduction to internal medicine	Lecture + practical	Exam

6	Theoretical Practical 2	Vitamins	Introduction to internal medicine	Lecture + practical	Exam
7	Theoretical Practical 2	Alkalosis and Acidosis	Introduction to internal medicine	Lecture+ practical	Exam
8	Theoretical Practical 2	Weight loss	Introduction to internal medicine	Lecture + practical	Exam
9	Theoretical Practical 2	Electrolyte disturbac	Introduction to internal medicine	Lecture + practical	Exam
10	Theoretical Practical 2	Obesity	Introduction to internal medicine	Lecture + practical	Exam
11	Theoretical Practical 2	Nutritional Disorders	Introduction to internal medicine	Lecture + practical	Exam
12	Theoretical Practical 2	HLA disease	Introduction to internal medicine	Lecture + practical	Exam
13	Theoretical Practical 2	Immune deficiency State	Introduction to internal medicine	Lecture + practical	Exam
14	Theoretical Practical 2	Immunology of Cancer	Introduction to internal medicine	Lecture + practical	Exam
15	Theoretical Practical 2	Immunosuppressiv e disorders	Introduction to internal medicine	Lecture + practical	Exam

**The structure of the course for medicine /fourth academic level / the first course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation Method</b>
1	4	Symptoms and signs of cardiovascular system (CVS) disorders Investigations of CVS	heart and blood vessels	Lecture + practical	Exam

2	4	Coronary artery disease	heart and blood vessels	Lecture + practical	Exam
3	4	Heart failure	heart and blood vessels	Lecture + practical	Exam
4	4	Arrhythmias and antiarrhythmic drugs	heart and blood vessels	Lecture + practical	Exam
5	4	Vascular diseases systemic and pulmonary hypertension	heart and blood vessels	Lecture + practical	Exam
6	4	Congenital heart diseases Pericardial heart diseases	heart and blood vessels	Lecture + practical	Exam
7	4	Viral infections	Infectious diseases	Lecture + practical	Exam
8	4	HIV/AIDS	Infectious diseases	Lecture + practical	Exam
9	4	STD infections	Infectious diseases	Lecture + practical	Exam
10	4	PUO/Septicemia	Infectious diseases	Lecture + practical	Exam
11	4	Infections by Mycoplasma, reckittsia, Spirochittes	Infectious diseases	Lecture + practical	Exam
12	4	Mycobacterial and fungal infections	Infectious diseases	Lecture + practical	Exam
13	4	Gram positive cocci and bacilli infections anaerobic gram positive infections	Infectious diseases	Lecture + practical	Exam
14	4	Infections of gram negative organisms	Infectious diseases	Lecture + practical	Exam
15	4	Symptoms and signs of cardiovascular	Infectious diseases	Lecture + practical	Exam

		system (CVS) disorders Investigations of CVS			
<b>The structure of the course for medicine /fourth academic level / the second course</b>					
<b>Week</b>	<b>Hours</b>	<b>Required learning outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation Method</b>
1	4	Investigation of GIT	Digestive system	Lecture + practical	Exam
2	4	Disease of mouth disease of esophagus	Digestive system	Lecture + practical	Exam
3	4	Peptic ulcer	Digestive system	Lecture + practical	Exam
4	4	Gastritis and cancer of stomach	Digestive system	Lecture + practical	Exam
5	4	Malabsorption Syndrome	Digestive system	Lecture + practical	Exam
6	4	Chronic diarrhea	Digestive system	Lecture + practical	Exam
7	4	Introduction to respiratory system	Respiratory system	Lecture + practical	Exam
8	4	Investigations	Respiratory system	Lecture + practical	Exam
9	4	Pneumonias	Respiratory system	Lecture + practical	Exam
10	4	Tuberculosis	Respiratory system	Lecture + practical	Exam
11	4	Obstructive airway Disease	Respiratory system	Lecture + practical	Exam
12	4	Introduction to Endocrine	Endocrine	Lecture + practical	Exam

13	4	Pituitary diseases	Endocrine	Lecture + practical	Exam
14	4	Diabetes mellitus	Endocrine	Lecture + practical	Exam
15	4	Thyroid disease	Endocrine	Lecture + practical	Exam

**The structure of the course for medicine /fifth academic level**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation Method</b>
1-30	1 theory 2 practical	Neuro medicine	Neurology	Lecture + practical	Exam
1-30	1 theory 2 practical	Psychiatry	Psychiatry	Lecture + practical	Exam
1-30	1 theory 2 practical	Dermatology	Dermatology	Lecture + practical	Exam
1-10	1 theory	Rheumatology & connective tissue disease	Rheumatology & connective tissue disease	Lecture	Exam
1-10	1 theory	Nephrology	Nephrology	Lecture	Exam
1-10	1 theory	Clinical Pharmacology	Clinical Pharmacology	Lecture	Exam
1-10	1 theory	Hematology	Hematology	Lecture	Exam

**The structure of the course for medicine /sixth academic level**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation Method</b>
1-30	30 hours per week	Clinical medicine	Clinical medicine	Practical	Exam

**Note: The theoretical material is presented through the seminars provided by the Students**

## 11. Cours Evaluation

- Mid- and end-of-course exams.
- Practical, oral and clinical examinations.
- Reports preparation.
- Short daily exams

## 12. Learning and Teaching Resources

Required textbooks (curricular book , if any)  
-Davidson's principle &practice of medicine.

Main references (source).  
-medicine of Textbook Harrison.  
- Cecile textbook of medicine.  
- Kummer &clark of medicine.  
- Macleod clinical method.

Recommended book and references (scientific journals , reports .....).  
- All internal medicine books and magazines.

Electronic References , Website .  
- Medscape., e medicine.



## • Academic description form for the branch of biochemistry

This course description provides a necessary summary of the most important characteristics of the course and the educational objectives that the student is expected to achieve, demonstrating whether he has made the most of the available learning opportunities, and this must be linked to the program description .

### 1. Program Vision

- Effective contribution to medical progress through education and the preparation of qualified doctors to provide the best medical services and the continuation of scientific research in all medical fields.
- Preparing physicians distinguished by competence and scientific experience, reinforced by an understanding of the biochemical bases of the vital processes that occur within the human body in normal and diseased cases.

### 2. Program Mission

- Excellence in creating and following advanced scientific methods in conducting pathological analyzes and preparing medical scientific research that contributes to community service.
- Establishing solid relationships with researchers in international universities.

### 3. Program Objectives

- Keeping abreast of scientific development in developing education programs and using the latest programs developed for medical education in accordance with the modern academic curriculum.
- Contribute to providing the community with scientifically distinguished doctors who have experience in the approved scientific foundations to conduct all pathological analyzes related to clinical biochemistry.
- Giving lectures to postgraduate students in the colleges of the university, as well

#### 4. Program Accreditation

Theoretical and practical study and discussions in college and in teaching hospitals.

#### 5. Other external influences

A teaching hospital, library, internet, community, doctors' syndicate.

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	2	6 for each course	100%	Basic
College Requirements	2	6 for each course	100%	Basic
Department Requirements	2	6 for each course	100%	Basic
Summer training	None	None	None	None
Other	None	None	None	None

- Notes may include whether the course is core or elective.

#### 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	Practical
2024-2025/First	HR115	Medical chemistry and Biochemistry	3 hours per week course (15 weeks) Total number of hours for each	2 hours per week course (15 weeks) Total number of hours for each course (30 hours)

			<b>course (45 hours)</b>	
<b>2024-2025/Second</b>	<b>BIOC201 BIOC202</b>	<b>Biochemistry and metabolism</b>	<b>3 hours per week course (15 weeks)</b> <b>Total number of hours for each course (45 hours)</b>	<b>2 hours per week course (15 weeks)</b> <b>Total number of hours for each course (30 hours)</b>

<b>8. Expected learning outcomes of the program</b>	
<b>Knowledge</b>	
<p>1- Preparing students with high competence in the theoretical and practical foundations of chemistry related to the medical fields and molecules of biochemistry and clinical chemistry.</p> <p>2- Providing them with information about the steps of vital metabolic reactions of carbohydrates, lipids and proteins within the human body.</p> <p>3- Teaching students how to conduct clinical chemistry and cancer analysis.</p>	<p>1- Identifying diseases and clinical conditions resulting from disorders of metabolic processes in the human body.</p> <p>2- Explaining the biochemical methods used in diagnosing some diseases and clinical conditions.</p>
<b>Skills</b>	
<p>1- Knowledge of the biochemical analyzes required for pathological cases and knowledge of the interactions and diagnosis.</p>	<p>1- Accurate clinical diagnosis of pathological conditions.</p>
<p>2- Teaching the subjects of medicinal chemistry, biochemistry, and clinical chemistry to students of the medical group colleges.</p>	<p>2- Conduct theoretical and practical clinical research.</p>
<b>Ethics</b>	
<p>Enhancing cooperation and teamwork to create a healthy environment suitable for humans.</p>	<p>Conducting community awareness and guidance campaigns to create a healthy environment and preserve human health.</p>
<p>Enhancing the ethical and humanitarian aspects that a doctor must possess.</p>	<p>Highlighting the human and ethical aspects of the doctor in dealing with the patient.</p>

## 9. Teaching and Learning Strategies

- 1- Giving theoretical lectures.
- 2- Conducting experiments in practical laboratories.
- 3- Teaching small groups
- 4- Field visits to hospitals and health centers.
- 5- - Display educational videos and images of clinical cases related to biochemical disorders within the human body.

## 10. Evaluation methods

- 1- Quizzes
- 2- Evaluation of practical experiments in the laboratory.
- 3- Mid-course exam.
- 4- - The final exam of the course.

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	B.Sc. Chemistry	Biochemistry			1	None
Asst. Professor	Medicine and General Surgery	Patho-chemistry			1	None
Lecturer	B.Sc. Chemistry	Biochemistry			2	None
Lecturer	B.Sc. Chemistry	Medical Biochemistry			1	None
Asst. lecturer	B.Sc. Chemistry	Biochemistry			5	None

## **Professional Development**

### **Mentoring new faculty members**

Introductory seminars and symposia for new faculty members with periodic meetings to introduce them to the work with daily guidance and continuous follow up along with advising and instructing them.

### **Professional development of faculty members**

Continuous learning by searching for developments using the library and the Internet, in addition to attending seminars and specialized scientific symposium, along with active attendance in teaching hospitals to hone skills.

## **12. Acceptance Criterion**

Admission is carried out centrally through the Ministry of Higher Education and Scientific Research, based on the student's score in the twelfth grade (scientific branch) after preparing the online form for that.

## **13. Program**

### **1- Prescribed books:**

- Harper's Biochemistry , 31 ST Edition , 2018
- Lippincott Illustrated Reviews : Biochemistry , Seventh Edition , 2018 .
- Lehninger Principle of Biochemistry , 4 th Edition , 2005 .
- Essentials of Medical Biochemistry with clinical cases , 3 rd Edition , 2022. By N.V.Bhagavan and chury – Eun Ha.

### **2- Recent and emerging research and studies.**

### **3- Reputable and reliable scientific websites linked to international scientific institutions and centers.**

#### 14. **Program Development Plan**

Developing academic curricula annually to suit modern global developments in the field of biochemistry and techniques for conducting clinical chemical analyses.

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
2024-2025/ First	HR115	Medical chemistry and Biochemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2024-2025/ Second	BIOC201 BIOC202	Biochemistry and Metabolism	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

## Course Description Form Medical chemistry and Biochemistry branch

<b>1. Course Name:</b>					
Medical and life chemistry, biochemistry and metabolism.					
<b>2. Course Code:</b>					
HR115, BIOC201, BIOC202					
<b>3. Semester / Year:</b>					
First course + second course / 2024 – 2023					
<b>4. Description Preparation Date:</b>					
2024					
<b>5. Available Attendance Forms:</b>					
Mandatory attendance					
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>					
First stage : 150 hours / 6 units [90 hours (theoretical), 60 hours (practical)]					
Second stage : 150 hours / 6 units [90 hours (theoretical), 60 hours (practical)]					
<b>7. Course administrator's name (mention all, if more than one name)</b>					
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name: Prof. Dr. Zuhair M. Hussien</td> <td style="width: 50%; border: none;">Email: <a href="mailto:Zuhair@uodiyala.edu.iq">Zuhair@uodiyala.edu.iq</a></td> </tr> <tr> <td style="border: none;">Asst. Prof. Dr. Bushra M. Hussein</td> <td style="border: none;"><a href="mailto:bushra@uodiyala.edu.iq">bushra@uodiyala.edu.iq</a></td> </tr> </table>		Name: Prof. Dr. Zuhair M. Hussien	Email: <a href="mailto:Zuhair@uodiyala.edu.iq">Zuhair@uodiyala.edu.iq</a>	Asst. Prof. Dr. Bushra M. Hussein	<a href="mailto:bushra@uodiyala.edu.iq">bushra@uodiyala.edu.iq</a>
Name: Prof. Dr. Zuhair M. Hussien	Email: <a href="mailto:Zuhair@uodiyala.edu.iq">Zuhair@uodiyala.edu.iq</a>				
Asst. Prof. Dr. Bushra M. Hussein	<a href="mailto:bushra@uodiyala.edu.iq">bushra@uodiyala.edu.iq</a>				
<b>8. Course Objectives</b>					
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>• Preparing scientifically and practically competent students in the fields of medical and clinical chemistry.</li> <li>• Understanding the basics of biochemical variables that occur in the case of disease, linking them clinically, and accurately diagnosing them</li> <li>• Follow modern methods in pathological analysis techniques to obtain accurate results, qualify graduates scientifically and professionally, prepare competent researchers in clinical medical fields, and find solutions for health problems.</li> </ul>				
<b>9. Teaching and Learning Strategies</b>					
<b>Strategy</b>	<ul style="list-style-type: none"> <li>• Theoretical lectures.</li> <li>• Conducting experiments in special practical laboratories.</li> <li>• Teaching small groups.</li> <li>• Field visits to hospitals and health centers.</li> <li>• Display educational videos and images of clinical cases related to biochemical disorders within the human body.</li> </ul>				

## 10. Course Structure

### The structure of the course for theoretical medical chemistry / first academic level / the first course

Week	Hours	Required educational goals	Unit name and/or topic	Evaluation method	education method
1	3	<ol style="list-style-type: none"> <li>1. Define body fluid and electrolytes.</li> <li>2. Know the volumes and main composition of body fluids.</li> <li>3. List the factors that determine body water content and describe the effect of each factor.</li> </ol>	Fluid and Electrolyte Balance	Theoretical lectures And discussions	exam
2	3	<ol style="list-style-type: none"> <li>1. Describe the role of the body systems in regulating the body's fluid composition and volume.</li> <li>2. Describe mechanisms that regulate water intake and hormonal controls of water output in urine.</li> </ol>	Fluid and Electrolyte Balance	Theoretical lectures And discussions	Exam
3	3	<ol style="list-style-type: none"> <li>1. Defines acids, bases.</li> <li>2. Know the natural acids and bases ratio of the body.</li> <li>3. Recognize the types of acid and base.</li> <li>4. List the source of acids and bases of the body.</li> </ol>	Acid-Base Balance	Theoretical lectures And discussions	Exam
4	3	<ol style="list-style-type: none"> <li>1. Study the systems responsible for maintenance of the acid-base balance.</li> <li>2. Explain the role of buffer systems in regulating the pH of the intracellular fluid and the extracellular fluid.</li> <li>3. Discuss acid base disorders</li> <li>4. Analysis of Acid-Base Imbalances Report</li> </ol>	Acid-Base Balance	Theoretical lectures And discussions	Exam
5	3	<ol style="list-style-type: none"> <li>1. Define carbohydrate and the groups of saccharides</li> <li>2. Know the chemical structure of the common sugars.</li> </ol>	Chemistry of Carbohydrates- 1 Monosaccharid	Theoretical lectures And discussions	exam

		3. Understand the concepts of and isomerism in simple sugars anomers.	es & Disaccharides		
<b>6</b>	<b>3</b>	1. Glycosides, sugar alcohols, sugar acids, phosphate esters, deoxy sugars and amino sugars. 2. Understand the role saccharides play in biology 3. Know the biochemical functions and differences between the various heteropolysaccharides	Chemistry of Carbohydrates-1 Monosaccharides & Disaccharides	Theoretical lectures And discussions	Exam
<b>7</b>	<b>3</b>	1. Be able to recognize the N and O linked polysaccharides 2. Know how dietary polysaccharides are digested by humans	Chemistry of Carbohydrates-1 Monosaccharides & Disaccharides	Theoretical lectures And discussions	Exam
<b>8</b>	<b>3</b>	1. Study the chemical structure of polysaccharides 2. Classify polysaccharides	Chemistry of Carbohydrates-Polysaccharides Part-2	Theoretical lectures And discussions	Exam
<b>9</b>	<b>3</b>	1. Know the biochemical functions and differences between the various heteropolysaccharides 2. Be able to recognize the N and O linked polysaccharides	Chemistry of Carbohydrates-Polysaccharides Part-2	Theoretical lectures And discussions	Exam
<b>10</b>	<b>3</b>	- Know how dietary polysaccharides are digested by humans	Chemistry of Carbohydrates-Polysaccharides Part-2	Theoretical lectures And discussions	Exam
<b>11</b>	<b>3</b>	1. Have general idea about lipid structure and properties 2. Classify lipids 3. List the major physiological functions of fatty acids 4. Derive the structure of saturated or unsaturated fatty acids.	Fatty acids & Derivatives	Theoretical lectures And discussions	Exam
<b>12</b>	<b>3</b>	1. Study the relation between the structure and function of fatty acids 2. Be able to specify the omega or delta ends. Recognize the alpha,	Fatty acids & Derivatives	Theoretical lectures And discussions	exam

		beta and gamma carbons of fatty acids 3. List and be able to identify the general features of the eicosanoids. 4. Know the biochemical functions of the eicosanoids			
13	3	1. Classify lipids. 2. Know the main class of lipids 3. Have an idea about the structure of each class.	Glyceride , Non-glyceride & Complex lipids	Theoretical lectures And discussions	Exam
14	3	1. Understand the physical and chemical of the classes. 2. List the biological function of all classes. 3. Relate the structure and properties with the diseases come as a result of this lipids	Glyceride , Non-glyceride & Complex lipids	Theoretical lectures And discussions	Exam
15	3		Final first semester exam		

**The structure of the course for practical medical chemistry /first academic level / first course**

Week	Hours	Required educational goals	Unit name and/or topic	Evaluation method	Education method
1	2	a. Understand the proper laboratory safety. b. Increase the awareness of the possible risks or hazards involved with laboratory work. c. Realize the laboratory is generally a safe place to work if safety guidelines are properly followed.	Laboratory safety	lecture Scientific application in the laboratory	exam
2	2	a. Identify and categorize the different instruments and apparatuses with their parts and uses in practice. b. Identify the photometer with its main parts and uses	Laboratory instruments and apparatuses	lecture Scientific application in the laboratory	exam
3	2	a. Recognize the principles of photometry and the related laws.	Units and references	lecture	exam

		b. Measure weight and volume	values	Scientific application in the laboratory	
4	2	a. Learn the purpose and proper use of a spectrophotometer. b. Determine the relationship between light absorbance and the number of particles in a sample in a given volume. c. Apply different methods for expressing concentration . d. Prepare stock solutions and perform different dilutions	Applications of spectrophotometers	lecture Scientific application in the laboratory	exam
5	2	a. Describe the blood components in details. b. Explain the blood samples in details.	Blood components	lecture Scientific application in the laboratory	exam
6	2	a. Describe the blood samples in details. b. Outline the importance of blood samples.	Preparation of plasma and serum for analysis	lecture Scientific application in the laboratory	exam
7	2	a. Outline the type of biological samples . b. Describe the Blood collection techniques.	Sample collection, processing and handling	lecture Scientific application in the laboratory	exam
8	2	a. Explain the acid base balance. b. Describe the role of buffers in maintaining the pH of a solution in body fluids.	pH and Buffer, Acid-Base Balance	lecture Scientific application in the laboratory	exam
9	2	a. Identify the most powerful buffer systems in the body. b. Outline the importance of the buffer systems.	Buffers in blood	lecture Scientific application in the laboratory	exam
10	2	a. Outline the importance of urine samples b. Describe the collection of urine samples	Urinalysis (UA)	lecture Scientific application in the	exam

		c. Describe urine examinations		laboratory	
11	2	a. Describe the content of normal urine samples. b. Explain the results of urine examinations.	Analysis of normal constituents of urine	lecture Scientific application in the laboratory	exam
12	2	a. Describe the content of abnormal urine samples. b. Explain the results of urine examinations for different cases.	Analysis of abnormal constituents of urine	lecture Scientific application in the laboratory	exam
13	2	a. Outline the importance of stool samples b. Describe the collection of stool samples c. Describe stool examinations	General stool examination	lecture Scientific application in the laboratory	exam
14	2	a. Outline the importance of hematological test b. Explain the hematological test	Hematologic al test	lecture Scientific application in the laboratory	exam
15	2		First-semester practical examination		exam

**- The structure of the course for theoretical medical chemistry / first academic level / the second course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	3	1. Describe the general structure of an amino acid. 2. Recognize amino acids and classify them based on the characteristics of their side chains. 3. List the twenty common amino acids found in living organisms.	Amino Acids & Proteins Part 1	Lecture and discussions	exam
2	3	1. Describe how a peptide bond forms.	Amino Acids & Proteins	Lecture and	exam

		2. Understand the biologic activities of peptides	Part 1	discussions	
3	3	<ol style="list-style-type: none"> <li>1. Understand that amino acids are linked via peptide bonds to make polypeptides and proteins</li> <li>2. Understand that each protein molecule can be hundreds of amino acids long and the amino acids must be joined in a precise order.</li> <li>3. Know that the side-chains (R groups) of the amino acids can interact with one another to fold the protein into a particular shape, which is essential for the protein to function correctly.</li> </ol>	Amino Acids & Proteins Part 2	Lecture and discussions	exam
4	3	<ol style="list-style-type: none"> <li>1. Describe, using examples, the relationship between protein structure and function.</li> <li>2. Define denaturation and list factors led to protein denaturation.</li> <li>3. List some medical application of denaturation</li> </ol>	Amino Acids & Proteins Part 2	Lecture and discussions	exam
5	3	<ol style="list-style-type: none"> <li>1. Classify proteins according to different parameters including chemical composition, shape, biological function, solubility in water.</li> <li>2. Describe, using examples, the relationship between protein structure and function</li> </ol>	Amino Acids & Proteins Part 3	Lecture and discussions	exam
6	3	- Explain of biological activity of some important proteins	Amino Acids & Proteins Part 3	Lecture and discussions	exam
7	3	<ol style="list-style-type: none"> <li>1. Describe the structure of a nucleotide as being a phosphate group, pentose sugar (either ribose or deoxyribose), and a nitrogen containing base,</li> <li>2. Recall that the nitrogenous bases are adenine, cytosine, guanine, and thymine in DNA, or uracil in RNA, and the base pairings that occur,</li> <li>3. State that a nucleic acid is</li> </ol>	Nucleic Acids Part 1	Lecture and discussions	exam

		formed from many nucleotides, joined by condensation reactions,			
<b>8</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Compare and contrast the structures of DNA and RNA,</li> <li>2. Explain the importance of DNA in storing genetic material and safely transferring genetic information between organisms.</li> </ol>	Nucleic Acids Part 1	Lecture and discussions	exam
<b>9</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Comprehend the universal nature of the gene.</li> <li>2. Be able to define replication of DNA.</li> <li>3. Know the roles of mRNA, ribosomes, tRNA and amino acids in the process of translation.</li> <li>4. Understand what start codons and stop codons are.</li> <li>5. Understand how a polypeptide is built, one amino acid at a time, in the different docking sites of the ribosome.</li> <li>6. Understand how tRNAs are 'charged' with amino acids.</li> <li>7. Know that ribosomes consist of a large and a small subunit.</li> <li>8. Be able to define polysome.</li> </ol>	Nucleic Acids Part 2 Protein Biosynthesis	Lecture and discussions	exam
<b>10</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Define how errors by DNA polymerase create mutations</li> <li>2. Identify the types of gene mutations.</li> <li>3. Describe what occurs during each type of mutation.</li> <li>4. Explain the structure and shape of viruses.</li> <li>5. Know the viral replication, viral transaction and viral protein biosynthesis.</li> <li>6. Discuss how to prevent viral transaction and viral protein biosynthesis</li> </ol>	Nucleic Acids Part 3	Lecture and discussions	exam
<b>11</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Define enzyme and explain basic functions of enzymes</li> <li>2. Explain basic properties of</li> </ol>	Enzymes Part 1	Lecture and discussions	exam

		enzymes 3. Discover and defines the enzyme components. 4. Express localization of enzymes in the cell			
12	3	1. Defines the active site and catalytic activity of enzyme 2. Discuss working principle of enzymes. 3. Express the relationship between enzyme and substrate	Enzymes Part 1	Lecture and discussions	exam
13	3	1. Explain what an enzyme inhibitor is. 2. Distinguish between reversible and irreversible inhibitors. 3. Differentiate between competitive and noncompetitive inhibitors.	Enzymes Part 2	Lecture and discussions	exam
14	3	1. Discuss the biological role of isoenzymes and their use in clinical diagnosis. 2. Understand the bases of enzyme catalysis and the mechanisms of enzyme regulation. 3. Know the role of regulatory enzymes in controlling metabolic pathways and cellular responses.	Enzymes Part 2	Lecture and discussions	exam
15	3		Final second semester exam		exam

**- The structure of the course for Practical medical chemistry /first academic level / the second course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	2	a. Identify the principles of the blood glucose test. b. Calculation of glucose concentration in the unknown sample	Blood Glucose Test	lecture And practical application	exam
2	2	a. Explain the types of the blood glucose tests.	Oral Glucose Tolerance Test	lecture And	exam

		b. Define the Oral Glucose Tolerance Test		practical application	
3	2	a. Describe diabetes mellitus. b. Explain its diagnosis and classification.	Diabetes mellitus	lecture And practical application	exam
4	2	a. Describe Type I diabetes mellitus. b. Illustration of case studies on Type I Diabetes Mellitus.	Case scenario of diabetes mellitus (Type I)	lecture And practical application	exam
5	2	a. Describe Type II diabetes mellitus. b. Illustration of case studies on Type II Diabetes Mellitus.	Case scenario of diabetes mellitus (Type II)	lecture And practical application	exam
6	2	a. Identify the principles of the lipid profile test. b. Calculation of total cholesterol concentration in the unknown sample	Lipid Profile	lecture And practical application	exam
7	2	a. Identify the lipoproteins. b. Estimate the concentration of HDL and LDL in the unknown sample	Lipoproteins	lecture And practical application	exam
8	2	a. Describe disorders of lipid metabolism. b. Illustration of case study	Plasma lipids and lipoproteins	lecture And practical application	exam
9	2	a. Describe hypercholesterolemia. b. Illustration of case studies on hypercholesterolemia.	Case scenario of hypercholesterolemia	lecture And practical application	exam
10	2	a. Describe hypercholesterolemia in patients with diabetes mellitus. b. Illustration of case studies on hypercholesterolemia in patients with diabetes mellitus.	Case scenario of hypercholesterolemia in patients with diabetes mellitus	lecture And practical application	exam
11	2	a. Identify the principles of the triglycerides test. b. Calculation of TG concentration in the unknown sample	Triglycerides	lecture And practical application	exam

12	2	a. Describe hyperlipidaemia. b. Illustration of case studies on hyperlipidaemia .	Case scenario of hyperlipidaemia	lecture And practical application	exam
13	2	a. Describe hyperlipidaemia in patients with diabetes mellitus. b. Illustration of case studies on hyperlipidaemia in patients with diabetes mellitus.	Case scenario of hyperlipidaemia in patients with diabetes mellitus	lecture And practical application	exam
14	2	a. Describe hypercholesterolemia and hyperlipidaemia in patients with diabetes mellitus. b. Illustration of case studies on hypercholesterolemia and hyperlipidaemia in patients with diabetes mellitus.	Case scenario of hypercholesterolemia and hyperlipidaemia in patients with diabetes mellitus	lecture And practical application	exam
15	2		Second-semester examination	lecture And practical application	exam

**- The structure of the course for theoretical biochemistry / second academic level / the first course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	3	1. Identify the major saccharides found in the human body and diet. 2. What is the process of carbohydrate metabolism? 3. Draw diagram of how glucose transported across intestinal epithelial cells and into the blood stream and describe the protein involved.	Introduction to Carbohydrate metabolism	Lecture and discussions	exam
2	3	1. Describe the overall purpose of glycolysis, its cellular reactants and products, its cellular localization and its tissue distribution. 2. Differentiate the roles of	Glycolysis	Lecture and discussions	exam

		<p>hexokinase and glucokinase in blood glucose regulation.</p> <ol style="list-style-type: none"> <li>Describe the purpose of the reaction catalyzed by LDH.</li> <li>Predict the results of a CBC in a person with PK deficiency who is in hemolytic crisis.</li> <li>Explain the biochemical basis of the hemolytic anemia observed in deficiency of erythrocyte pyruvate kinase.</li> </ol>			
<b>3</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Describe the overall purpose of the TCA cycle, its reactants and products, its cellular localization and its tissue distribution.</li> <li>Explain the effect of the ATP and citrate on the activity of the TCA cycle.</li> <li>Describe the role of the TCA Cycle intermediates as sources of reactants for biosynthetic pathways.</li> </ol>	TCA Cycle	Lecture and discussions	exam
<b>4</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Differentiate the enzymes involved in glycolysis and gluconeogenesis.</li> <li>Explain the contribution of gluconeogenesis to blood glucose regulation.</li> <li>Evaluate the relative importance of different precursors for gluconeogenesis in feeding, fasting and exercise.</li> <li>Describe the overall purpose of gluconeogenesis and glycogenolysis, their reactants and products, their cellular localization and their tissue distribution.</li> <li>Explain how glycogen synthesis and glycogenolysis are regulated by insulin, glucagon and catecholamines.</li> <li>Select laboratory tests that would contribute to the diagnosis of glycogen storage disease.</li> </ol>	Gluconeogenesis, Glycogen metabolism	Lecture and discussions	exam

<b>5</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Describe the overall purpose of the PPP, its reactants and products and its cellular localization.</li> <li>2. Describe the role of reduced glutathione in the body.</li> <li>3. Explain the biochemical basis of the drug induced hemolytic anemia observed in G6PD deficiency.</li> <li>3. Select laboratory tests used to diagnose G6PD deficiency.</li> </ol>	Pentose-phosphate pathway	Lecture and discussions	exam
<b>6</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Compare and contrast type 1 and type 2 diabetes mellitus with respect to incidence, age of onset and distinguishing characteristics.</li> <li>2. Describe abnormalities in blood glucose homeostasis in patients with type 1 diabetes.</li> <li>3. Recognize the clinical presentation of type 1 diabetes mellitus.</li> <li>4. Discuss how lifestyle factors impact the development of type 2 diabetes.</li> </ol>	Diabetes Mellitus	Lecture and discussions	exam
<b>7</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Identify the metabolic products of ethanol metabolism including acetyl CoA.</li> <li>2. Evaluate the metabolic effects and clinical significance of ethanol and its metabolites.</li> <li>3. Explain the biochemical basis for the effects of alcohol ingestion on gluconeogenesis.</li> <li>4. Generate a problem list with potential biochemical causes of hypoglycemia, hepatomegaly or lactic acidosis.</li> </ol>	Ethanol metabolism	Lecture and discussions	exam
<b>8</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Describe the characteristics feature of hemolytic anemia.</li> <li>2. Identify G6PD genetic variant.</li> <li>3. Recognize the clinical manifestation of G6PD deficiency.</li> <li>4. Describe diagnosis of G6PD</li> </ol>	G6PD Deficiency	Lecture and discussions	exam

		deficiency. 5. Discuss the treatment of G6PD deficiency.			
<b>9</b>	<b>3</b>	1. Definition of inborn error of metabolism. 2. Sample collection procedure. 3. Molecular basis of urea cycle disorders. 4. Genetic basis of phenylketonuria.	Inborn errors of metabolism	Lecture and discussions	exam
<b>10</b>	<b>3</b>	1. Identify types of protein. 2. Describe digestion of protein by gastric secretion. 3. Illustrate the action of rennin. 4. Discuss the intestinal secretion of protein.	Digestion and absorption of protein	Lecture and discussions	exam
<b>11</b>	<b>3</b>	1. Definition of minerals. 2. Definition of trace element. 3. Illustrate factors that promote calcium absorption. 4. Describe function of calcium. 5. Discuss causes of hypercalcemia.	Mineral metabolism	Lecture and discussions	exam
<b>12</b>	<b>3</b>	1. Differentiate the contribution of diet and endogenous synthesis to lipid levels. 2. Describe the pathway of fatty acid synthesis. 3. Describe the synthesis of triglycerides. 4. Distinguish the composition of different sphingolipids.	Lipid metabolism	Lecture and discussions	exam
<b>13</b>	<b>3</b>	1. Describe the pathway of fatty acid synthesis. 2. Distinguish the effect of the feeding, fasting, exercise and hormonal regulation on body lipid. 4. Describe endocrine function of adipose tissue.	Fatty acid synthesis	Lecture and discussions	exam
<b>14</b>	<b>3</b>	1. Describe the mechanism for activation and transport of fatty acids into mitochondria for catabolism.	Beta - oxidation ,cholesterol and ketone	Lecture and discussions	exam

		<p>2. Outline the sequence of reactions involved in oxidation of fatty acids in mitochondria.</p> <p>3. Explain the mechanism for the formation of KBs and identify the physiological and pathological roles of those molecules.</p> <p>4. Distinguish the mechanisms by which cholesterol biosynthesis is regulated by hormones and food intake.</p>	body's		
15	3		Final first semester exam	exams	

**- The structure of the course for Practical biochemistry /second academic level / the first course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	2	<p>1- To make the students aware about the possible safety issue.</p> <p>2- To describe the ideal appearance and attitude of the student during the lab time.</p> <p>3- To describe the proper costume that the students should wear during the lab time.</p> <p>To learn the students what they should do in case of accident.</p>	Laboratory safety	Lecture and practical application in the laboratory	exam
2	2	<p>1- To describe how to obtain blood samples.</p> <p>2- To demonstrate blood draw.</p> <p>3- To identify the ideal blood draw sites.</p> <p>4- To learn the student what are the blood collection tubes available and which one they should use for each group of tests.</p> <p>To teach the students what is the</p>	Collection and handling of blood samples	Lecture and practical application in the laboratory	exam

		anti-coagulant tubes and how does it work.			
3	2	<ul style="list-style-type: none"> <li>1- To describe what is the properties of the urine.</li> <li>2- To make the student appreciated the importance of urine analysis.</li> <li>3- To learn the student the procedure followed to analyse urine sample.</li> <li>4- What is the basic types of clinically used urine samples?</li> </ul>	Collection and handling of urine samples	Lecture and practical application in the laboratory	exam
4	2	<ul style="list-style-type: none"> <li>1- To demonstrate what kind of instrument we used in clinical biochemistry lab.</li> <li>2- The explain the principles of each device.</li> <li>3- Explain the basic concepts of each device.</li> </ul> <p>Explain the possible mistake in using in these devices.</p>	Analytical techniques and instrumentation	Lecture and practical application in the laboratory	exam
5	2	<ul style="list-style-type: none"> <li>1- Explain the importance of Glucose test.</li> <li>2- Describe the principles of glucose test.</li> <li>3- The types of glucose test and the reference range.</li> <li>4- The clinical significance of glucose test.</li> <li>5- Cause and consequence of hyper- and hypo-glycaemia.</li> </ul>	Glucose	Lecture and practical application in the laboratory	exam
6	2	<ul style="list-style-type: none"> <li>1- Explain the importance of AbA1c test and what is the result means.</li> <li>2- Describe the principles of HbA1c test.</li> <li>3- Teach the student what is the HbA1c reference range and the interpretations the result for diabetes and non-diabetes patients.</li> </ul> <p>The clinical significance of HbA1c test.</p>	HbA1c	Lecture and practical application in the laboratory	exam

7	2	<ol style="list-style-type: none"> <li>1- Explain the importance of GTT test and what is the result means.</li> <li>2- Explain in which health conditions the test should order.</li> <li>3- Describe the principles of GGT test.</li> <li>4- Teach the student what is the GGT reference range and the interpretations the result for diabetes and non-diabetes patients.</li> <li>5- The clinical significance of GGT test. what is the pre-test preparations</li> </ol>	Glucose tolerance test (GTT)	Lecture and practical application in the laboratory	exam
8	2	<ol style="list-style-type: none"> <li>1- Explain the importance of Insulin and Glucagon test and what is the result means.</li> <li>2- Explain why the doctor's order Insulin and Glucagon test.</li> <li>3- Describe the principles of Insulin and Glucagon test .</li> <li>4- Learn the student what is the Insulin and Glucagon reference range and the interpretations the result for diabetes and non-diabetes patients .</li> <li>5- The clinical significance of Insulin and Glucagon test. what is the pre-test preparations.</li> </ol>	Insulin and Glucagon	Lecture and practical application in the laboratory	exam
9	2	<ol style="list-style-type: none"> <li>1- Explain the importance of C-peptide test and what is the result means.</li> <li>2- Explain why the doctor's order C-peptide test.</li> <li>3- Describe the principles of C-peptide test.</li> <li>4- Learn the student what is the C-peptide reference range and the interpretations the result for diabetes and non-diabetes</li> </ol>	C-peptide	Lecture and practical application in the laboratory	exam

		<p>patients.</p> <p>5- The clinical significance of C-peptide test.</p> <p>What is the pre-test preparations.</p>			
<b>10</b>	<b>2</b>	<p>1- Explain the importance of Cholesterol and Triglyceride test and what is the result means.</p> <p>2- Explain why the doctor's order Cholesterol and Triglyceride test.</p> <p>3- Describe the principles of Cholesterol and Triglyceride test.</p> <p>4- Teach the student what is the Cholesterol and Triglyceride reference range.</p> <p>5- The clinical significance of Cholesterol and Triglyceride test.</p> <p>What is the pre-test preparations.</p>	<p>Plasma lipids and lipoproteins (Cholesterol and Triglyceride)</p>	<p>Lecture and practical application in the laboratory</p>	<p>exam</p>
<b>11</b>	<b>2</b>	<p>1- Explain the importance of HDL, LDL, and VLDL test and what is the result means.</p> <p>2- Explain why the doctor's order HDL, LDL, and VLDL test.</p> <p>3- Describe the principles of HDL, LDL, and VLDL test.</p> <p>4- Learn the student what is the HDL, LDL, and VLDL reference range.</p> <p>5- The clinical significance of HDL, LDL, and VLDL test.</p> <p>What is the pre-test preparations.</p>	<p>Plasma lipids and lipoproteins (HDL, LDL, and VLDL)</p>	<p>Lecture and practical application in the laboratory</p>	<p>exam</p>
<b>12</b>	<b>2</b>	<p>1- Explain the importance of Protein and albumin test and what is the result means.</p> <p>2- Explain why the doctor's order Protein and albumin test.</p> <p>3- Describe the principles of Protein and albumin test.</p> <p>4- Learn the student what is the Protein and albumin reference</p>	<p>Protein and albumin</p>	<p>Lecture and practical application in the laboratory</p>	<p>exam</p>

		range. The clinical significance of Protein and albumin test.			
13	2	1- Explain the importance of G6PDH test and what is the result means. 2- Explain why the doctor's order G6PDH test. 3- Describe the principles of G6PDH test . 4- Learn the student what is the G6PDH reference range. The clinical significance of G6PDH test.	G6PDH	Lecture and practical application in the laboratory	exam
14	2	1- Explain the importance of Urea test, Creatinine Test and what is the result means. 2- Explain why the doctor's order Urea test, Creatinine Test. 3- Describe the principles of Urea test, Creatinine Test. 4- Teach the student what is the Urea, Creatinine reference range. The clinical significance of Urea test, Creatinine Test.	Kidney function test (Urea Test), (Creatinine Test)	Lecture and practical application in the laboratory	exam
15	2		First- semester practical examination	Lecture and practical application in the laboratory	exam

**- The structure of the course for theoretical biochemistry / second academic level / the Second course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	3	1. Describe factors affecting nitrogen balance in health and disease. 2. Describe the biosynthesis of melanin and catecholamine's	Amino acids and protein	Lecture and discussions	exam

		<p>hormones from essential amino acids.</p> <ol style="list-style-type: none"> <li>Describe the biosynthesis of EAAs and NEAAs from intermediates of glycolytic pathway and TCA cycle.</li> <li>Describe the role of folic acid.</li> <li>Compare and contrast dopamine levels in Parkinson's disease.</li> <li>Describe the role of tyrosinase in albinism.</li> </ol>			
<b>2</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Describe the reactions of the urea cycle.</li> <li>List the causes of hyperammonemia and treatments to reduce blood ammonia levels.</li> <li>Identify the connections and common intermediates between the urea cycle and TCA cycle.</li> </ol>	Urea cycle	Lecture and discussions	exam
<b>3</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Describe porphyrin and heme synthesis.</li> <li>Describe the difference between total, direct and indirect bilirubin.</li> <li>Describe heme catabolism.</li> </ol>	Porphyrias	Lecture and discussions	exam
<b>4</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Definition of vitamins.</li> <li>Describe the common classification of vitamins.</li> <li>Describe the role of vitamin A.</li> <li>Identify the common problems associated with vitamin A deficiency.</li> </ol>	Vitamins	Lecture and discussions	exam
<b>5</b>	<b>3</b>	<ol style="list-style-type: none"> <li>List the water-soluble vitamins.</li> <li>Discuss the problems associated with vitamin B deficiency.</li> <li>List the causes of vitamin B deficiency.</li> </ol>	Water soluble vitamins	Lecture and discussions	exam
<b>6</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Introduction to endocrinology.</li> <li>Identify the common factors, which regulate the release of anterior pituitary hormone.</li> </ol>	Disorders of the hypothalamus and pituitary	Lecture and discussions	exam

		<ol style="list-style-type: none"> <li>Describe the hormones that release from the anterior pituitary gland.</li> <li>Identify clinical problems associated with growth hormone deficiency.</li> </ol>			
<b>7</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Describe the physiology of thyroid gland.</li> <li>Illustrate the hormones that regulate thyroid hormone secretion.</li> <li>Discuss thyroid function test.</li> </ol>	Thyroid gland	Lecture and discussions	exam
<b>8</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Definition of hypothyroidism.</li> <li>Describe symptoms of hypothyroidism.</li> <li>Identify the pathophysiology of hypothyroidism.</li> <li>Diagnosis of hypothyroidism.</li> <li>Describe factors contribute to hypothyroidism.</li> <li>Identify the causes of hyperthyroidism.</li> <li>Pathophysiology of hyperthyroidism.</li> <li>Describe laboratory investigation of hyperthyroidism.</li> <li>Describe the treatment of hyperthyroidism.</li> </ol>	Thyroid gland disease	Lecture and discussions	exam
<b>9</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Describe the function of cell membrane.</li> <li>Meaning of transport function.</li> <li>Types of transport mechanisms.</li> <li>Describe the factors that influence diffusion rates.</li> <li>Describe osmolarity and tonicity.</li> </ol>	Biological membrane and transport	Lecture and discussions	exam
<b>10</b>	<b>3</b>	<ol style="list-style-type: none"> <li>Describe major function of the liver.</li> <li>Identify the substance that are excreted by the liver.</li> <li>Describe how jaundice occur.</li> </ol>	Liver	Lecture and discussions	exam

		<ol style="list-style-type: none"> <li>4. Describe why unconjugated bilirubin occur.</li> <li>5. Identify the disease of the liver.</li> </ol>			
<b>11</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. General description of kidney.</li> <li>2. Describe the function of kidney.</li> <li>3. Identify the causes of impaired renal function.</li> <li>4. Definition of acute kidney injury.</li> <li>5. Identify the diagnostic feature of acute kidney injury.</li> <li>6. Describe the phases of acute kidney injury.</li> <li>7. Identify the investigation of low urinary output.</li> <li>8. Describe the classification of chronic kidney injury.</li> </ol>	<b>Kidney, Renal Failure</b>	<b>Lecture and discussions</b>	<b>exam</b>
<b>12</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. General definition of cancer.</li> <li>2. Describe how tumor growth effect on body organs.</li> <li>3. Illustrate the symptoms of tumor.</li> <li>4. Describe why renal failure occur in-patient with tumor.</li> <li>5. Identify cancer treatment and its consequences.</li> </ol>	<b>Cancer and its consequences</b>	<b>Lecture and discussions</b>	<b>exam</b>
<b>13</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Definition of tumor marker.</li> <li>2. Illustrate uses of tumor marker.</li> <li>3. Identify types of tumor marker.</li> </ol>	<b>Tumor marker</b>	<b>Lecture and discussions</b>	<b>exam</b>
<b>14</b>	<b>3</b>	<ol style="list-style-type: none"> <li>1. Definition of nutrition.</li> <li>2. Illustrate how trauma and sepsis effect on nutrition of individual.</li> <li>3. Definition of starvation and under nutrition.</li> <li>5. Describe nutritional assessment.</li> </ol>	<b>Nutrition</b>	<b>Lecture and discussions</b>	<b>exam</b>
<b>15</b>	<b>3</b>		<b>Final second semester exam</b>		<b>exam</b>

**- The structure of the course for Practical biochemistry /second academic level**

**/ the second course**

<b>Week</b>	<b>Hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluation method</b>
<b>1</b>	<b>2</b>	1- Explain the importance of Uric acid test and what is the result means. 2- Explain why the doctor's order Uric acid test. 3- Describe the principles of Uric acid test. 4- Learn the student what is the Uric acid reference range. The clinical significance of Uric acid test.	Gout (Uric acid Test)	Lecture and practical application in the laboratory	exam
<b>2</b>	<b>2</b>	1- Explain the importance of albumin test in LFT and what is the result means. 2- Explain why the doctor's order albumin test for patient has liver disease. 3- Describe the principles of albumin test. 4- Learn the student what is the albumin reference range. The clinical significance of albumin test for patient has liver disease.	Liver function test LFT (Protein synthesis (albumin))	Lecture and practical application in the laboratory	exam
<b>3</b>	<b>2</b>	1- Explain the importance of bilirubin test in LFT and what is the result means. 2- Explain why the doctor's order bilirubin test for patient has liver disease. 3- Describe the principles of bilirubin test. 4- What is the difference between direct and in direct bilirubin? 5- Learn the student what is the bilirubin reference range. 6- The clinical significance of bilirubin test for patient has liver disease. How testing direct and indirect bilirubin are important for distinguish between different types	Liver function test (Hepatic anion transport (bilirubin))	Lecture and practical application in the laboratory	exam

		of liver disease.			
4	2	<ol style="list-style-type: none"> <li>1- Explain the importance of GOT and GPT test in LFT and what is the result means.</li> <li>2- Explain why the doctor's order GOT and GPT test for patient has liver disease.</li> <li>3- Describe the principles of GOT and GPT test.</li> <li>4- Learn the student what is the GOT and GPT reference range.</li> <li>5- The clinical significance of GOT and GPT test for patient has liver disease.</li> </ol>	Liver function test (Hepatocellular integrity (GOT and GPT))	Lecture and practical application in the laboratory	exam
5	2	<ol style="list-style-type: none"> <li>1- Explain the importance of ALP test in LFT and what is the result means.</li> <li>2- Explain why the doctor's order ALP test for patient has liver disease.</li> <li>3- Describe the principles of ALP test.</li> <li>4- Learn the student what is the ALP reference range.</li> </ol> <p>The clinical significance of ALP test for patient has liver disease.</p>	Liver function test (Presence of cholestasis (alkaline phosphatase ALP))	Lecture and practical application in the laboratory	exam
6	2	<ol style="list-style-type: none"> <li>1- Explain the importance of Vitamin D3 test and what is the result means.</li> <li>2- Explain why the doctor's order Vitamin D3.</li> <li>3- Describe the principles of Vitamin D3 test .</li> <li>4- Learn the student what is the Vitamin D3 reference range.</li> </ol> <p>The clinical significance of Vitamin D3 test.</p>	Vitamin (Vitamin D3 Test)	Lecture and practical application in the laboratory	exam
7	2	<ol style="list-style-type: none"> <li>1- Explain the importance of Trace elements and metals test and what is the result means.</li> <li>2- Explain why the doctor's order Trace elements and metals test.</li> <li>3- Describe the principles of Trace elements and metals test.</li> <li>4- Learn the student what is the</li> </ol>	Trace elements and metals	Lecture and practical application in the laboratory	exam

		Trace elements and metals test reference range. 5- The clinical significance of Trace elements and metals test.			
<b>8</b>	<b>2</b>	1- Explain the importance of Calcium test and what is the result means. 2- Explain why the doctor's order Calcium test. 3- Describe the principles of Calcium test. 4- Learn the student what is the Calcium test reference range. The clinical significance of Calcium test.	Electrolytes (Calcium)	Lecture and practical application in the laboratory	exam
<b>9</b>	<b>2</b>	1- Explain the importance of Sodium test and what is the result means. 2- Explain why the doctor's order Sodium test. 3- Describe the principles of Sodium test. 4- Learn the student what is the Sodium test reference range. The clinical significance of Sodium test.	Electrolytes (Sodium)	Lecture and practical application in the laboratory	exam
<b>10</b>	<b>2</b>	1- Explain the importance of Potassium test and what is the result means. 2- Explain why the doctor's order Potassium test. 3- Describe the principles of Potassium test. 4- Learn the student what is the Potassium test reference range. The clinical significance of Potassium test.	Electrolytes (Potassium)	Lecture and practical application in the laboratory	exam
<b>11</b>	<b>2</b>	1- Explain the importance of Chloride test and what is the result means. 2- Explain why the doctor's order Chloride test. 3- Describe the principles of	Electrolytes (Chloride)	Lecture and practical application in the laboratory	exam

		<p>Chloride test.</p> <p>4- Learn the student what is the Chloride test reference range.</p> <p>The clinical significance of Chloride test.</p>			
12	2	<p>1- Explain the importance of T3, T4 and TSH test and what is the result means.</p> <p>2- Explain why the doctor's order T3, T4 and TSH test.</p> <p>3- Describe the principles of T3, T4 and TSH test .</p> <p>4- Learn the student what is the T3, T4 and TSH test reference range.</p> <p>The clinical significance of T3, T4 and TSH test.</p>	<p>Thyroid Function test T3, T4 and TSH</p>	<p>Lecture and practical application in the laboratory</p>	exam
13	2	<p>1- Explain the importance of Lipase and Amylase test and what is the result means.</p> <p>2- Explain why the doctor's order Lipase and Amylase test.</p> <p>3- Describe the principles of Lipase and Amylase test .</p> <p>4- Learn the student what is the Lipase and Amylase test reference range.</p> <p>The clinical significance of Lipase and Amylase test.</p>	<p>Lipase and Amylase</p>	<p>Lecture and practical application in the laboratory</p>	exam
14	2	<p>1- Explain the importance of CPK test, Troponin test and what is the result means.</p> <p>2- Explain why the doctor's order CPK test, Troponin test.</p> <p>3- Describe the principles of CPK test, Troponin test.</p> <p>4- Learn the student what is the CPK test, Troponin test reference range.</p> <p>5- The clinical significance of CPK test, Troponin test.</p>	<p>Cardiac marker (CPK) , (Troponin)</p>	<p>Lecture and practical application in the laboratory</p>	exam
15	2		<p>Second-semester practical</p>		exam

			examination		
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### 11. Cours Evaluation

- Daily exams.
- Evaluating the performance of conducting practical experiments in the laboratory.
- The student's scientific and practical ability to solve health problems.
- Reports preparation
- Mid-course exam.
- End of course exam.

### 12. Learning and Teaching Resources

Required textbooks (curricular book , if any) :	-Harper’s Illustrated Biochemistry (31st Edition). -Lippincott Illustrated Reviews: Biochemistry, Seventh Edition, 2018.
Main references (source)	- Basic Medical Biochemistry (4st Edition). - Lehninger Principles of Biochemistry (7st Edition).
Recommended book and references (scientific journals, reports .....)	Scientific journals in clinical biochemistry.
Electronic References , Website...	The website of the Faculty of Medicine in addition to the Internet.

This course description provides a necessary summary of the most important characteristics of the course and the educational objectives that the student is expected to achieve, demonstrating whether he has made the most of the available learning opportunities, and this must be linked to the program description

### 1. Program Vision

Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.

### 2. Program Mission

Our college seeks to get the international accreditation, rise to the global level in terms of the outcome's quality, and graduate medical doctors who are highly effective in patient care, medical education research, and community service.

### 3. Program Objectives

- Achieving of quality standards and medical accreditation according to IGL derived on the basis of scientific institutional quality standards.
- Graduating medical doctors, with a bachelor's degree in medicine and general surgery, who will be well-prepared to conduct a patient examination, diagnose the disease, and dispense treatment on a scientific and medical basis, advanced clinical, and professional knowledge, skills, and attitudes they need to practice in an ethical manner to provide excellent health services and enable them for long life learning.
- Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.
- Preparing doctors who will be able to interact in the workplace and solve urgent problems in response to the needs of the health delivery system/ society and

changing circumstances which make them capable of working in Iraq and internationally, as well as pursuing postgraduate study and training in any medical branch.

- Graduating doctors with high skills and knowledge in conducting scientific research in basic, clinical, behavioral, and biomedical fields.
- Encouraging faculty, staff, and students to enhance their technical skills and utilize information and communication technology to convey knowledge, produce scientific research, and create curricula for educational programs.
- Implementing a development program for the faculty and staff.

#### 4. Program Accreditation

applied for

#### 5. Other external influences

Teaching hospital, library, internet, community, doctors' syndicate.

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirement	4	13	100%	
College Requirement	4	13	100%	
Department Requirement	4	13	100%	
Summer Training	None	None	None	
Other	None	None	None	

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/Third	COM313	Family and Community Medicine	Theory: 30 hours	Practical: 30 hours
2024-2025/Fourth	CMED411, CMED412	Family and Community Medicine	Theory: 90 hours	Practical: 120 hours

8. Expected learning outcomes of the program	
<b>Knowledge</b>	
Introducing students to the principles of family and community medicine and their relationship to the health system followed.	
<b>Skills</b>	
Providing students with special skills to know the health problems that society suffers from, their causes, how diseases are distributed and the influence of various factors in them, and to know the most appropriate ways and means to solve these problems.	
Providing students with basic skills to perform various statistical tests.	
<b>Ethics</b>	
Gain the ability to deal with patients and meet their needs.	
Gain the ability to optimally deal with medical records and statistics.	

9. Teaching and Learning Strategies	
1 - Giving theoretical lectures. 2 - Special practical laboratories to gain skills in solving statistical problems. 3- Laboratory of application of nutritional measurements. 4- Practical and clinical training in hospitals and health centers. 5- Field training to various relevant institutions. 6- Integrated, in-person and e-learning (via the Classroom platform). 7- Seminars and weekly discussion groups. 8- Small group discussion and suggestion of solutions to individuals and community problems.	

## 10. Evaluation methods

- 1- Mid-course and final exams.
- 2- Pop quizzes.
- 3- Score for exercises.
- 4- Oral, practical and clinical examinations.
- 5- Reports.

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Medicine and General Surgery	Infectious Diseases			1	None
Professor	Medicine and General Surgery	Occupational and Environmental Medicine			1	None
Lecturer	Medicine and General Surgery	Community Medicine			1	None
Assistant lecturer	Medicine and General Surgery	Medical Microbiology			1	None

### Professional Development

#### Mentoring new faculty members

Introductory seminars and symposia for new faculty members with periodic meetings to introduce them to the work with daily guidance and continuous follow up along with advising and instructing them.

#### Professional development of faculty members

Continuous learning by searching for developments using the library and the Internet, in addition to attending seminars and specialized scientific symposia, along with active attendance in teaching hospitals to hone skills.

## 12. **Acceptance Criterion**

The admission is centralized through the Ministry of Higher Education and Scientific Research, based on the student's score in the twelfth grade (scientific branch) after preparing the online form for that.

## 13. **Program**

University and college website, in addition to website of the Ministry of Higher Education and Scientific Research, along with college library and university's central library.

## 14. **Program Development Plan**

- Developing the scientific and administrative staff in the college through annual evaluation files that reveal strengths and weaknesses.
- Carrying out evaluation studies related to developing and improving the performance of senior leaders, faculty members and staff working in the college.
- Propose strategies, plans and operational policies to ensure quality and reliability.
- Develop guidelines for methods of applying quality and academic accreditation in order to reach the best.
- Developing detailed data and statistics about the college, its objectives, departments, activities and future plans to be accomplished.
- Providing advice and guidance on what the institution should do in order to improve for the best in full compliance with accreditation standards.

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
2024-2025/Third	COM313	Family and Community Medicine	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2024-2025/Fourth	CMED411, CMED412	Family and Community Medicine	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

## Course Description Form for Family and Community Medicine

<b>1. Course Name:</b>	
Family and Community Medicine	
<b>2. Course Code:</b>	
COM313, CMED411, CMED412	
<b>3. Semester / Year:</b>	
2024/2025	
<b>4. Description Preparation Date:</b>	
2024	
<b>5. Available Attendance Forms:</b>	
Mandatory attendance	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
Total number of hours: 120 theoretical hours + 150 practical hours (13 units) Third year: 30 hours theoretical + 30 hours practical (3 units) Fourth stage: 90 theoretical hours + 120 practical hours (10 units)	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Prof. Dr. Nadhim Ghazal Noaman e-mail: <a href="mailto:nadhim@uodiyala.edu.iq">nadhim@uodiyala.edu.iq</a>	
<b>8. Course Objective</b>	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>• Providing students with special skills to know the health problems that society suffers from, their causes, how diseases are distributed and the influence of various factors in them, and to know the most appropriate ways and means to solve these problems.</li> <li>• Providing students with basic skills to perform various statistical tests.</li> <li>• Providing students with the skills to measure the nutritional status of the population.</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	Giving theoretical lectures. Special practical laboratories to gain skills in solving statistical problems. Laboratory of application of nutritional measurements. Practical and clinical training in hospitals and health centers. Field training to various relevant institutions.

	<p>Integrated, in-person and e-learning (via the Classroom platform).</p> <p>Seminars and weekly discussion groups.</p> <p>Small group discussion and suggestion of solutions to individuals and community problems.</p>
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<b>10. Course Structure (third academic level / first course)</b>					
Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	1	Introduction & Definitions	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
2	1	Data Collection	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
3	1	Sampling Methods	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
4	1	Data Presentation	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
5	1	Measurements of Central Tendency	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
6	1	Measurements of Variability	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
7	1	Range & Variance	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
8	1	Standard Deviation & Coefficient of Variation	Biostatistics	Discussions, theory lectures	Discussions, reports, quizzes,

	2	Practical Training		& practical sessions	and examinations (theory & practical)
9	1	Probability (Part 1)	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
10	1	Probability (Part 2)	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
11	1	Student's t-Test	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
12	1	Chi-square Test (Part 1)	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
13	1	Chi-square Test (Part 2)	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
14	1	Correlation & Regression (Part 1)	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			
15	1	Correlation & Regression (Part 2)	Biostatistics	Discussions, theory lectures & practical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	2	Practical Training			

#### 11. Course Structure (third academic level / second course)

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	1	Introduction & Definitions	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
2	1	Nutrients	Nutrition	Theory lectures	Discussions, reports, quizzes,

					and examinations
3	1	Proteins	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
4	1	Fats & Lipids	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
5	1	Carbohydrates	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
6	1	Vitamins	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
7	1	Minerals	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
8	1	Nutrition of Pregnant & Lactating Women	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
9	1	Nutrition in Hypertension & Diabetes Mellitus	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
10	1	Nutrition in Thyroid Disorders	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
11	1	Nutrition in Anemia & Heart Failure	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
12	1	Nutrition in Renal Failure	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
13	1	Total Energy Requirements (Part 1)	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
14	1	Total Energy Requirements (Part 2)	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations
15	1	Nutritional Assessment & Recommended Dietary Allowance	Nutrition	Theory lectures	Discussions, reports, quizzes, and examinations

<b>12. Course Structure (fourth academic level / first course)</b>					
<b>Week</b>	<b>Hours</b>	<b>Required Learning Outcomes</b>	<b>Unit or Subject Name</b>	<b>Learning Method</b>	<b>Evaluation Method</b>
1	1	Introduction & Definitions	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Definition, History, and Objectives	Occupational Medicine		
	1	PHC System (Health & Population)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
2	1	Incidence & Prevalence	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Functions of Occupational Health Centers	Occupational Medicine		
	1	PHC System (Public Health & Principles of PHC System)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
3	1	Measurements of Risk	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Heat	Occupational Medicine		
	1	PHC System (Al-mata Declaration & Components of PHC System)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
4	1	Sources of Infections	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Cold	Occupational Medicine		
	1	PHC System (Levels of Care)	Primary Health Care System		

	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
5	1	Definitions & Common Terms of Communicable Diseases	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Pressure	Occupational Medicine		
	1	PHC System (Needs & Benefits)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
6	1	Study Design	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Noise	Occupational Medicine		
	1	PHC System (Referral System)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
7	1	Screening for Diseases	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Vibration	Occupational Medicine		
	1	PHC System (Strategies of PHC System)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
8	1	Evaluation of Screening Tests	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Ionizing & Non-ionizing Radiation	Occupational Medicine		
	1	Child Health Care (Part 1)	Primary Health Care System		
	4	Practical / Clinical	Practical / Clinical		

		Training	Aspects of the Aforementioned Subjects		
9	1	Investigation of Epidemics	General Epidemiology	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Chemical Hazards (Toxicology & Body Defense)	Occupational Medicine		
	1	Child Health Care (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
10	1	Acute Respiratory Infection (ARI)	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Lung Diseases (Asbestosis & Pneumoconiosis)	Occupational Medicine		
	1	Maternal Health Care (Antenatal Care & Nutrition during Pregnancy)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
11	1	Whooping Cough	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Lung Diseases (Silicosis & Byssinosis)	Occupational Medicine		
	1	Maternal Health Care (Maternal Mortality)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
12	1	Mumps	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Occupational Skin Diseases	Occupational Medicine		
	1	Vaccination (Part 1)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
13	1	Diphtheria	Infectious Diseases	Theory lectures	Discussions,

	1	Heavy Metals	Occupational Medicine	& practical / clinical sessions	reports, quizzes, and examinations (theory & practical)
	1	Vaccination (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
14	1	Tetanus	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Occupational Accidents	Occupational Medicine		
	1	Administration (Part 1)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
15	1	Poliomyelitis	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Biological Hazards	Occupational Medicine		
	1	Administration (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		

13. Course Structure (fourth academic level / second course)					
Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	1	Amebic Dysentery	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Definition, and Biological, Physical, and Social Environment (Part 1)	Environmental Medicine		
	1	Health Education (Part 1)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
2	1	Typhoid Fever	Infectious Diseases	Theory lectures & practical /	Discussions, reports,

	1	Definition, and Biological, Physical, and Social Environment (Part 2)	Environmental Medicine	clinical sessions	quizzes, and examinations (theory & practical)
	1	Health Education (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
3	1	Meningococcal Meningitis	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Air Pollution (Part 1)	Environmental Medicine		
	1	Family Medicine (Part 1)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
4	1	Leishmaniasis	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Air Pollution (Part 2)	Environmental Medicine		
	1	Family Medicine (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
5	1	Hepatitis A	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Water Pollution (Part 1)	Environmental Medicine		
	1	School Health Services	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		

6	1	Hepatitis B	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Water Pollution (Part 2)	Environmental Medicine		
	1	Mental Health & Mental Disorders (Part 1)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
7	1	Hemorrhagic Fever	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Acid Rain	Environmental Medicine		
	1	Mental Health & Mental Disorders (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
8	1	Brucellosis	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Soil Pollution	Environmental Medicine		
	1	Millenium Development Goals	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
9	1	Measles	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Global Warming	Environmental Medicine		
	1	Acquired Immunodeficiency Syndrome (AIDS)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
10	1	Tuberculosis	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations
	1	Green House Effects	Environmental Medicine		
	1	Sexually Transmitted	Primary Health Care		

		Diseases (Part 1)	System		(theory & practical)
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
11	1	Cholera	Infectious Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Ozone Depletion and Ultraviolet Radiation Health Effects (Part 1)	Environmental Medicine		
	1	Sexually Transmitted Diseases (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
12	1	Cancer	Cancer	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Ozone Depletion and Ultraviolet Radiation Health Effects (Part 2)	Environmental Medicine		
	1	Reproductive Health	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
13	1	Ischemic Heart Diseases	Cardiovascular Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Environmental Sanitation and Hygiene	Environmental Medicine		
	1	Family Planning (Part 1)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
14	1	Hypertension	Cardiovascular Diseases	Theory lectures & practical / clinical sessions	Discussions, reports, quizzes, and examinations (theory & practical)
	1	Hospital Waste	Environmental Medicine		
	1	Family Planning (Part 2)	Primary Health Care System		
	4	Practical / Clinical Training	Practical / Clinical Aspects of the Aforementioned Subjects		
15	1	ICD-11	International	Theory lectures	Discussions,

			Statistical Classification of Diseases and Related Health Problems (ICD)	& practical / clinical sessions	reports, quizzes, and examinations (theory & practical)
1	Sewage Disposal	Environmental Medicine			
1	Population Pyramid	Primary Health Care System			

#### 14. Cours Evaluation

- 1- Mid-course and final exams.
- 2- Pop quizzes.
- 3- Score for exercises.
- 4- Oral, practical and clinical examinations.
- 5- Reports.

#### 15. Learning and Teaching Resources

Required textbooks (curricular books, if any)	<p>Biostatistics: A Foundation for Analysis in the Health Sciences, Daniel, Wayne W.</p> <p>Human Nutrition</p> <p>Basic Epidemiology</p> <p>Infectious Diseases</p> <p>ICD-11</p> <p>Textbook of Occupational Medicine Practice</p> <p>Textbook of Clinical Occupational and Environmental Medicine</p> <p>Primary Health Care: Theory and Practice</p>
Main references (source)	<p>Community Public Health in Policy and Practice</p> <p>Community Health Worker's Sourcebook</p> <p>Integrating health in urban and territorial planning</p> <p>Fundamentals Biostatistics</p>
Recommended book and references (scientific journals, reports .....)	<p>Journal of Community Nutrition &amp; Health</p> <p>Journal of Community Health Research</p> <p>Journal of School of Public Health and Institute of Public Health Research</p>

	<p>Journal of Family and Community Medicine</p> <p>Safety Science</p> <p>Scandinavian Journal of Work, Environment and Health</p> <p>Annual Review of Nutrition</p>
<p>Electronic references, websites</p>	<p>WHO website</p> <p>CDC website</p> <p>The United States National Library of Medicine</p> <p>American Public Health Association</p>



## • Academic description form for physiology and medical physics branch

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

### 1. Program Vision

Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.

### 2. Program Mission

Our college seeks to get the international accreditation, rise to the global level in terms of the outcome's quality, and graduate medical doctors who are highly effective in patient's care, medical education research, and community service.

### 3. Program Objectives

- Achieving of quality standards and medical accreditation according to IGL derived on the basis of scientific institutional quality standards.
- Graduating medical doctors, with a bachelor's degree in medicine and general surgery, who will be well-prepared to conduct a patient examination, diagnose the disease, and dispense treatment on a scientific and medical basis, advanced clinical, and professional knowledge, skills, and attitudes they need to practice in an ethical manner to provide excellent health services and enable them for long life learning.
- Preparing doctors who will be able to interact in the workplace and solve urgent problems in response to the needs of the health delivery system/ society and changing circumstances which make them capable of working in Iraq and internationally, as well as pursuing postgraduate study and training in any medical branch.

- Graduating doctors with high skills and knowledge in conducting scientific research in basic, clinical, behavioral, and biomedical fields.
- Encouraging faculty, staff, and students to enhance their technical skills and utilize information and communication technology to convey knowledge, produce scientific research, and create curricula for educational programs.
- Implementing a development program for the faculty and staff.

#### 4. Program Accreditation

The college has sent a request to get it.

#### 5. Other external influences

Teaching hospital, library, internet, community, doctors' syndicate.

#### 6. Program Structure

Program Structure	Number of Course	Credit Hours	Percentage	Reviews*
Insitution Requirments	2 for Physiology	6 for each course	100%	Basic
	2 for Medical Physics	3 for each course	100%	Basic
College Requirments	2 for Physiology	6 for each course	100%	Basic
	2 for Medical Physics	3 for each course	100%	Basic
Department Requirments	2 for Physiology	6 for each course	100%	Basic
	2 for Medical Physics	3 for each course	100%	Basic
Summer training	None	None	None	
Other	None	None	None	

\*\*Notes may include whether the course is core or elective

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/First	MPH105, MPH106	Medical Physics	Theory: 30 hours For each course	Practical: 30 hours For each course
2024-2025/Second	PHY207	Physiology	Theory: 60 hours For each course	Practical: 60 hours For each course

## 8. Expected learning outcomes of the program

### Knowledge

- ✓ Learning the basics of human physiology and medical physics and its various vocabulary.
- ✓ Developing mental abilities through various modern academic and practical education methods.
- ✓ Linking basic sciences with applied sciences in the future.
- ✓ Learn about the methods of action and effect of drugs.
- ✓ Learn the method of scientific discussion.
- ✓ Acquisition of laboratory skills.

### Skills

- ✓ Learning the methods of dealing with laboratory animals and scientific equipment.
- ✓ Learning how to use chemical and physical materials.
- ✓ Acquisition of clinical examination skills.
- ✓ Methods of dealing with devices and their work on the human body
- ✓ Learning how to use physical materials.
- ✓ Learning how to link the benefits of the experience and link them with the medical benefits.

### Ethics

- ✓ Learning the ethical manner in dealing with patients, their families, and colleagues to provide excellent health services.
- ✓ Ethical and professional discipline.

- ✓ Good interaction of students with each other.
- ✓ Develop a spirit of help.
- ✓ Eliminate class differences.

## 9. Teaching and Learning Strategies

- ✓ Lectures, computers, plasma screens, modern scientific equipment, clinical tours, educational seminars, audio-visual equipment, and small groups discussions.
- ✓ In-person and electronic blended education (via the Classroom platform).

## 10. Evaluation methods

- ✓ Discussion in lectures.
- ✓ Mid-course exams and end-of-course exams.
- ✓ Periodic evaluation through quizzes.
- ✓ Small Education Groups.
- ✓ Practical exams.
- ✓ Reports.

## 11. Faculty

<b>Faculty Members</b>						
Academic Rank	Specialization		Special Requirements, (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Physics	Medical Physics			۲	None
Ass. Prof.	Biomedical Engineering	Artificial Intelligence			1	None
Lecturer	Physics	Medical Physics			2	None
	Medicine and General Surgery	Biochemistry			1	None
Assistant Lecturer	Physics	Medical Physics			1	None

<b>Professional Development</b>
<b>Mentoring new faculty members</b>
New faculty members will get orientation seminars and regular meetings to familiarize them with the work, daily supervision, ongoing follow-up, and guidance and instruction.
<b>Professional development of faculty members</b>
Regular training can be achieved through actively participating in various labs, attending seminars and specialist scientific symposia, and searching for advancements online and in libraries.

<b>12. Acceptance Criterion</b>
After compiling the online application, the Ministry of Higher Education and Scientific Research centrally processes admissions based on test scores in the scientific branch of the twelfth grade of the high school.

### 13. **Program**

University and college website, in addition to website of the Ministry of Higher Education and Scientific Research, along with college library and university's central library.

### 14. **Program Development Plan**

- Developing the college's scientific and administrative staff by identifying their strengths and shortcomings through yearly evaluation files.
- Propose strategies, plans, methods, and operational policies to ensure quality and reliability.
- Establish principles for implementing academic accreditation and quality to get the international accreditation.

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
2024-2025/First	MPH105, MPH106	Medical Physics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2024-2025/Second	PHY207	Physiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

## Course Description Form for Physiology and medical physics

<b>1. Course Name:</b>	
Physiology	
<b>2. Course Code:</b>	
PHY207	
<b>3. Semester / Year:</b>	
2024-2025	
<b>4. Description Preparation Date:</b>	
2024	
<b>5. Available Attendance Forms:</b>	
Mandatory attendance	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
2 <sup>nd</sup> year: 120 hours theoretical + 120 hours practical (6 units)	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Ass. Prof. Dr. Asmaa Abbas Ajwad E-mail: <a href="mailto:ajwad@uodiyala.edu.iq">ajwad@uodiyala.edu.iq</a>	
<b>8. Course Objective</b>	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>✓ Determining the functions of the different body systems.</li> <li>✓ Describe the mechanism of action of the various body systems and the accompanying sequence of physiological events.</li> <li>✓ Estimation of the normal values of biological activities in relation to different biological conditions.</li> <li>✓ Distinguish between the normal and abnormal functions of the different body systems.</li> <li>✓ Clarify the amount of change in the natural functions of different body systems and accompanying some disease states.</li> <li>✓ Expanding knowledge through periodicals, medical books and the Internet.</li> <li>✓ Apply the basic scientific building blocks he has acquired to conduct scientific research and medical studies.</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	<ul style="list-style-type: none"> <li>✓ Small scientific circles.</li> <li>✓ Discussions.</li> <li>✓ Seminars.</li> <li>✓ In-person and electronic blended education (via the Classroom platform).</li> </ul>

<b>10- Course Structure of Physiology /First Course/Theory</b>					
<b>Week</b>	<b>Hours</b>	<b>Required educational goals Learning physiology of:</b>	<b>Unit name and/or topic</b>	<b>Education method</b>	<b>Evaluation method</b>
1	4	cell structure	Cell	Lecture	Exam
		cell contents	Cell	Lecture	Exam
		cell wall	Cell	Lecture	Exam
		transport across the cell	Cell	Lecture	Exam
		Cellular division	Cell	Lecture	Exam
2	4	Nucleus	Cell	Lecture	Exam
		energy houses	Cell	Lecture	Exam
		cell proliferation	Cell	Lecture	Exam
		internal transmitters of the cell	Cell	Lecture	Exam
		The DNA	Cell	Lecture	Exam
3	4	Recipients	Cell	Lecture	Exam
		Influences on cell division	Cell	Lecture	Exam
		Apoptosis	Cell	Lecture	Exam
		Drugs that affect the cell	Cell	Lecture	Exam
		Discussions	Cell	Lecture	Exam
4	4	Blood volume & plasma	Blood physiology	Lecture	Exam
		RBC	Blood physiology	Lecture	Exam
		Hemoglobin	Blood physiology	Lecture	Exam
		Anemia	Blood physiology	Lecture	Exam
		Blood groups	Blood physiology	Lecture	Exam
5	4	transfusion reaction	Blood physiology	Lecture	Exam
		Homeostasis, platelets	Blood physiology	Lecture	Exam
		external & internal pathways of coagulation	Blood physiology	Lecture	Exam
		Tests of homeostasis	Blood physiology	Lecture	Exam
		Hemophilia	Blood physiology	Lecture	Exam
6	4	Immunity	Blood physiology	Lecture	Exam
		Immunity	Blood physiology	Lecture	Exam
		Tissue typing & transplantation	Blood physiology	Lecture	Exam
		Plasma	Blood physiology	Lecture	Exam
		Platelets	Blood physiology	Lecture	Exam
7	4	The functional design of C.V.S., the structure of the heart & blood vessels	Circulatory physiology	Lecture	Exam
8	4	Properties of cardiac muscle- autorhythmicity & conductivity	Circulatory physiology	Lecture	Exam
9	4	Electrophysiology of the heart ECG	Circulatory physiology	Lecture	Exam
10	4	Mechanical events in cardiac cycle	Circulatory physiology	Lecture	Exam
11	3	Cardiac output	Circulatory physiology	Lecture	Exam
12	3	Blood pressure	Circulatory physiology	Lecture	Exam
13	3	Process of Respiration: Mechanics of Breathing	Respiratory physiology	Lecture	Exam
14	3	Lung Volumes and Capacities	Respiratory physiology	Lecture	Exam
15	3	Compliance of the Lung/ Pulmonary and Alveolar Ventilation	Respiratory physiology	Lecture	Exam
16	3	Transport of O <sub>2</sub> by the blood	Respiratory physiology	Lecture	Exam
17	2	Acid- Base Regulation	Respiratory physiology	Lecture	Exam

**11. Course Structure of Practical Physiology /Second academic level / First course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	4	Identify different lab tools and how to use the microscope.	Introduction	Lecture + lab	Exam
2	4	Learn how to count RBCs and discuss some medical aspects related to it.	RBC <sub>s</sub> count	Lecture + laboratory experiment	Exam
3	4	Learn how to count WBCs and discuss some medical aspects related to it.	WBC <sub>s</sub> count	Lecture + laboratory experiment	Exam
4	4	Identify different types of WBCs and discuss their function and related medical aspects.	Differential WBC <sub>s</sub> count	Lecture + laboratory experiment	Exam
5	4	Learn how to estimate Hb and discuss some medical aspects related to it.	Estimation of hemoglobin concentration	Lecture + laboratory experiment	Exam
6	4	Learn how to count platelets and discuss some medical aspects related to it.	Platelets count	Lecture + laboratory experiment	Exam
7	4	Learn how to get ESR and discuss some medical aspects related to it.	Erythrocyte sedimentation rate (ESR)	Lecture + laboratory experiment	Exam
8	4	Learn how to get PCV (Hematocrit) and discuss some medical aspects related to it.	Packed cell volume (PCV)	Lecture + laboratory experiment	Exam
9	4	Discuss blood indices and their importance	Blood indices	Lecture + laboratory experiment	Exam
10	4	Learn how to get bleeding time and discuss some medical aspects related to it.	Bleeding time	Lecture + laboratory experiment	Exam
11	4	Learn how to get clotting time and discuss some medical aspects related to it.	Clotting time	Lecture + laboratory experiment	Exam
12	4	Learn how to get prothrombin time and discuss some medical aspects related to it.	Prothrombin time	Lecture + laboratory experiment	Exam
13	4	Learn how to get aPTT and PT time and discuss some medical aspects related to them.	APTT/TT	Lecture + laboratory experiment	Exam
14	4	Learn how to do blood grouping test and discuss some medical aspects related to it.	Blood grouping and cross matching tests	Lecture + laboratory experiment	Exam
15	4	Discuss different aspects of blood banking	Blood banking	Lecture + laboratory experiment	Exam

**12- Course Structure of Physiology /Second Course/Theory**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	4	Renal circulation & glomerular filtration	Urinary system physiology	Lecture	Exam
2	4	Water excretion by the kidneys	Urinary system physiology	Lecture	Exam
3	3	Tubular reabsorption	Urinary system physiology	Lecture	Exam
4	3	Tubular secretion	Urinary system physiology	Lecture	Exam
5	4	Excitable tissue	Muscle and nerve physiology	Lecture	Exam
6	4	Nervous tissue	Muscle and nerve physiology	Lecture	Exam
7	4	Types of nerves	Muscle and nerve physiology	Lecture	Exam
8	3	Excitation of muscle	Muscle and nerve physiology	Lecture	Exam
9	4	Neuromuscular transmission	Muscle and nerve physiology	Lecture	Exam
10	4	Sympathetic and parasympathetic N.S.	Brain physiology	Lecture	Exam
11	2	General Sensation	Brain physiology	Lecture	Exam
12	3	Spinal Cord pathway and Reflexes	Brain physiology	Lecture	Exam
13	3	Thalamus Central representation of Sensation	Brain physiology	Lecture	Exam
14	2	Learning and memory	Brain physiology	Lecture	Exam
15	3	Cerebellum	Brain physiology	Lecture	Exam
16	2	Saliva and swallowing	Digestive System Physiology	Lecture	Exam
17	2	Water excretion by the kidneys	Digestive System Physiology	Lecture	Exam
18	3	Different aspects of Endocrine glands	Digestive System Physiology	Lecture	Exam
19	3	Physiology of different parts of the reproductive system	Digestive System Physiology	Lecture	Exam

**13- Course Structure of Practical Physiology /Second academic level / the second course**

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	4	Teach students to measure BP correctly.	Blood pressure measurement	Lecture+lab	Exam
2	4	Teach students to measure body temperature correctly.	Body temperature measurement	Lecture + laboratory experiment	Exam
3	4	Teach students how to examine peripheral pulses practically and correctly.	Examination of the peripheral pulses	Lecture + laboratory experiment	Exam
4	4	Teach students how to get the RR practically and correctly.	Respiratory rate	Lecture + laboratory experiment	Exam
5	4	Teach students how to examine the cranial nerves practically and correctly.	Examination of the cranial nerves	Lecture + laboratory experiment	Exam
6	4	Teach students how to examine the motor and sensory systems practically and correctly.	Examination of motor & sensory systems	Lecture + laboratory experiment	Exam
7	4	Teach students how to connect ECG electrodes and read ECG.	ECG	Lecture + laboratory experiment	Exam
8	4	Show students some abnormalities of ECG.	Interpretation of ECG	Lecture + laboratory experiment	Exam
9	4	Teach students how to work on spirometer and how to differentiate between obstructive and restrictive lung diseases.	Pulmonary function test (spirometer)	Lecture + laboratory experiment	Exam
10	4	Teach students how to do different tests to examine optic nerve.	Vision tests	Lecture + laboratory experiment	Exam
11	4	Teach students how to do different tests to examine the cochlear branch of the 8 <sup>th</sup> cranial nerve.	Hearing tests	Lecture + laboratory experiment	Exam
12	4	Teach students how to listen to different heart sounds.	Heart sounds	Lecture + laboratory experiment	Exam
13	4	Teach students how to work on EMG.	Electromyography (EMG)	Lecture + laboratory experiment	Exam
14	4	Teach students how to connect EEG electrodes and read EEG.	Electroencephalography (EEG)	Lecture + laboratory experiment	Exam
15	4	Show students the different steps and maneuvers of CPR.	Cardiopulmonary resuscitation (CPR).	Lecture + laboratory experiment	Exam

#### 14. Cours Evaluation

- ✓ Discussion in lectures
- ✓ Mid-course exams and end-of-course exams
- ✓ Periodic evaluation through quizzes
- ✓ Small Education Groups
- ✓ Practical exams 6. Reports.

#### 15. Learning and Teaching Resources

Required textbooks (curricular book, if any)	Ganong's Review of Medical Physiology, by Kim E. Barret, Susan M. Barman. Mc Graw Hill LANGE. 2011. Guyton and Hall textbook of Medical Physiology. Saunders comp. 2016
Main references (source)	All medical physiology books and journals
Recommended book and references (scientific journals , reports .....)	All medical physiology books and journals
Electronic References, Website	Berny & Levy Physiology Cardiovascular physiology Cell physiology sourcebook Elsevier's Integrated physiology Gale Virtual Reference Library for Medicine Heart physiology and pathophysiology Medical physiology Netter's essential physiology Wiley's comprehensive physiology

## Course Description Form for Medical Physics

<b>1. Course Name:</b>	
Medical Physics	
<b>2. Course Code:</b>	
MPH105, MPH106	
<b>3. Semester / Year:</b>	
2024-2025	
<b>4. Description Preparation Date:</b>	
2024	
<b>5. Available Attendance Forms:</b>	
Mandatory attendance	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
2 <sup>nd</sup> year: 60 hours theoretical + 60 hours practical (3units)	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: Prof.Dr.Suad Muslih Al-deen Abdul Majeed E-mail: <a href="mailto:suad@uodiyala.edu.iq">suad@uodiyala.edu.iq</a>	
Name: Prof.Dr.Amer Dawood Majeed E-mail: <a href="mailto:amer.dmk58@gmail.com">amer.dmk58@gmail.com</a>	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>✓ Familiarize students with the laboratory devices specialized in medical physics and how these physical devices work, and get acquainted with what is related to these physical devices and their medical work.</li> <li>✓ The student is taught in a practical way to carry out practical experiments on various topics of physics and their applications in medicine and the relationship of various physical phenomena to the organs of the human body and the vital activities that take place inside the human body and it shows the extent of the impact of the body on natural conditions</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategies</b>	<ul style="list-style-type: none"> <li>✓ Small scientific circles.</li> <li>✓ Discussions.</li> <li>✓ Seminars.</li> <li>✓ In-person and electronic blended education (via the Classroom platform).</li> </ul>

### 10- Course Structure/Medical Physics/Theory /First Course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2	Forces on and in the	Medical physics	Lecture	Exam

		human body			
2	2	Frictional force, Dynamics, Clinical applications of gravity.	Medical physics	Lecture	Exam
3	2	Sedimentation velocity.	Medical physics	Lecture	Exam
4	2	Physics of the skeleton, The functions of bones	Medical physics	Lecture	Exam
5	2	Elastic properties of biological materials.	Medical physics	Lecture	Exam
6	2	Lubrication of bone joints.	Medical physics	Lecture	Exam
7	2	Heat and cold in medicine	Medical physics	Lecture	Exam
8	2	Heat therapy	Medical physics	Lecture	Exam
9	2	Cold in medicine	Medical physics	Lecture	Exam
10	2	Energy, work, and power of the body	Medical physics	Lecture	Exam
11	2	Pressure, measurement of pressure in the body	Medical physics	Lecture	Exam
12	2	The physics of lung and breathing function of the lung	Medical physics	Lecture	Exam
13	2	The physics of lung and breathing function of the lung	Medical physics	Lecture	Exam
14	2	The breathing mechanism	Medical physics	Lecture	Exam
15	2	Laplace law, Bernoulli's principle	Medical physics	Lecture	Exam

### 11- Course Structure/Medical Physics/Practical /First Course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2	Tools - Chart - How it works	Medical physics	Lecture+ lab	Exam
2	2	Finding the Earth's acceleration and its relationship to the human body	Medical physics	Lecture+ lab	Exam
3	2	Tools - Chart - How it works	Medical physics	Lecture+ lab	Exam
4	2	Finding the coefficient of friction and its relationship to joint diseases in the human body, and the reduction of fluids between the cartilage	Medical physics	Lecture+ lab	Exam

		increases the rate of friction and causes joint pain			
5	2	Tools - Chart - How it works	Medical physics	Lecture+ lab	Exam
6	2	Finding Yunck's modulus and its relationship to sound vibrations and vibrations	Medical physics	Lecture+ lab	Exam
7	2	Tools - Chart - How it works	Medical physics	Lecture+ lab	Exam
8	2	Finding the moment of inertia and its relationship to vibrations and acoustic vibrations	Medical physics	Lecture+ lab	Exam
9	2	Tools - Chart - How it works	Medical physics	Lecture+ lab	Exam
10	2	Finding the half-life and its relationship to the decomposition of the treatment inside the human body	Medical physics	Lecture+ lab	Exam
11	2	Tools - how it works	Medical physics	Lecture+ lab	Exam
12	2	Finding the focal length and its relationship to lenses and optics	Medical physics	Lecture+ lab	Exam
13	2	Shows both EEG-ECG	Medical physics	Lecture+ lab	Exam
14	2	Tools - how it works	Medical physics	Lecture+ lab	Exam
15	2	Finding resistance and its relationship to bone fractures	Medical physics	Lecture+ lab	Exam

### 12- Course Structure/Medical Physics/Theory /Second Course

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	2	Electricity within the body	Medical physics	Lecture	Exam
2	1	Electrical activity of the heart	Medical physics	Lecture	Exam
3	1	Cardiovascular Instrumentation	Medical physics	Lecture	Exam
4	1	Sound in medicine	Medical physics	Lecture	Exam
5	2	The loudness and intensity level	Medical physics	Lecture	Exam
6	2	Ultrasonic sound	Medical physics	Lecture	Exam
7	2	Ultrasound to measure motion	Medical physics	Lecture	Exam

8	2	Physics of the ear and hearing	Medical physics	Lecture	Exam
9	1	Light in medicine	Medical physics	Lecture	Exam
10	2	Application of ultraviolet	Medical physics	Lecture	Exam
11	2	The eye and vision	Medical physics	Lecture	Exam
12	1	Optical defects of the eye	Medical physics	Lecture	Exam
13	1	Laser	Medical physics	Lecture	Exam
14	2	Laser interaction	Medical physics	Lecture	Exam
15	1	Production of X-ray beams	Medical physics	Lecture	Exam
16	2	Application of Radiation in medicine	Medical physics	Lecture	Exam
17	2	Physics of Nuclear medicine and application of Radioisotopes	Medical physics	Lecture	Exam
18	1	Physics of Radiation therapy	Medical physics	Lecture	Exam
19	2	Radiation Protection	Medical physics	Lecture	Exam

### 13- Course Structure/Medical Physics/Practical /Second Course

Week	Hours	Required educational goals	Unit name and/or topic	Education method	Evaluation method
1	2	Tools - Chart - How it works	Test tube	Lecture+ lab	Exam
2	2	Finding the density of water	Test tube	Lecture+ lab	Exam
3	2	Tools - how it works	Spherometer	Lecture+ lab	Exam
4	2	Finding the radius of curvature for mirrors and lenses and its use in medical devices	Spherometer	Lecture+ lab	Exam
5	2	Tools - how it works	Wheatstones bridg	Lecture+ lab	Exam
6	2	Finding resistance and its relationship to bone fractures	Wheatstones bridge	Lecture+ lab	Exam
7	2	Tools - Chart - How it works	Spiral spring	Lecture+ lab	Exam
8	2	Finding the wavelength and its relationship to elasticity on the movement of the human body	Spiral spring	Lecture+ lab	Exam
9	2	Tools - Chart - How it works	CRO	Lecture+ lab	Exam
10	2	Shows both EEG-ECG	CRO	Lecture+ lab	Exam
11	2	Tools - Chart - How it works	Friction for wood on wood	Lecture+ lab	Exam

12	2	Finding the coefficient of friction and its relationship to joint diseases and the lack of fluid between the cartilage and increase the friction and thus cause joint pain	Friction for wood on wood	Lecture+ lab	Exam
13	2	Tools - Chart - How it works	Viscosity of water	Lecture+ lab	Exam
14	2	Finding a wife and its relationship to blood viscosity and high blood pressure	Viscosity of water	Lecture+ lab	Exam
15	2	Explains its use in medical devices used magnetic imaging	Ohms law	Lecture+ lab	Exam

#### 14.Cours Evaluation

- ✓ Discussion in lectures
- ✓ Mid-course exams and end-of-course exams
- ✓ Periodic evaluation through quizzes
- ✓ Small Education Groups
- ✓ Practical exams
- ✓ Reports

#### 15. Learning and Teaching Resources

Required textbooks (curricular book , if any)	Medical Physics By: John R. Cameron & James G. Skofronick Practical Physics in SI By: Armitage
Main references (source)	All medical physics books and journals
Recommended book and references (scientific journals , reports .....)	All medical physics books and journals
Electronic References, Website	Medical Physics - Wiley Online Library  Journal of Medical Physics

## • Academic description form for anatomy human branch

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description

### 1. Program Vision

Preparing students scientifically and providing them with the necessary information about the human body and its composition at the macroscopic and microscopic level in addition to embryonic development, with a focus on the applied aspects of providing information in order to raise the level of medical education in our college and in our educational institutions to keep pace with developed countries and develop the medical profession to contribute to providing the best services. in our country.

### 2. Program Mission

Preparing generations of doctors who are familiar with medical information, in order to provide health service institutions in the country and qualify a number of them to acquire advanced skills and thus contribute to raising the scientific and professional level of graduates at the national and global levels.

### 3. Program Objectives

- Teaching college students the science of human anatomy and what is related to it (tissues, embryology, and medical biology) so that they will be competent doctors in the future, taking into account global scientific developments in this field. Encouraging students and directing them to obtain useful external information in this field from sources other than the established curricula.
- Encouraging students' communication skills by conducting side conversations during practical lessons Motivating teachers to research science.

#### 4. Program Accreditation

It has been applied for

#### 5. Other external influences

Teaching hospital, library, internet, community, doctors' union.

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	5	8 for two courses 6 for two courses 2 for one course	100%	Basic
College requirements	5	8 for two courses 6 for two courses 2 for one course	100%	Basic
Department requirements	5	8 for two courses 6 for two courses 2 for one course	100%	Basic
summer training	None			
Other	None			

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/ (the first)	ANA101	Anatomy	30 theoretical hours for each course, (2) hours per week	60 practical hours per course, 4 hours per week
2024-2025/ (the second)	ANA212	Anatomy	30 theoretical hours for each course, (2) hours per week	60 practical hours per course, 4 hours per week
2024-2025/ (the second)	HIS205	Histology	30 theoretical hours for each course (2) hours per week	30 practical hours for each course, (2) hours per week
2024-2025/ (the second)	EMB206	Embryology	15 theoretical hours for each course, 1 hour per week	There is no practical
2024-2025/ (the first)	BIO204	Medical biology	30 theoretical hours for each course, (2) hour per week	30 practical hours for each course, (2) hours per week

## 8. Expected learning outcomes of the program

### Knowledge

- Teaching and learning the superficial anatomical signs of the body that indicate the locations of bones and muscles Tendons, blood vessels, nerves, and other internal organs.
- To link basic anatomy and embryology and tissues, in addition to the biology of cell function Manifestations of pathological conditions to arrive at the correct diagnosis.

### Skills

- Identifying anatomical surface marks and their relationship to bones, tendons, muscles and internal structures in the body
- Identifying and identifying anatomical structures such as muscles, nerves and blood vessels in plaster and plastic models, in addition to identifying them in radiology and MRI clips.
- Identifying tissue structures and components by viewing it microscopically and how to prepare tissue slides.
- Identifying the components of cells, their mechanism of action, and their divisions.

<b>Ethics</b>	
- Promoting the spirit of cooperation and teamwork to create a healthy environment suitable for humans.	- Conducting community awareness and guidance campaigns to create a healthy environment and preserve human health.
- Enhancing the ethical and humanitarian aspects that a doctor must possess.	- Highlighting the human and ethical aspects of the doctor in dealing with the patient.

### **9. Teaching and Learning Strategies**

- Delivering lectures in the form of PowerPoint, showing educational films, using plaster and plastic models, various anatomical sections of the brain, radiology and MRI films, and student participation during discussions during teaching in small groups in practical laboratories.
- Students participate in interactive lectures in theoretical and practical lessons
- Lectures with discussions.
- White seaboard
- Projector device
- Students participate in small groups.
- Interactive student participation during the lecture.
- Using computers and the Internet to maintain communication with the advancement of scientific knowledge in human anatomy

### **10. Evaluation methods**

- Daily theory Exams
- Daily laboratory exams
- Theoretical And practical Exams for midterm and final course.
- Exam Oral

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor Dr.	Veterinary medicine	Cell inheritance			1	
Assistant Professor	General medicine and surgery	Anesthetist ENT			2	
Lecturer	dentistry biology	Jaw surgery Molecular cell science Tissue Tissue			4	
assistant Lecturer	Biology	Parasites Biotechnology			2	

## Professional Development

### Mentoring new faculty members

Preparing seminars and introductory courses for new teachers, holding periodic meetings to familiarize them with work contexts, daily guidance, continuous follow-up, and giving advice and directions.

### Professional development of faculty members

Continuous learning through searching for new developments using the library and the Internet, in addition to scientific workshops, attending seminars and specialized scientific seminars, as well as active attendance in scientific and research laboratories to hone skills.

## 12. Acceptance Criterion

Admission is done centrally through the Ministry of Higher Education and Scientific Research, based on the student's grades in the sixth scientific year, after preparing the relevant form electronically.

## 13. **Program**

### **For ANATOMY**

Clinical Anatomy For Medical Students, by Richard S. Snell, Williams and Wilkins  
Cunningham's Manual Of Practical Anatomy, Three Volumes, By GJRomanes:  
Oxford.Medical.Publications.

[https://themdjourney.com/20-for-books-physiology-and-anatomy-medicalstudents/#The\\_Anatomy\\_Coloring\\_Book](https://themdjourney.com/20-for-books-physiology-and-anatomy-medicalstudents/#The_Anatomy_Coloring_Book)

### **For HISTOLOGY**

Human Anatomy and cell physiology by Mcgraw hill 17th ed.

All human histology books and magazines

### **For EMBRYOLOGY**

Color Atlas of Embryology. Drews 1995.

Developmental Biology. Gilbert 2003-2006

### **For MEDICAL BIOLOGY**

Medical biology by SylviaMadar .

## **14-Program development plan**

Developing academic curricula annually to suit global developments in the field of anatomy, histology, embryology, and medical biology.

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
2024/2025 first Year	ANA101	Anatomy/ first	Basic	√	√	√	√	√	√	√		√	√		
2024/2025 second year	ANA212	Anatomy/ second	Basic	√	√	√	√	√	√	√		√	√		
2024/2025 second Year	HIS205	Histology/ second	Basic	√	√	√	√	√	√	√		√	√		
2024/2025 second Year	EMB206	Embryology / second	Basic	√	√	√	√	√	√	√		√	√		
2024/2025 first Year	BIO204	Biology/ first	Basic	√	√	√	√	√	√	√		√	√		

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

## Course Description Form for ANATOMY

<b>1. Course Name:</b>
ANATOMY / FIRST LEVEL
<b>2. Course Code:</b>
ANA 101
<b>3. Semester / Year:</b>
2024/2025 first semester + second semester
<b>4. Description Preparation Date:</b>
8/2/2024
<b>5. Available Attendance Forms:</b>
Mandatory attendance
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<ul style="list-style-type: none"><li>- 30 theoretical hours for each course, (2) hours per week</li><li>- 60 practical hours for each course, 4 hours per week</li><li>- Total number of units 8</li></ul>
<b>7. Course administrator's name (mention all, if more than one name)</b>
Name: Assist. Prof. Dr. Namir Fadel Ghaieb/ <b>E m a i l</b> : <a href="mailto:nameer@uodiyala.edu.iq">nameer@uodiyala.edu.iq</a> Name: Assist. Prof. Duraid Hamid AbdulKadhim / Email <a href="mailto:duraid@uodiyala.edu.iq">duraid@uodiyala.edu.iq</a> Name: Lec. Dr. Haider Mahdee Edaan / Email: <a href="mailto:haider@uodiyala.edu.iq">haider@uodiyala.edu.iq</a> Name: Assist. Lec. Reham Saad / Email <a href="mailto:reham@uodiyala.edu.iq">reham@uodiyala.edu.iq</a>
<b>8. Course Objectives</b>
<ol style="list-style-type: none"><li>1. Describe the structural components of different areas of the human body.</li><li>2. Describe the basic anatomical structures of the various organs and systems of the human body, which includes (the upper and lower extremities, the chest and its appendage organs, the head and neck, the nervous system, the abdomen, the pelvis and its appendage organs).</li><li>3. The ability to distinguish the distinctive surface anatomical signs of the structures located under the skin, such as bones, muscles, and ligaments, and the internal structures of major blood vessels and internal organs.</li><li>4. The ability to know the different branches of nerves, different blood vessels, and the organs that feed them.</li><li>5. The ability to recover various muscle functions in the human body.</li><li>6. Knowing the different movements of the joints and the muscles responsible for those movements.</li><li>7. The ability to know the major clinical applications of these anatomical structure</li></ol>

## 9. Teaching and Learning Strategies

<b>Strategy</b>	<ol style="list-style-type: none"> <li>1. Theoretical lectures.</li> <li>2. Recognizing and learning by seeing the human body, educational capabilities.</li> <li>3. Teaching small groups.</li> <li>4. Field visits to hospitals and health centers.</li> <li>5. View educational videos and images for clinical related cases. The parts of the organs and how they interact and relate to each other.</li> </ol>
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## 10. Course Structure

**The structure of the course for theoretical and practice anatomy /first academic level / the first course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 hrs. <b>theory</b>  4hrs. <b>practical</b>	Teaching the student what is the meaning of position & movement	Introduction ( Terms of position & movement of human body	Lecture+ lab	General question discussion + exam
2	2 hrs. <b>theory</b>  4hrs. <b>practical</b>	Teaching the student what is The human body	-The human body Structure	Lecture+ lab	General question discussion + exam
3	2 hrs. <b>theory</b>  4hrs. <b>practical</b>	Teaching the student what is-Structure of Human	Skin, fasciae Blood vessels	Lecture+ lab	General question discussion + exam
4	2 hrs. <b>theory</b>  4hrs. <b>practical</b>	Identify the Muscles, Bones, Joints Nervous System	Muscles, Bones, Joints Nervous System	Lecture+ lab	General question discussion + exam

5	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify upper limb: Osteology of upper limb	Upper limb: Osteology of upper limb	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Surface Anatomy Fasciae of upper limb Cutaneous nerves and Vessels	Surface Anatomy Fasciae of upper limb Cutaneous nerves and Vessels	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Pectoral region axilla, Back Lymphatic drainage	Pectoral region axilla, Back Lymphatic drainage	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Brachial plexus Nerve injuries	Brachial plexus Nerve injuries	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Arm(anterior & posterior	Arm(anterior & posterior	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Forearm (Anterior & posterior compartment	Forearm (Anterior & posterior compartment	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Hand.	Hand	Lecture+ lab	General question discussion + exam

12	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Radiological Anatomy.	Radiological Anatomy	Lecture+ lab	General question discussion + exam
13	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the lower limb Osteology of lower limb	Lower limb Osteology of lower limb	Lecture+ lab	General question discussion + exam
14	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Surface Anatomy The fascia of the lower limb Cutaneous vessels, nerves & lymphatic's	Surface Anatomy The fascia of the lower limb	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Surface Anatomy Cutaneous vessels, nerves. & lymphatic's	Cutaneous vessels, nerves & lymphatic's	Lecture+ lab	General question discussion + exam

**The structure of the course for theoretical and practice anatomy /first academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Gluteal region Post compartment thigh Popliteal fossa	Gluteal region Post compartment thigh Popliteal fossa	Lecture+ lab	General question discussion + exam
2	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Ant. compartment thigh Med. compartment thigh Lumbar plexus	Ant. compartment thigh Med. compartment thigh Lumbar plexus	Lecture+ lab	General question discussion + exam

3	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Leg	Leg	Lecture+ lab	General question discussion + exam
4	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Foot Arches of foot	Foot Arches of foot	Lecture+ lab	General question discussion + exam
5	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Radiological Anatomy	Radiological Anatomy	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Thorax Thoracic walls Osteology	Thorax Thoracic walls Osteology	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Muscles Nerves & vessels	Muscles Nerves & vessels	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Thoracic cavity Pleura, lungs	Thoracic cavity Pleura, lungs	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Mediastinum Superior mediastinum	Mediastinum Superior mediastinum	Lecture+ lab	General question discussion + exam

10	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Heart Pericardium	Heart Pericardium	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Heart chambers Conducting system	Heart chambers Conducting system	Lecture+ lab	General question discussion + exam
12	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Post. Mediastinum Joints, Movements	Post. Mediastinum Joints, Movements	Lecture+ lab	General question discussion + exam
13	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Radiological Anatomy	Radiological Anatomy	Lecture+ lab	General question discussion + exam
14	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify the Gluteal region	Gluteal region	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b>  <b>4hrs. practical</b>	Identify Post compartment thigh Popliteal fossa	Post compartment thigh Popliteal fossa	Lecture+ lab	General question discussion + exam

## 11. Cours Evaluation

- Daily exams.
- evaluation perform an action practical experiment in the laboratory.
- Reports preparation
- Mid-course exam.
- final course exam.

## 12. Learning and Teaching Resources

Required textbooks (curricular book , if any)

Clinical Anatomy For Medical Students, by Richard S. Snell, Williams and Wilkins  
Cunningham"s Manual Of Practical Anatomy, Three Volumes, By GJRomanes:  
Oxford.Medical.Publications

Main references (source)

All human anatomy books and magazines

Recommended book and references (scientific journals , reports .....)

All human anatomy books and magazines

Electronic References , Website

[https://themdjourney.com/20-for-books-physiology-and-anatomy-medicalstudents/#The\\_Anatomy\\_Coloring\\_Book](https://themdjourney.com/20-for-books-physiology-and-anatomy-medicalstudents/#The_Anatomy_Coloring_Book)

## Course Description Form Anatomy

<b>1. Course Name:</b>
ANATOMY / SECOND LEVEL
<b>2. Course Code:</b>
ANA212
<b>3. Semester / Year:</b>
2024/2025 first semester + second semester
<b>4. Description Preparation Date:</b>
2024
<b>5. Available Attendance Forms:</b>
<b>Mandatory attendance</b>
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<ul style="list-style-type: none"><li>- 30 theoretical hours for each course, (2) hours per week</li><li>- 60 practical hours for each course, 4 hours per week</li><li>- Total number of units 8</li></ul>
<b>7. Course administrator's name (mention all, if more than one name)</b>
Name: Assist. Prof. Dr. Namir Fadel Ghaieb/ <b>E m a i l</b> : <a href="mailto:nameer@uodiyala.edu.iq">nameer@uodiyala.edu.iq</a> Name: Assist. Prof. Duraid Hamid AbdulKadhim / Email <a href="mailto:duraid@uodiyala.edu.iq">duraid@uodiyala.edu.iq</a> Name: Lec. Dr. Haider Mahdee Edaan / Email: <a href="mailto:haider@uodiyala.edu.iq">haider@uodiyala.edu.iq</a> Name: Assist. Lec. Reham Saad / Email <a href="mailto:reham@uodiyala.edu.iq">reham@uodiyala.edu.iq</a>
<b>8. Course Objectives</b>
<ol style="list-style-type: none"><li>1- Describe the structural components of different areas of the human body.</li><li>2- Describe the basic anatomical structures of the various organs and systems of the human body, which includes (the upper and lower extremities, the chest and its appendage organs, the head and neck, the nervous system, the abdomen, the pelvis and its appendage organs)</li><li>3- The ability to distinguish the distinctive surface anatomical signs of the structures located under the skin, such as bones, muscles, and ligaments, and the internal structures of major blood vessels and internal organs.</li><li>4- The ability to know the different branches of nerves, different blood vessels, and the organs that feed them</li><li>5- The ability to recover various muscle functions in the human body</li><li>6- Knowing the different movements of the joints and the muscles responsible for those movements</li><li>7- The ability to know the major clinical applications of these anatomical structures</li></ol>

## 9. Teaching and Learning Strategies

Strategy	<ol style="list-style-type: none"> <li>1. Theoretical lectures.</li> <li>2. Recognizing and learning by seeing the human body, educational capabilities.</li> <li>3. Teaching small groups.</li> <li>4. Field visits to hospitals and health centers.</li> <li>5. View educational videos and images for clinical related cases. The parts of the organs and how they interact and relate to each other.</li> </ol>
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## 10. Course Structure

**The structure of the course for theoretical and practice anatomy /second academic level / the first course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	2 hrs. theory  4hrs. practical	Teaching the student what is the meaning of Anterior abdominal wall Male external genitalia	Anterior abdominal wall Male external genitalia	Lecture+ lab	General question discussion + exam
2	2 hrs. theory  4hrs. practical	Identify the Abdominal cavity Peritoneum	Abdominal cavity Peritoneum	Lecture+ lab	General question discussion + exam
3	2 hrs. theory  4hrs. practical	Identify the Abdominal viscera	Abdominal viscera	Lecture+ lab	General question discussion + exam
4	2 hrs. theory  4hrs. practical	Identify Diaphragm Post. Abdominal wall	Diaphragm Post. Abdominal wall	Lecture+ lab	General question discussion + exam

5	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Blood supply of the abdomen & Pelvis Autonomic supply Lymphatic drainage	Blood supply of abdomen & Pelvis Autonomic supply Lymphatic drainage	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Bony pelvis Pelvic walls Female external genitalia	Bony pelvis Pelvic walls Female external genitalia	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Pelvic viscera	Pelvic viscera	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Perineum	Perineum	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Vessels, nerves of the pelvis & perineum.	Vessels, nerves of pelvis & perineum	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Head & neck skull.	Head & neck skull	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Vertebral column Cervical vertebrae	Vertebral column Cervical vertebrae	Lecture+ lab	General question discussion + exam
12	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Face, Muscles Blood & Nerve supply Lymphatic drainage scalp	Face, Muscles Blood & Nerve supply Lymphatic drainage scalp	Lecture+ lab	General question discussion + exam

13	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Neck, surface anatomy Structural organization Fasciae of Neck Triangles & contents	Neck, surface anatomy Structural organization Fasciae of Neck Triangles & contents	Lecture+ lab	General question discussion + exam
14	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Cranial Meninges Folds of dura mater venous sinuses	Cranial Meninges Folds of dura mater venous sinuses	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Orbit Lacrimal apparatus	Orbit Lacrimal apparatus	Lecture+ lab	General question discussion + exam

**The structure of the course for theoretical and practice anatomy / second academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Temporal & infra temporal fossae Tempromandibular joint	Temporal & infra temporal fossae Tempromandibular joint	Lecture+ lab	General question discussion + exam
2	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Root of Neck Thyroid & Parathyroid	The root of Neck Thyroid & Parathyroid	Lecture+ lab	General question discussion + exam
3	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Cranial nerves Examination injuries	Cranial nerves Examination injuries	Lecture+ lab	General question discussion + exam
4	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Lymphatic drainage Oral cavity, pharynx Larynx	Lymphatic drainage Oral cavity, pharynx Larynx	Lecture+ lab	General question discussion + exam

5	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Nose, Pterygopalatine fossa ear	Nose, Pterygopalatine fossa ear	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Cervical plexus Autonomic nerve supply head & neck	Cervical plexus Autonomic nerve supply head & neck	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Introduction-CNS parts, Divisions, Components Functional	Introduction-CNS parts, Divisions, Components Functional	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Blood supply of the brain & spinal cord Spinal cord	Blood supply of brain & spinal cord Spinal cord	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Brain stem Cranial nerve nuclei	Brain stem Cranial nerve nuclei	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Cerebellum Diencephalon mater Lateral ventricle	Cerebellum Diencephalon	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Extropyramidal system Limbic system	Extropyramidal system Limbic system	Lecture+ lab	General question discussion + exam
12	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Major pathways	Major pathways	Lecture+ lab	General question discussion + exam
13	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the C.S.F circulation, hydrocephalus	C.S.F circulation, hydrocephalus	Lecture+ lab	General question discussion + exam

14	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Intracranial hemorrhages	Intracranial hemorrhages	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b> <b>4hrs. practical</b>	Identify the Extropyramidal system Limbic system	Extropyramidal system Limbic system	Lecture+ lab	General question discussion + exam

### 11. Cours Evaluation

- Daily exams.
- evaluation perform an action practical experiment in the laboratory.
- Reports preparation
- Mid-course exam.
- final course exam.

### 12. Learning and Teaching Resources

Required textbooks (curricular book , if any)

Clinical Anatomy For Medical Students, by Richard S. Snell, Williams and Wilkins  
Cunningham"s Manual Of Practical Anatomy, Three Volumes, By GJRomanes:  
Oxford.Medical.Publications

Main references (source)

All human anatomy books and magazines

Recommended book and references (scientific journals , reports .....)

All human anatomy books and magazines

Electronic References , Website

[https://themdjourney.com/20-for-books-physiology-and-anatomy-medicalstudents/#The\\_Anatomy\\_Coloring\\_Book](https://themdjourney.com/20-for-books-physiology-and-anatomy-medicalstudents/#The_Anatomy_Coloring_Book)

## Course Description Form HISTOLOGY

<b>1. Course Name:</b>
HISTOLOGY / SECOND LEVEL
<b>2. Course Code:</b>
HIS 205
<b>3. Semester / Year:</b>
2024/2025 first semester + second semester
<b>4. Description Preparation Date:</b>
2024
<b>5. Available Attendance Forms:</b>
Mandatory attendance
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<ul style="list-style-type: none"><li>- 30 theoretical hours for each course, (2) hours per week</li><li>- 30 practical hours for each course, 2 hours per week</li><li>- Total number of units 6</li></ul>
<b>7. Course administrator's name (mention all, if more than one name)</b>
Name: Assist. Prof. Dr. Namir Fadel Ghaieb/ <b>E m a i l</b> : <a href="mailto:nameer@uodiyala.edu.iq">nameer@uodiyala.edu.iq</a> Name: Lec. Mustafa AbdulKareem Salman / Email: <a href="mailto:salman@uodiyala.edu.iq">salman@uodiyala.edu.iq</a> Name: Lec. Hala Yassin Kadhim Email: <a href="mailto:hala@uodiyala.edu.iq">hala@uodiyala.edu.iq</a> Name: Assist Lec. Kholoud Adnan Abdullah/ Email: <a href="mailto:kholod@uodiyala.edu.iq">kholod@uodiyala.edu.iq</a> Name: Assist Lec. Reem Ali Mansour Email: <a href="mailto:reem@uodiyala.edu.iq">reem@uodiyala.edu.iq</a>
<b>8. Course Objectives</b>
<ol style="list-style-type: none"><li>1. Describe the structure of the human cell and its contents in the various organs of the human body.</li><li>2. Complete knowledge of the types of tissues that make up the body's organs, such as epithelial tissue, connective tissue (genuine connective tissue, bone and cartilage, in addition to blood), muscle tissue, and nervous tissue.</li><li>3. Complete knowledge of the components of blood tissue and bone marrow and how different cells are formed.</li><li>4. The ability to know the different immune cells and organs and means of defence etc.</li><li>5. Introducing the student to the histological structure of the various organs and systems of the body, including (Digestive system, central and peripheral nervous system, respiratory system, skin, urinary system, endocrine system, male reproductive system, female reproductive system, sensory system, and cardiovascular system)</li></ol>

## 9. Teaching and Learning Strategies

<b>Strategy</b>	<ol style="list-style-type: none"> <li>1. Theoretical lectures.</li> <li>2. Recognizing and learning to see and diagnose the type of tissue under a microscope.</li> <li>3. Teaching small groups.</li> <li>4. Field visits for educational laboratories in the Hospitals and health centers.</li> <li>5. View educational videos and images for clinical related cases Tissues and their types to know the details of tissue structures and their functions.</li> </ol>
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## 10. Course Structure

### The structure of the course for theoretical and practice Histology /second academic level / the first course

Week	Hours	Required learning outcome	Unit or subject name	Learning method	Evaluation method
1	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Microscopy & their types. Primary tissue & their role in formation of tissue.	Introduction to the histology	Lecture+ lab	General question discussion + exam
2	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Teaching the student what is the meaning of tissue and its forms ,the cells which covered the body from outside and lining from inside .	Epithelial tissue	Lecture+ lab	General question discussion + exam
3	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Modification unit for epithelial tissue. Exocrine glands & their classification.	Epithelial gland.	Lecture+ lab	General question discussion + exam
4	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the tissue which connect the tissue together and its types	Connective tissue	Lecture+ lab	General question discussion + exam

5	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	Identify the cells & fibers and its types	Cells of connective tissue	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	Identify the adipose cell and recognize it from other cell types	Adipose tissue	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	Identify the types of cartilage and its distribution in the body	Cartilage	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	Identify the bone tissue and its types	Bone	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	The central & peripheral nerves system	Nervous system	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	Identify the nervous tissue and its types and explains the nervous impulse reach to rest body	Nerve tissue	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b>  <b>2hrs. practical</b>	Identify the types of muscles and differences between them as longitudinal and transverse section	Muscle tissue	Lecture+ lab	General question discussion + exam

12	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the blood vascular system and its main function and	Circulatory system I	Lecture+ lab	General question discussion + exam
13	<b>2 hrs. theory</b> <b>2hrs. practical</b>	The types of artery and vein.	Circulatory system II	Lecture+ lab	General question discussion + exam
14	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the types, shape and function of blood cells and the number of each type.	Blood cell	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the way of derived of the blood cell from stem cell and differentiate of a blood cell .	hematopoiesis	Lecture+ lab	General question discussion + exam

**The structure of the course for theoretical and practice Histology / second academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the lymphoid organ and tissue responsible for immunity of the body	Lymphoid organ	Lecture+ lab	General question discussion + exam
2	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the digestive system and explain the digest and absorb in the organ of this system	Digestive system I	Lecture+ lab	General question discussion + exam
3	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Digestive Tract; General structure, the oral cavity and tongue. Pharynx and esophagus	Digestive system II	Lecture+ lab	General question discussion + exam

4	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Stomach and Small intestine Large intestine & appendix	Digestive system III	Lecture+ lab	General question discussion + exam
5	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the organs which associated with digestive tract	Organs associated with digestive tract	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the parts of the respiratory system	The respiratory system I	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Respiratory System; Nasal cavity, larynx and trachea.	The respiratory system II	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Respiratory System The Lung Bronchial tree.	The respiratory system III	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the layers of the skin and the glands, hair and , nail	Skin	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify The Urinary System The Kidney and blood supply.	The Urinary System I	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify nephrons Ureter, urinary bladder, urethra	The Urinary System II	Lecture+ lab	General question discussion + exam
12	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the glands and its structure	Endocrine glands	Lecture+ lab	General question discussion + exam

13	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the parts of the male reproductive and their structure	Male reproduction	Lecture+ lab	General question discussion + exam
14	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the parts of the female reproductive and its structure	Female reproductive	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Identify the ear and the eye	Photoreceptors and audio receptors	Lecture+ lab	General question discussion + exam

### 11.Cours Evaluation

- Daily exams.
- evaluation perform an action practical experiment in the laboratory.
- Reports preparation
- Mid-course exam.
- final course exam.

### 12. Learning and Teaching Resources

Required textbooks (curricular book , if any)

Human Anatomy and cell physiology by McGraw hill 17th ed.

Main references (source)

All human histology books and magazines

Recommended book and references (scientific journals , reports .....)

All human histology books and magazines

Electronic References , Website

[https://themdjourney.com/20-best-histology-and-physiology-books-for-medical-students/#The\\_Anatomy\\_Coloring\\_Book](https://themdjourney.com/20-best-histology-and-physiology-books-for-medical-students/#The_Anatomy_Coloring_Book)

## Course Description Form for EMBRYOLOGY

<b>1. Course Name:</b>
EMBRYOLOGY / SECOND LEVEL
<b>2. Course Code:</b>
EMB206
<b>3. Semester / Year:</b>
2024/2025 first semester + second semester
<b>4. Description Preparation Date:</b>
2024
<b>5. Available Attendance Forms:</b>
Mandatory attendance
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<ul style="list-style-type: none"><li>- 15 theoretical hours for each course, (1) hours per week</li><li>- There is no practical or Lab.</li><li>- Total number of units 2</li></ul>
<b>7. Course administrator's name (mention all, if more than one name)</b>
Name: Assist. Prof. Dr. Namir Fadel Ghaieb/ E m a i l : <a href="mailto:nameer@uodiyala.edu.iq">nameer@uodiyala.edu.iq</a> Name: Assist. Lec. Reham Saad Email: <a href="mailto:reham@uodiyala.edu.iq">reham@uodiyala.edu.iq</a>
<b>8. Course Objectives</b>
<ul style="list-style-type: none"><li>- Providing the student with sufficient information about the human structure of the male and female reproductive system.</li><li>- Complete knowledge of the changes that take place in the ovary and uterus, the process of fertilization, sex determination, the division of the fertilized egg, and the process of its implantation in the uterus.</li><li>- knowledge the formation of various types of cells and organs and the change in the external appearance of the fetus as it ages</li><li>- Extensive knowledge of the formation of the placenta, the umbilical cord, all fetal membranes, the formation of twins, and birth defects</li><li>- Providing the student with good knowledge about the structure of the various systems of the human body.</li><li>- Introducing the student to the possible fetal malformations of each of the different body systems.</li></ul>

## 9. Teaching and Learning Strategies

<b>Strategy</b>	<ul style="list-style-type: none"> <li>• Theoretical lectures.</li> <li>• Teaching small groups by making seminars related to the topics.</li> <li>• Show educational videos and pictures of types of embryos</li> </ul>
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## 10. Course Structure

### The structure of the course for theoretical and practice Embryology /second academic level / the first course

Week	Hours	Required learning outcome	Unit or subject name	Learning method	Evaluation method
1	1 hr. theory	Teaching the student what is the meaning of embryology	Introduction to embryology	Lecture Theoretically there is no practicality	General question discussion + exam
2	1 hr. theory	Teaching the student what is the meaning of molecular regulation signaling.	molecular regulation signaling	Lecture Theoretically there is no practicality	General question discussion + exam
3	1 hr. theory	Identify Gametogenesis	Gametogenesis	Lecture Theoretically there is no practicality	General question discussion + exam
4	1 hr. theory	Identify Gametogenesis conversion of germ cell into male	conversion of germ cell into male	Lecture Theoretically there is no practicality	General question discussion + exam
5	1 hr. theory	Identify male gametes	male gametes	Lecture Theoretically there is no practicality	General question discussion + exam
6	1 hr. theory	Identify Gametogenesis conversion of germ cell into female	conversion of germ cell into female	Lecture Theoretically there is no practicality	General question discussion + exam
7	1 hr. theory	Identify female gametes	female gametes	Lecture Theoretically there is no practicality	General question discussion + exam

8	1 hr. theory	Identify the First week to development: Ovulation	First week to development to Ovulation	Lecture Theoretically there is no practicality	General question discussion + exam
9	1 hr. theory	Identify Fertilization	Fertilization	Lecture Theoretically there is no practicality	General question discussion + exam
10	1 hr. theory	Identify implantation	Implantation	Lecture Theoretically there is no practicality	General question discussion + exam
11	1 hr. theory	Identify Cleavage zygote	Cleavage zygote	Lecture Theoretically there is no practicality	General question discussion + exam
12	1 hr. theory	Identify First week to development :Ovulation to implantation	First week to development: Ovulation to implantation	Lecture Theoretically there is no practicality	General question discussion + exam
13	1 hr. theory	Identify Second week of development Bilaminar germ disc	The second week of development Bilaminar germ disc	Lecture Theoretically there is no practicality	General question discussion + exam
14	1 hr. theory	Identify Third week of development :Trilaminar germ disc	Third week of development: Trilaminar germ disc	Lecture Theoretically there is no practicality	General question discussion + exam
15	1 hr. theory	Identify the Third to eighth week the embryonic period	Third to eighth week the embryonic period	Lecture Theoretically there is no practicality	General question discussion + exam

**The structure of the course for theoretical and practice Embryology / second academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1	1 hr theory	Identify embryo from the 4th-8th weeks.	embryo from the 4th-8th weeks.	Lecture Theoretically there is no practicality	General question discussion + exam
2	1 hr. theory	Identify The human fetus. And fetal membranes.	The human fetus. And fetal membranes.	Lecture Theoretically there is no practicality	General question discussion + exam
3	1 hr. theory	Identify and transverse section of The gut tube	The gut tube	Lecture Theoretically there is no practicality	General question discussion + exam
4	1 hr. theory	Identify and transverse sections of the body cavities	the body cavities	Lecture Theoretically there is no practicality	General question discussion + exam
5	1 hr. theory	Identify the Third month to birth	Third month to birth	Lecture Theoretically there is no practicality	General question discussion + exam
6	1 hr. theory	Identify placenta	Placenta	Lecture Theoretically there is no practicality	General question discussion + exam
7	1 hr. theory	Identify Somitogenesis	Somitogenesis	Lecture Theoretically there is no practicality	General question discussion + exam
8	1 hr. theory	Identify Myogenesis	Myogenesis	Lecture Theoretically there is no practicality	General question discussion + exam

				practicality	
9	1 hr. theory	Identify Scheduled examination. Of embryo	Scheduled examination.	Lecture Theoretically there is no practicality	General question discussion + exam
10	1 hr. theory	Identify the fetus	the fetus	Lecture Theoretically there is no practicality	General question discussion + exam
11	1 hr. theory	Identify Teratology.	Teratology The	Lecture Theoretically there is no practicality	General question discussion + exam
12	1 hr. theory	Identify The birth defects	birth defects.	Lecture Theoretically there is no practicality	General question discussion + exam
13	1 hr. theory	Identify the Birth defects and prenatal diagnosis	prenatal diagnosis	Lecture Theoretically there is no practicality	General question discussion + exam
14	1 hr. theory	Identify the Birth defects and Postnatal diagnosis	Postnatal diagnosis	Lecture Theoretically there is no practicality	General question discussion + exam
15	1 hr. Theory	Exam	exam	Lecture Theoretically there is no practicality	General question discussion + exam

### **11.Cours Evaluation**

- Daily exams.
- evaluation perform an action practical experiment in the laboratory.
- Reports preparation
- Mid-course exam.
- final course exam.

### **12. Learning and Teaching Resources**

Required textbooks (curricular book , if any)  
Medical Embryology

#### **Color Atlas of Embryology. Drews 1995.**

Recommended book and references (scientific journals , reports .....)  
All human embryology books and magazines

Electronic References , Website

[https://themdjourney.com/20-medical-for-books-embryologystudents/#The\\_Anatomy\\_](https://themdjourney.com/20-medical-for-books-embryologystudents/#The_Anatomy_)

## Course Description Form for Medical Biology

<b>1. Course Name:</b>
Medical Biology / FIRST LEVEL
<b>2. Course Code:</b>
<b>BIO204</b>
<b>3. Semester / Year:</b>
2024/2025 first semester + second semester
<b>4. Description Preparation Date:</b>
2024
<b>5. Available Attendance Forms:</b>
Mandatory attendance
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>
<ul style="list-style-type: none"><li>- 30 theoretical hours for each course, (2) hours per week</li><li>- 30 practical hours for each course, (2) hours per week</li><li>- Total number of units 6</li></ul>
<b>7. Course administrator's name (mention all, if more than one name)</b>
Name: Prof. Dr. Shukur Mahmood Yasin / E m a i l : <a href="mailto:shukur@uodiyala.edu.iq">shukur@uodiyala.edu.iq</a> Name: Lec. Mustafa AbdulKareem Salman / Email: <a href="mailto:salman@uodiyala.edu.iq">salman@uodiyala.edu.iq</a> Name: Assist Lec. Zynab Jasim / Email: <a href="mailto:zynab@uodiyala.edu.iq">zynab@uodiyala.edu.iq</a>
<b>8. Course Objectives</b>
<ol style="list-style-type: none"><li>1. Providing students with specialized scientific skills and concepts related to the study of medical biology and its importance in diagnosis and treatment.</li><li>2. Understanding and studying the precise structure of human cells, their various components, shapes, and functions, the methods of transporting ions across the plasma membrane, the chemical composition of cells, and studying the various cellular organelles, their structures, and functions.</li><li>3. Linking scientific concepts to diseases caused by dysfunction of cellular organelles found inside living cells and studying them extensively to highlight the role of organelles in the life and vitality of cells.</li><li>4. Studying the methods of division of living cells to enrich the student with concepts in cell division, studying the nature of chromosomes and how to control the regularity of those divisions, studying control points and how errors occur in division that lead to the formation of tumors.</li><li>5. Understanding and studying the structure of DNADNA and RNA, and the study of genetic genes, the mutations occurring in them, the resulting genetic diseases, and the mechanisms of self-correction of errors.</li><li>6. Study modern methods of diagnosis and follow-up of diseases to provide the</li></ol>

student with important information such as PCR, ELISA, gel electrophoresis.

#### 9. Teaching and Learning Strategies

##### Strategy

- Theoretical lectures.
- Teaching small groups by making seminars related to the topics.
- Show educational videos and pictures related to the parts of the cell and how they divide

#### 10. Course Structure

##### The structure of the course for theoretical and practice Medical Biology /First academic level / the first course

Week	Hours	Required learning outcome	Unit or subject name	Learning method	Evaluation method
1	2 hrs. theory 2hrs. practical	Introduction & Definitions	Cells make up living things	Lecture+ lab	General question discussion + exam
2	2 hrs. theory 2hrs. practical	Data Collection	Cells make up living things	Lecture+ lab	General question discussion + exam
3	2 hrs. theory 2hrs. practical	Sampling Methods	Cells make up living things	Lecture+ lab	General question discussion + exam
4	2 hrs. theory 2hrs. practical	Data Presentation	Cells make up living things	Lecture+ lab	General question discussion + exam

5	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Measurements of Central Tendency	Membrane models Have Changed	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Measurements of Variability	Membrane models Have Changed	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Range & Variance	Membrane models Have Changed	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Standard Deviation & Coefficient of variation	Membrane models Have Changed	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Probability (Part 1)	Energy	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Probability (Part 2)	Energy	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Student's t-Test	Energy	Lecture+ lab	General question discussion + exam

12	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Chi-square Test (Part 1)	Energy	Lecture+ lab	General question discussion + exam
13	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Chi-square Test (Part 2)	How Cells Acquired ATP	Lecture+ lab	General question discussion + exam
14	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Correlation & Regression (Part 1)	How Cells Acquired ATP	Lecture+ lab	General question discussion + exam
15	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Correlation & Regression (Part 2)	How Cells Acquired ATP	Lecture+ lab	General question discussion + exam

**The structure of the course for theoretical and practice Medical Biology / FIRST academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required learning outcome</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Introduction & Definitions	Cells Divisions	Lecture+ lab	General question discussion + exam
2	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Data Collection	Cells Divisions	Lecture+ lab	General question discussion + exam
3	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Sampling Methods	Cells have a chromosome	Lecture+ lab	General question discussion + exam

4	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Data Presentation	Cells have a chromosome	Lecture+ lab	General question discussion + exam
5	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Measurements of Central Tendency	Cells have a chromosome	Lecture+ lab	General question discussion + exam
6	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Measurements of Variability	Introducing Gregor Mendel	Lecture+ lab	General question discussion + exam
7	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Range & Variance	Introducing Gregor Mendel	Lecture+ lab	General question discussion + exam
8	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Standard Deviation &	Introducing Gregor mendl	Lecture+ lab	General question discussion + exam
9	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Probability (Part 1)	Chromosomes and genes	Lecture+ lab	General question discussion + exam
10	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Probability (Part 2)	Chromosomes and genes	Lecture+ lab	General question discussion + exam
11	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Student's t-Test	Considering the Chromosomes	Lecture+ lab	General question discussion + exam
12	<b>2 hrs. theory</b> <b>2hrs. practical</b>	Chi-square Test (Part 1)	Considering the Chromosomes	Lecture+ lab	General question discussion + exam

13	2 hrs. theory  2hrs. practical	Chi-square Test (Part 2)	Searching for the Genetic Material	Lecture+ lab	General question discussion + exam
14	2 hrs. theory  2hrs. practical	Correlation & Regression (Part 1)	Searching for the Genetic Material	Lecture+ lab	General question discussion + exam
15	2 hrs. theory  2hrs. practical	Correlation & Regression (Part 2)	What Genes Do	Lecture+ lab	General question discussion + exam

### 11.Cours Evaluation

- Daily exams.
- evaluation perform an action practical experiment in the laboratory.
- Reports preparation
- Mid-course exam.
- final course exam.

### 12. Learning and Teaching Resources

Required textbooks (curricular book , if any)

Medical biology by Sylvia Madar

Main references (source)

Human Anatomy and Cell physiology by Mc graw bill 17th ed

Recommended book and references (scientific journals , reports .....)

Developmental Biology. Gilbert 2003-2006

Electronic References , Website

[https://themdjourney.com/20-medical-for-books-biologystudents/#The Anatomy Coloring Book](https://themdjourney.com/20-medical-for-books-biologystudents/#The_Anatomy_Coloring_Book)



## • Academic description form Surgery branch

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

### 1. Program Vision

To obtain the trust, support and accreditation of the College, the University and the scientific institutions of the local and foreign affairs, and to improve the levels of surgical teaching and training.

### 2. Program Mission

Enhancing the clinical capabilities and skills of students in order to create a generation of qualified graduates who are able to complete their postgraduate studies according to modern concepts.

Improving the scientific level of students and informing them of the latest medical and surgical developments in order to improve the health level. Enhancing the scientific and clinical skills and expertise of postgraduate students to enable them to manage the comprehensive medical care process. Enhancing the research skills of students and faculty

### 3. Program Objectives

The main aim of the surgery branch is to provide the medical students the theoretical and clinical ability to prepare a medical doctor who has the knowledge and training ability to perform his work in surgical field in hospitals with full interaction in his work and the achievement of what is required of him to serve the patient and the society and the state according to the working conditions and possibilities and the ability to develop himself and his job to improve the performance required of him and aspiring.

#### 4. Program Accreditation

It has been applied for

#### 5. Other external influences

Attaching hospital ,library ,internet ,community .doctors syndicate

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution requirements	11	36	100%	
College requirements	11	36	100%	
Department requirements	11	36	100%	
Summer training				
Other				

#### 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third The first and second course	SUR317	Surgery 1	15	There is no practical
	SUR318	Surgery 2	15	
Fourth The first and second course	SURG403	Surgery 1	45	30
	SURG404	Surgery 2	45	30
Fifth	URO501	Urosurgery 1	15	15
	URO527	Urosurgery 2	15	15
	RAD503	Radiology 2	15	30
	OPH505	Ophthalmology 1	15	-
	OPH531	Ophthalmology 2	15	30
	ORT509	Orthopedics 1	15	30
	ORT535	Orthopedics 1	15	30
	TRA551	Trauma surgery 1	5	10
	ANE553	Anesthesia 1	5	10
PLS555	Plastic surgery 1	5	10	

	NUS557	Neurosurgery 1	7	15
	CVS529	Cardiovascular	8	15
	ENT513	surgery 1	15	15
	ENT 514	ENT 2	15	15
		ENT 2		
Sixth	SURG601	Surgery	There is no theory	30 hours per week for 12 weeks, including seminars provided by students

### 8. Expected learning outcomes of the program

#### Knowledge

1. The student gets to know the systems of the human body and the function of each part of it
2. To distinguish between normal and abnormal conditions through studying the body's functions
3. The student learns how to deal with emergency cases of patients
4. To devise appropriate solutions to correct abnormal situations
- 5- To be able to know the external influences on the health of the individual and society and avoid their harms

#### Skills

1. Being able to apply the results of the theoretical study practically by dealing with pathological cases
2. Being able to use modern equipment to study the functions of body organs and diagnose pathological conditions
- 3- Being able to conduct scientific studies and research to solve the problems of the individual and society

#### Ethics

1. Commitment to medical ethics in practicing the profession and in accordance with the values of society
  2. Commitment to actively attend the discussion sessions
  3. A commitment to respecting the rights of his colleagues to participate in scientific discussions to solve problems.
- Appreciating the importance of continuous study and updating information to keep pace with scientific development.

## **Professional Development**

### **Mentoring new faculty members**

1. Active participation in the management of the branch and the requirements of the scientific and administrative committees, examination committees, and others.
2. Commitment to the assignments issued by the Deanship or the University Presidency against teaching staff from committees, seminars, or... Lectures or others and coordinating this with the branch schedule.
- 3- Participation in seminars, workshops and training courses to develop skills

### **Professional development of faculty members**

1. Urging them to follow the educational process and the requirements of modernity in student education, training, and methods for preparing questions And evaluation.
2. Urging them to prepare scientific research and apply for scientific promotions.
3. Participation in scientific seminars and conferences to follow what is new in the science of general surgery and its

## **9. Teaching and Learning Strategies**

1. Theoretical lectures and practical application
2. Weekly seminars and discussions
- 3.3. Small group discussions to propose solutions to the problems of individuals and society

## **10. Evaluation methods**

- 1 .Daily theoretical and practical exams.
- 2 .Semester exams (half a first course and half a second course) (and final courses) (theory and practical).
3. Seminars (assigning each student a topic for presentation and discussion).

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching sta	
			General	Special	Staff	Lecturer
	Mohammed Muhammad Habash	General medicine and surgery	General surgery			√
AHMED Mudher khalaf	General medicine and surgery	General surgery			√	
QAYS JAAFER KHALAF	General medicine and surgery	ENT			√	
ALI LAFTA SALMAN	General medicine and surgery	ENT			√	
WALED KHALED MOHAMED	General medicine and surgery	UROLOGY			√	
MUQDAD FUAD ABDULKAREM	General medicine and surgery	General surgery			√	
QASAQ MAN BAKER	General medicine and surgery	Radiology			√	
ZINAB FASAL KHADUM	General medicine and surgery	Radiology			√	
AMAR NAJM ABOOD	General medicine and surgery	orthopedic			√	
ALI HAKIM TAWFIQ	General medicine and surgery	Radiology			√	
NAMER FADIL	General medicine and surgery	anatomy			√	

## 12. Acceptance Criterion

1. Admission will be centralized through the Ministry of Higher Education and Scientific Research, based on the grade point average in the sixth grade, after preparing the relevant form electronically.
2. Parallel acceptance channel

### 13. **Program**

1. A website for the university and college
2. Website of the Ministry of Higher Education and Scientific Research
3. The college library and the central library at the university

1. Increasing the number of teaching staff.
2. Opening postgraduate studies for master's and Iraqi boards.
3. Pushing towards obtaining precise specialization.
4. More effective participation in conferences, forums, seminars and scientific programs

### 14. Program Development Plan

1. Increasing the number of teaching staff.
2. Opening postgraduate studies for master's and Iraqi boards.
3. Pushing towards obtaining precise specialization.
4. More effective participation in conferences, forums, seminars and scientific programs.

**Skills Outline 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
Third Level	SUR317	Surgery 1	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SUR318	Surgery 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Fourth Level	SURG403 SUR G404	Surgery 1 Surgery 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
			Basic	√	√	√	√	√	√	√	√	√	√	√	√
Fifth Level	RAD503	ENT 1 ENT 2 Urosurgery 1 Urosurgery 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	OPH505 OPH531	Radiology 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ORT509 ORT535	Ophthalmology 1 Ophthalmology 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√

	TRA551	Orthopedics 1 Orthopedics 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ANE553	Trauma surgery	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PLS555	Anesthesia	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	NUS557	Plastic surgery	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CVS529	Neurosurgery	Basic	√	√	√	√	√	√	√	√	√	√	√	√
		Cardiovascular surgery	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Sixth Level	SURG601	Surgery	Basic	√	√	√	√	√	√	√	√	√	√	√	√

## Course Description Form for surgery

### 1. Course Name:

Surgery

### 2. Course Code:

SUR317  
SUR318  
SURG403  
SURG404  
ENT513  
ENT514  
URO501  
URO527  
RAD503  
OPH505  
OPH531  
ORT509  
ORT535  
TRA551  
ANE553  
PLS555  
NUS557  
CVS529  
SURG601

### 3. Semester / Year:

1 The third, fourth and fifth stages are courses The first course is 15 weeks and the second course is 15 weeks

### 4. Description Preparation Date:

2024

### 5. Available Attendance Forms:

Theoretical, practical and discussions

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

Third stage surgery/ First course: 15 theoretical hours (1 units) Second course: 15 theoretical hours (1 units) Fourth stage surgery/ First course: 45 hours of theory (3 units) and 30 hours of practical (1 unit) The second course: 45 hours of theory (3 units) and 30 hours of practical (1 unit) Fifth stage surgery / First course: 45 hours of theory (3 units) and 30 hours of practical (1 unit) The second course: 45 theoretical hours (3 units) and 30 practical hours (1 units) The fifth stage is eyes First course: 15 theoretical

hours (1 unit) and 30 practical hours (1 unit) The second course: 15 hours of theory (1 unit) and 30 hours of practical (1 unit) Stage 5 Fractional/ Only one course: 30 theoretical hours (2 units) and 30 practical hours (1 unit) The fifth stage ENT / Only one course: 30 theoretical hours (2 units) and 30 practical hours (1 unit) Sixth stage: 300 practical hours (10 units) + 60 hours of seminars (2 units)  
Sixth stage: 300 practical hours (10 units) + 60 hours of seminars (2 units)

### 7. Course administrator's name (mention all, if more than one name)

Qays jaafer khlaf  
Qais@uodiyala.edu.iq  
Mohammed Mohammad Habash  
habash@uodiyala.edu.iq

### 8. Course Objectives

- 1-Training students to obtain the scientific skills necessary to work in scientific institutions concerned with pediatrics.
- 2 - Training students to obtain practical skills in using the means, information, skills and laboratories necessary for the diagnosis and treatment of the child.
- 3 -Providing students with the practical field skills necessary to distinguish genetic phenomena such as the presence of beneficial genetic mutations and to benefit from them.
- 4 - Training students to obtain the skills required to work in the specialty of pediatrics.

### 9. Teaching and Learning Strategies

Strategy	-Lectures, computers, plasma screens, modern scientific equipment, clinical tours, educational seminars, audio-visual equipment, discussions, teaching hospitals. In-person and electronic blended education (via the Classroom platform).
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## 10- Course Structure

### 11-The structure of the course for theoretical surgery /third academic level / the first course

Week	Hours	Required educational Goals	Unit name and/or topic	education method	evaluation method
1	1	Fluid balance	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing

					surgical topics
2	1	Electrolyte balance	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
3	1	Acid base Balance	Principles of Surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
4	1	Shock	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
5	1	Hemorrhage	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
6	1	Transfusion of blood and blood products	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
7	1	Types of wounds	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
8	1	Wound healing and adverse scars	Principles of surgery	Lecture	Daily exams, half- course exams, final
9	1	Wound infection	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
10	1	Ulcers, sinuses and fistulas	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
11	1	Tumor terminology	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics

12	1	Benign and Malignant tumors	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
13	1	Biopsy	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
14	1	Preoperative care and preparation	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics
15	1	Postoperative care	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical Topics

**12-The structure of the course for theoretical surgery /third academic level / the second course**

<b>Week</b>	<b>Hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>education method</b>	<b>evaluation method</b>
1	1	Drains	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
2	1	Metabolic response to trauma	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
3	1	Nutrition in	Principles of	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
4	1	Burn	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
5	1	SIRS and septicemia	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
6	1	Abdominal	Principles of surgery	Lecture	Daily exams, half- course

		incisions			exams, final course and discussing surgical topics
7	1	Postoperative complications	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
8	1	Surgical audit and Researches	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
9	1	Opportunistic infection	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
10	1	Hospital acquired infections	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
11	1	Gangrene	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
12	1	DVT prophylaxis	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
13	1	Sterilization, disinfection and sterile precaution	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
14	1	Lymphatic system diseases	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
15	1	Venous system diseases	Principles of surgery	Lecture	Daily exams, half- course exams, final course and discussing surgical topics

### 13-Infrastructure of surgery/ third level

1-Required course books	Bailey and love's short practice of Surgery
2- main references (sources)	Schwartz principles of surgery
3- Recommended books and references (scientific journals, reports)	Illustrate principles of surgery
4- Electronic references, websites	e medicine.com

### 14-The structure of the course for theoretical surgery /fourth academic level / the first course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	3	<ul style="list-style-type: none"><li>• The vermiform appendix</li><li>• Anatomy</li><li>• Microscopic anatomy</li><li>• , symptoms, signs diagnosis and treatment)</li><li>• Differential diagnosis of acute appendicitis Acute appendicitis (Pathophysiology</li><li>• Appendicular mass</li><li>• Appendicle carcinoid</li></ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

2	3	<ul style="list-style-type: none"> <li>• Anatomy and investigations of stomach and duodenal diseases</li> <li>• Peptic ulcer</li> <li>• Perforated peptic ulcer</li> <li>• Gastritis and duodenitis</li> <li>• Gastric outlet obstruction</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
3	3	<ul style="list-style-type: none"> <li>• Gastric lymphoma</li> <li>• Hypertrophic pyloric stenosis of infancy</li> <li>• Adenocarcinoma of the stomach</li> <li>• Introduction to breast diseases (Anatomy, physiology, congenital abnormalities and investigations)</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
4	3	<ul style="list-style-type: none"> <li>• Mastitis</li> <li>• Aberrations of normal development and</li> </ul>	General surgery	Lecture	Daily exams, half-course exams final course and discussing surgical topics
		<ul style="list-style-type: none"> <li>• involution</li> <li>• Phyllodes tumours of the breast</li> <li>• CA breast</li> </ul>			final course and discussing surgical topics
5	3	<ul style="list-style-type: none"> <li>• The gall bladder and the bile ducts anatomy.</li> <li>• functions and investigations of biliary diseases</li> <li>• Gallstones</li> <li>• Acute cholecystitis</li> <li>• CBD stones</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

6	3	<ul style="list-style-type: none"> <li>• Cholangitis</li> <li>• Bile duct stricture</li> <li>• CA gallbladder</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
7	3	<ul style="list-style-type: none"> <li>• Developmental disorders of the salivary glands</li> <li>• Inflammatory disorders of the salivary glands</li> <li>• Sialadenitis</li> <li>• Tumors of the salivary glands</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
8	3	<ul style="list-style-type: none"> <li>• Anatomy and functions of the liver</li> <li>• Investigations of liver diseases</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
9	3	<ul style="list-style-type: none"> <li>• amoebic liver abscess</li> <li>• Pyogenic liver abscess</li> <li>• Hepatic adenoma</li> <li>• Hydatid disease of the liver</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
10	3	<ul style="list-style-type: none"> <li>• Focal nodular hyperplasia of the liver</li> <li>• Liver haemangioma</li> <li>• Liver trauma</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics,
11	3	<ul style="list-style-type: none"> <li>• Approach to patient with acute abdomen</li> <li>• Approach to patient with abdominal mass</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

12	3	<ul style="list-style-type: none"> <li>• Introduction to abdominal wall hernias</li> <li>• Inguinal hernias</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
13	3	<ul style="list-style-type: none"> <li>• Umbilical hernia</li> <li>• Para umbilical</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
14		<ul style="list-style-type: none"> <li>• Hernia</li> <li>• Femoral hernia</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
15	3	<ul style="list-style-type: none"> <li>• Incisional hernias</li> <li>• Burst abdomen</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

### 15-The structure of the course for theoretical surgery /fourth academic level / the second course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	3	<ul style="list-style-type: none"> <li>• History to reach the diagnosis to different types of intestinal obstruction</li> <li>• Investigations used in intestinal obstruction</li> <li>• Management of acute intestinal obstruction</li> <li>• Neonatal intestinal obstruction</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
2	3	<ul style="list-style-type: none"> <li>• Adhesional intestinal obstruction</li> <li>• Ileus</li> <li>• Intussusception</li> <li>• Sigmoid volvulus</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

		<ul style="list-style-type: none"> <li>• Pseudo obstruction (Ogilvie's syndrome)</li> <li>• Mesenteric vascular occlusion</li> </ul>			
3	3	<ul style="list-style-type: none"> <li>• Anatomy of the esophagus</li> <li>• Physiology of the upper and lower esophageal sphincter</li> <li>• Investigations if esophageal diseases</li> <li>• Hiatus hernias</li> <li>• CA esophagus</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
4	3	<ul style="list-style-type: none"> <li>• Pancreas (Anatomy and investigations of pancreatic diseases)</li> <li>• Pancreatic fistula</li> <li>• Cystic fibrosis of the pancreas</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
5	3	<ul style="list-style-type: none"> <li>• Acute pancreatitis</li> <li>• Chronic pancreatitis</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
6	3	<ul style="list-style-type: none"> <li>• Adenocarcinoma of the exocrine pancreas</li> <li>• Insulinoma</li> <li>• Gastrinoma</li> <li>• VIPoma</li> <li>• Somatostatinoma</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and
7	3	<ul style="list-style-type: none"> <li>• Anatomy of the anal canal</li> <li>• Symptoms and signs of anal diseases</li> <li>• Investigations of anal diseases</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
8	3	<ul style="list-style-type: none"> <li>• Perianal abscess</li> <li>• Fissure in ano</li> <li>• Fistula in ano</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
9	3	<ul style="list-style-type: none"> <li>• Hemorrhoids</li> <li>• Tumors of the</li> </ul>	General surgery	Lecture	Daily exams, half-course exams,

		anal canal			final course and discussing surgical topics
10	3	<ul style="list-style-type: none"> <li>● Meckles diverticulum</li> <li>● Small bowel diverticulum</li> <li>● Enterocutaneous fistula</li> <li>● Bowel preparation</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
11	3	<ul style="list-style-type: none"> <li>● Tuberculosis of the bowel</li> <li>● TB of the peritoneum</li> <li>● Peritonitis and peritoneal abscess</li> <li>● Mesenteric lymphadenitis</li> <li>● Crohn's disease</li> </ul>	General surgery	Lecture	Daily exams, half-course
12	3	<ul style="list-style-type: none"> <li>● Ulcerative colitis</li> <li>● Hirschsprung's disease</li> <li>● Sigmoid diverticulum</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
13	3	<ul style="list-style-type: none"> <li>● Stomas</li> <li>● angiodysplasia</li> <li>● Adenocarcinoma of the colon</li> <li>● FAP</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
14	3	<ul style="list-style-type: none"> <li>● Introduction to thyroid (anatomy, physiology and investigations)</li> <li>● Hyperthyroidism and thyrotoxicosis</li> <li>● Hypothyroidism</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
15	3	<ul style="list-style-type: none"> <li>● Retrosternal goiter</li> <li>● Solitary thyroid nodule</li> <li>● Thyroiditis</li> <li>● Neoplasms of the thyroid</li> <li>● Hyperparathyroidism</li> <li>● Con's disease</li> <li>● Pheochromocytoma</li> </ul>	General surgery	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

**16-Infrastructure of surgery/ fourth level**

1-Required course books	Bailey and love's short practice of Surgery
2- main references (sources)	Schwartz principles of surgery
3- Recommended books and references (scientific journals, reports)	Illustrate principles of surgery
4- Electronic references, websites	e medicine.com

**17- The structure of the course for specialized surgeries / fifth academic level / first course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Primary survey and resuscitation of trauma patient	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
2	1	Secondary survey and managemen	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
3	1	Initial assessment and shock management in trauma patient	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
4	1	Imaging investigations in trauma patient	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
5	1	Crush injuries	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
6	1	Triage	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

7	1	Damage control surgery	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
8	1	Metabolic response to trauma and lines of resuscitation	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
4	1	Imaging investigations in trauma patient	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
5	1	Crush injuries	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
6	1	Triage	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
7	1	Damage control surgery	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
8	1	Metabolic response to trauma and lines of resuscitation	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
9	1	Head injury <ul style="list-style-type: none"> <li>● PATHOPHYSIOLOGY</li> <li>● Brain metabolism</li> <li>● Cerebral blood flow and auto-regulation</li> <li>● Intracranial pressure and brain herniation</li> <li>● Primary versus secondary brain injury</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

10	1	<ul style="list-style-type: none"> <li>• Classification of head injury</li> <li>• History taking in head injury</li> <li>• Clinical features</li> <li>• Examination</li> <li>• Glasgow coma score (gcs)</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
11	1	<ul style="list-style-type: none"> <li>• Management of mild head injury</li> <li>• Nice guidelines for computerized tomography (ct) in head injury</li> <li>• Management of mild head injury</li> <li>• Management of moderate to severe head injury</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
12	1	<ul style="list-style-type: none"> <li>• Extradural hematoma</li> <li>• Acute subdural hematoma</li> <li>• Chronic subdural hematoma</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
13	1	<ul style="list-style-type: none"> <li>• Subarachnoid hemorrhage</li> <li>• Cerebral contusions</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
14	1	<ul style="list-style-type: none"> <li>• Raised intracranial pressure</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
15	1	<ul style="list-style-type: none"> <li>• Hydrocephalus</li> <li>• Cerebral abscess</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
13	1	<ul style="list-style-type: none"> <li>• Subarachnoid hemorrhage</li> <li>• Cerebral contusions</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
14	1	* Raised intracranial pressure	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

15	1	<ul style="list-style-type: none"> <li>• Hydrocephalus</li> <li>• Cerebral abscess</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
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**18- The structure of the course for specialized surgeries / fifth academic level / second course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	Evaluation method
1	1	<ul style="list-style-type: none"> <li>• Spinal cord injuries</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
2	1	<ul style="list-style-type: none"> <li>• Spontaneous pneumothorax</li> <li>• Tension pneumothorax</li> <li>• Surgical emphysema</li> <li>• Primary spontaneous pneumothorax</li> <li>• Inserting and managing a chest drain</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
3	1	<ul style="list-style-type: none"> <li>• Definitive management of pneumothorax</li> <li>• Pleurectomy.</li> <li>• Pleural abrasion</li> <li>• Chemical pleurodesis</li> <li>• Pleural effusion</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
4	1	<ul style="list-style-type: none"> <li>• Lung cancer</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
5	1	<p>THORACIC INJURY</p> <ul style="list-style-type: none"> <li>• Immediately life threatening</li> <li>• Airway obstruction</li> <li>• Tension pneumothorax</li> <li>• Pericardial tamponed</li> <li>• Open pneumothorax</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

		<ul style="list-style-type: none"> <li>• Massive haemothorax</li> <li>• Flail chest</li> </ul>			
6	1	Potentially life threatening <ul style="list-style-type: none"> <li>• Aortic injuries</li> <li>• Tracheobronchial injuries</li> <li>• Myocardial contusion</li> <li>• Rupture of diaphragm</li> <li>• Esophageal injuries</li> <li>• Pulmonary contusion</li> </ul>	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
7	1	Mediastinal masses	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
8	1	Deep venous thrombosis Varicosity of the lower limbs	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
9	1	Grafts	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
10	1	Flaps	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
11	1	Burns	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
12	1	General anesthesia Induction Maintenance Fluid therapy	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
13	1	Regional and local anesthesia	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

14	1	Complications of anesthesia in general	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
15	1	Ventilatory machine	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
11	1	Burns	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
12	1	General anesthesia Induction Maintenance Fluid therapy	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
13	1	Regional and local anesthesia	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
14	1	Complications of anesthesia in general	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
15	1	Ventilatory machine	specialized surgeries	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

**19- The structure of the course for Urology / fifth academic level / first course**

<b>Week</b>	<b>Hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>education method</b>	<b>evaluation method</b>
1	1	Urinary symptoms Hematuria Renal pain <ul style="list-style-type: none"> <li>● Ureteric colic</li> <li>● Bladder pain</li> <li>● Per-renal pain</li> <li>● Urethral pain</li> </ul>	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
2	1	Urinary symptoms <ul style="list-style-type: none"> <li>● Altered bladder function</li> <li>● Out flow obstruction</li> </ul>	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
3	1	Investigations of the urinary tract 1. Urine <ul style="list-style-type: none"> <li>● Dipsticks impregnated with chemicals</li> <li>● <i>Microscopy</i></li> <li>● Cytological examination</li> <li>● Bacteriological culture</li> </ul> Biochemical examination 2. Tests of renal function	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
4	1	Investigations of the urinary tract (Imaging) 1. Plain abdominal radiograph 2. Intravenous urography 3. <i>Retrograde ureteropyelography</i> 4. Antegrade pyelography 5. Urethrography 6. Ultrasonography 7. Computerised tomography Magnetic resonance imaging tomography	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical topics

		Endoscopy			
6	1	Investigations of the urinary tract (Imaging) Plain abdominal radiograph Intravenous urography <i>Retrograde ureteropyelography</i> Antegrade pyelography Urethrography Ultrasonography Computerised tomography Magnetic resonance imaging tomography Endoscopy	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
7	1	Congenital abnormalities of the renal pelvis	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
8	1	Congenital abnormalities of the ureter	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
9	1	Urinary Tract Infections	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
10	1	Hydronephrosis	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
11	1	Renal calculate	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics

12	1	Ureteric calculus	Urology	Lecture	Daily exams, , half-course exams, final course and discussing surgical Topics
13	1	Modern methods of stone removal	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
14	1	Renal injury	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics
15	1	Urethral catheterization	Urology	Lecture	Daily exams, half-course exams, final course and discussing surgical Topics

#### 20- The structure of the course for Urology / fifth academic level / second course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	➤ Benign prostatic hyperplasia	Urology	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
2	1	➤ Prostate cancer	Urology	Lecture	
3	1	➤ Scrotal Mass	Urology	Lecture	
4	1	➤ Voiding Disorders	Urology	Lecture	
5	1	➤ Urinary Retention	Urology	Lecture	
6	1	➤ Testicular Cancer	Urology	Lecture	
7	1	➤ Renal Failure	Urology	Lecture	
8	1	➤ Obstructive Uropathy	Urology	Lecture	
9	1	➤ Vesicoureteral Reflux	Urology	Lecture	
10	1	➤ Incontinence	Urology	Lecture	
11	1	➤ Sexually Transmitted Diseases	Urology	Lecture	
12	1	➤ Urethral Discharge	Urology	Lecture	
13	1	➤ Urologic Emergencies	Urology	Lecture	
14	1	➤ Kidney Tumors	Urology	Lecture	
15	1	Ambiguous Genitalia	Urology	Lecture	

**21- The structure of the course for orthopedics, joints and fractures / fifth level / first course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Fractures	orthopedics	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
2	1	Treatment of closed fracture	orthopedics	Lecture	
3	1	Treatment of open fractures	orthopedics	Lecture	
4	1	Complications of fractures.	orthopedics	Lecture	
5	1	Nerve injury	orthopedics	Lecture	
6	1	Fractures of the clavicle	orthopedics	Lecture	
7	1	Acromioclavicular joint injuries	orthopedics	Lecture	
8	1	Fractures of the proximal humerus	orthopedics	Lecture	
9	1	Fractured head of radius	orthopedics	Lecture	
10	1	Fractures around the elbow in Children	orthopedics	Lecture	
11	1	Separation of the medial epicondyle	orthopedics	Lecture	
12	1	Fracture of a single forearm bone	orthopedics	Lecture	
13	1	Colles' fracture	orthopedics	Lecture	
14	1	Hand injuries	orthopedics	Lecture	
15	1	Hand tumor	orthopedics	Lecture	

**22- The structure of the course for orthopedics, joints and fractures / fifth level / second course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Injuries of the pelvis	orthopedics	Lecture	Daily exams, half-course exams, final course and discussing surgical topics
2	1	Dislocation of the hip	orthopedics	Lecture	
3	1	Intertrochanteric fractures	orthopedics	Lecture	
4	1	The isolated femoral shaft fracture	orthopedics	Lecture	
5	1	Supracondylar fractures of the Femur	orthopedics	Lecture	
6	1	Acute knee ligament injuries	orthopedics	Lecture	
7	1	Rupture of patellar ligament	orthopedics	Lecture	
8	1	Tibial plateau fractures	orthopedics	Lecture	
9	1	Ankle ligament injuries	orthopedics	Lecture	
10	1	Malleolar fractures of the ankle	orthopedics	Lecture	

11	1	Acute haematogenous Osteomyelitis	orthopedics	Lecture
12	1	Osteoarthritis	orthopedics	Lecture
13	1	Congenital and developmental Conditions	orthopedics	Lecture
14	1	Nerve injuries and repair	orthopedics	Lecture
15	1	Neoplastic conditions of bone	orthopedics	Lecture

### 23-The structure of the course for Ear, Nose and Throat Surgery / fifth level / first course

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Surgical anatomy and applied	Ear, Nose	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
2	1	Radiology and endoscopy of the nose and paranasal sinuses.	Ear, Nose and Throat Surgery	Lecture	
3	1	Congenital malformation and injuries of the nose and paranasal sinuses.	Ear, Nose and Throat Surgery	Lecture	
4	1	Infection of the nose and paranasal sinuses and their management	Ear, Nose and Throat Surgery	Lecture	
5	1	Nasal allergy and vasomotor rhinitis.	Ear, Nose and Throat Surgery	Lecture	
6	1	Epistaxis.	Ear, Nose and Throat Surgery	Lecture	
7	1	Tumors of the nose and paranasal sinuses.	Ear, Nose and Throat Surgery	Lecture	
8	1	Surgical anatomy and applied physiology of pharynx and esophagus.	Ear, Nose and Throat Surgery	Lecture	
9	1	Inflammation of the mouth and pharynx.	Ear, Nose and Throat Surgery	Lecture	
10	1	Ulcers.	Ear, Nose and Throat Surgery	Lecture	

11	1	Tonsillitis and Adenoid is-Adenoid hyper atrophy.	Ear, Nose and Throat Surgery	Lecture	
12	1	Tonsillitis and Adenoidectomy, indications and complications.	Ear, Nose and Throat Surgery	Lecture	
13	1	Tumors of the nasopharynx and hypopharynx-Dysphagia.	Ear, Nose and Throat Surgery	Lecture	
14	1	Surgical anatomy and applied of the Larynx.	Ear, Nose and Throat Surgery	Lecture	
15	1	Congenital malformations and	Ear, Nose and Throat Surgery	Lecture	

**24- The structure of the course for Ear, Nose and Throat Surgery / fifth level / second course**

Week	Hours	Required educational goals	Unit name and/or topic	education method	evaluation method
1	1	Acute and chronic Laryngitis.	Ear, Nose and Throat Surgery	Lecture	
2	1	Hoarseness.	Ear, Nose and Throat Surgery	Lecture	
3	1	Stridor.	Ear, Nose and Throat Surgery	Lecture	
4	1	Tumors of the Larynx.	Ear, Nose and Throat Surgery	Lecture	
5	1	Lump in the Neck.	Ear, Nose and Throat Surgery	Lecture	
6	1	Surgical anatomy of the ear – labyrinth.	Ear, Nose and Throat Surgery	Lecture	
7	1	Physiology of hearing and vestibular system.	Ear, Nose and Throat Surgery	Lecture	Daily exams, half- course

8	1	Hearing impairment and audio logical assessment.	Ear, Nose and Throat Surgery	Lecture	exams, final course and discussing surgical topics
9	1	Vertigo and neurological assessment	Ear, Nose and Throat Surgery	Lecture	
10	1	Congenital malformation, trauma and neoplasm of the ear	Ear, Nose and Throat Surgery	Lecture	
11	1	Otitis media Acute, chronic and secretory	Ear, Nose and Throat Surgery	Lecture	
12	1	Complications of the middle ear infections	Ear, Nose and Throat	Lecture	
13	1	Principles of middle ear surgery	Ear, Nose and Throat Surgery	Lecture	
14	1	Otosclerosis Mienier's disease	Ear, Nose and Throat Surgery	Lecture	
15	1	Vestibular neuronitis	Ear, Nose and Throat Surgery	Lecture	

**25- The structure of the course for diagnostic radiology/ fifth level / first course**

<b>Week</b>	<b>Hours</b>	<b>Required educational goals</b>	<b>Unit name and/or topic</b>	<b>education method</b>	<b>evaluation method</b>
1	1	Aims & objectives of The imaging .radiology Basic principles of X- .department ray, ultrasound, radio-nuclide imaging, CT & MRI	diagnostic radiology	Lecture	Daily exams, half- course exams,
2	1	Indications, limitations, & contraindications of x-ray, ultrasound, radionuclide imaging, CT & MRI. Contrast medium used in radiology. X-ray hazards & radiation protection.	diagnostic radiology	Lecture	

3	1	Radiological anatomy of the lungs. Investigations in chest diseases. Chest x-ray technique & procedure, interpretation of normal chest x-ray	diagnostic radiology	Lecture	final course and discussing surgical topics
4	1	Diseases of the chest with normal chest x-ray. Radiological signs of lung disease (Silhouette sign, air space filling, pulmonary collapse, spherical shadows, cavitation, calcification, hilar enlargement, line & widespread shadows).Diseases of the pleura.	diagnostic radiology	Lecture	
5	1	Diseases of the mediastinum. specific lung diseases (pneumonia, Lung abscess, Pulmonary TB, Pulmonary Hydatid, Diseases of the airway, Pulmonary embolism, Bronchogenic carcinoma, Pulmonary metastases, Pulmonary lymphoma, RDS & ARDS, Chest trauma, Radiation pneumonitis, Cystic fibrosis). Diseases of the diaphragm.	diagnostic radiology	Lecture	
6	1	Investigations of the cardiovascular system. Radiological evidence of heart disease: (Heart size & shape, evidence of pericardial disease, pulmonary vessels).	diagnostic radiology	Lecture	
7	1	Specific heart disease (Heart failure, Valvular heart disease, ischemic heart disease, congenital heart disease). Diseases of the aorta. Dextrocardia.	diagnostic radiology	Lecture	
8	1	General considerations. Normal findings in plain abdominal films. Interpretation of abnormal plain abdominal film: (Bowel dilatation, Gas outside bowel lumen, Ascitis, Abdominal calcifications).	diagnostic radiology	Lecture	
9	1	Normal radiographic anatomy. Types of contrast study of the GIT Specific radiological terms in GIT diseases.	diagnostic radiology	Lecture	

10	1	Diseases of the esophagus.	diagnostic radiology	Lecture
11	1	Diseases of the stomach and small bowel.	diagnostic radiology	Lecture
12	1	Diseases of the large bowel.	diagnostic radiology	Lecture
13	1	Radiological investigations of the biliary system.	diagnostic radiology	Lecture
14	1	Radiological investigations of the spleen.	diagnostic radiology	Lecture
15	1	Radiological investigations & diseases of the pancreas.	diagnostic radiology	Lecture

#### 26- The structure of the course for diagnostic radiology/ fifth level / second course

Week	Hours	Required educational goals	Unit name and/or topic	Education method	evaluation method
1	1	Peritoneal cavity & retroperitoneum Diseases of the peritoneum (ascitis, peritoneal tumors, intra- peritoneal abscesses) Investigations of the retro-peritoneum	diagnostic radiology	Lecture	Daily exams, half- course exams, final course and discussing surgical topics
2	1	Retroperitoneum Diseases of the retro-peritoneum (retro-peritoneal lymphadenopathy, disease of the adrenal gland, retro-peritoneal tumors, aortic aneurysm, retro- peritoneal hematoma, retro-peritoneal & psoas abscesses)	diagnostic radiology	Lecture	

3	1	Urinary tract Investigations of the urinary tract Urinary calculi & Nephrocalcinosis. Urinary tract obstruction. Renal parenchymal masses (simple renal cyst, Angiomyolipoma, Renal cell carcinoma) Urothelial tumor. Vesico-ureteric reflux. Renal trauma.	diagnostic radiology	Lecture
4	1	Urinary tract (continue) Infection (acute & Emphysematous pyelonephritis, Renal & perinephric abscess, Pyonephrosis, Renal TB, Chronic pyelonephritis).	diagnostic radiology	Lecture
5	1	Urinary tract (continue) Chronic renal failure. Congenital variation of the urinary tract. Diseases of the UB, diseases of the prostate, diseases of the Urethra. Diseases of the Sacrotum & testes.	diagnostic radiology	Lecture
6	1	Female genital tract Investigations & normal radiographic anatomy. Specific diseases of the female genital tract (ovarian masses, uterine masses, pelvic inflammatory disease, endometriosis) Ultrasound appearance of normal uterine pregnancy. Ectopic pregnancy	diagnostic radiology	Lecture
7	1	Breast imaging Investigations of breast. Normal radiographic anatomy. Specific diseases of the breast (simple cyst, fibroadenoma, breast carcinoma).	diagnostic radiology	Lecture
8	1	Radiology of bone diseases Plain radiographic Signs of bone diseases Classification of bone diseases. Radiological assessment of solitary bone lesion. Malignant bone tumors: (Osteosarcoma, Chondrosarcoma, Ewing s sarcoma,	diagnostic radiology	Lecture

		Giant cell tumor). Benign tumors tumor like lesion		
9	1	Radiology of bone diseases Bone infection (Osteomyelitis, TB). Multiple focal bone lesions (bone metastases & multiple myeloma) Generalized decrease in bone density. Generalized increase in bone density. Acromegally. Radiology of bone trauma	diagnostic radiology	Lecture
10	1	Radiology of joint diseases Imaging techniques of joint diseases. Plain radiographic Signs of joint diseases Arthritis (rheumatoid arthritis, osteoarthritis, pyogenic arthritis) Avascular necrosis.	diagnostic radiology	Lecture
11	1	Radiology of the spine Imaging investigations of the spine Anatomical review. Plain radiographic Signs of spinal abnormality.	diagnostic radiology	Lecture
12	1	Radiology of the spine (continue) Specific diseases of the spine: (Metastases, lymphoma & Myeloma, spinal infection, spinal trauma, degenerative disc disease, Spinal stenosis, Ankylosing spondylitis, Spinal dysraphism, spinal cord compression)	diagnostic radiology	Lecture
13	1	Skull & brain Imaging investigations of the skull & brain Normal radiographic anatomy of the skull & brain. Specific brain disorders: (brain tumors, stroke, infection, multiple sclerosis) Radiology of head injury	diagnostic radiology	Lecture

14	1	Sinuses, orbit & neck Imaging techniques & diseases of the para-nasal sinuses. Imaging techniques & diseases of the orbit. Imaging techniques & diseases of	diagnostic radiology	Lecture
10	1	Radiology of joint diseases Imaging techniques of joint diseases. Plain radiographic Signs of joint diseases Arthritis (rheumatoid arthritis, osteoarthritis, pyogenic arthritis) Avascular necrosis.	diagnostic radiology	Lecture
11	1	Radiology of the spine Imaging investigations of the spine Anatomical review. Plain radiographic Signs of spinal abnormality.	diagnostic radiology	Lecture
12	1	Radiology of the spine (continue) Specific diseases of the spine: (Metastases, lymphoma & Myeloma, spinal infection, spinal trauma, degenerative disc disease, Spinal stenosis, Ankylosing spondylitis, Spinal dysraphism, spinal cord compression)	diagnostic radiology	Lecture
10	1	Radiology of joint diseases Imaging techniques of joint diseases. Plain radiographic Signs of joint diseases Arthritis (rheumatoid arthritis, osteoarthritis, pyogenic arthritis) Avascular necrosis.	diagnostic radiology	Lecture
11	1	Radiology of the spine Imaging investigations of the spine Anatomical review. Plain radiographic Signs of spinal abnormality.	diagnostic radiology	Lecture

12	1	Radiology of the spine (continue) Specific diseases of the spine: (Metastases, lymphoma & Myeloma, spinal infection, spinal trauma, degenerative disc disease, Spinal stenosis, Ankylosing spondylitis, Spinal dysraphism, spinal cord compression)	diagnostic radiology	Lecture
13	1	Skull & brain Imaging investigations of the skull & brain Normal radiographic anatomy of the skull & brain. Specific brain disorders: (brain tumors, stroke, infection, multiple sclerosis) Radiology of head injury	diagnostic radiology	Lecture
14	1	Sinuses, orbit & neck Imaging techniques & diseases of the para-nasal sinuses. Imaging techniques & diseases of the orbit. Imaging techniques & diseases of the salivary glands. Imaging techniques & diseases of the thyroid & para-thyroid gland.	diagnostic radiology	14
15	1	Angiography Definition, indications, principles & complications of arteriography. Indications of venography.  Specific vascular disorders (Aneurysms, Atheroma, arterio- venous fistula & malformation, Stenosis & Fibromuscular hyperplasia, Thrombosis & Embolism, vascular Tumors)  Interventional radiology <ul style="list-style-type: none"> <li>● Vascular interventional procedures.</li> <li>● Percutaneous needle biopsy.</li> <li>● Percutaneous drainage of abscess &amp; fluid collections.</li> <li>● Interventions in urinary obstruction.</li> <li>● Interventions in biliary obstruction.</li> </ul>	diagnostic radiology	Lecture

## 27. Course evaluation

Distributing the grade out of 100 according to the tasks assigned to the student, such as daily preparation and daily exams Oral, monthly, written, reports, etc

## 28. Learning and Teaching Resources

1-Required course books	Bailey and love's short practice of Surgery
2- main references (sources)	Schwartz principles of surgery
3- Recommended books and references (scientific journals, reports)	Illustrate principles of surgery
4- Electronic references, websites	e medicine.com

This course description provides a brief summary of the most important characteristics of the course and the learning objectives expected of the student to achieve, proving whether he has made the most of the available learning opportunities. It must be linked to the description of the program.

### Concepts and terminology:

#### 1- Program Vision

After graduation, the student should learn about microbiology diseases and their effects on the human body and distinguish between the normal and abnormal state of microorganisms through his general study and identification microscopy and laboratory.

#### 2- Program Mission

Our college seeks to obtain international accreditation, and rise to the global level in terms of quality of outputs,  
And graduating highly qualified doctors in microbiology and community service.

#### 3- Program Objectives

- Identify this vital science and its increasing importance to the doctor in particular and society in general.
- Providing the student with medical information for all microorganisms necessary for their practice of the general medical profession
- How to write medical and analytical reports for diseases resulting from viral, bacterial, fungal and parasitic infections.
- Identify microorganisms of all kinds and study them clinically and microscopically.
-

#### 4- Program Accreditation

Theoretical and practical study and discussions of in-person and electronic blended learning (via the Classroom platform)

#### 5- Other External Influences

Teaching Hospital, Library, Internet, Community, Medical Syndicate.

#### 6- Program Structures

Program Structure	No. of Course	Credit hours	Percentage	Reviews
Institution Requirements	۲	Microbiology = 190 Parasitology = 120 Immunology = 75	100%	
College Requirements	۲	Microbiology = 190 Parasitology = 120 Immunology = 75	100%	
Department Requirements	۲	Microbiology = 190 Parasitology = 120 Immunology = 75	100%	
Summer Training		In the scientific laboratories of the teaching hospital		
Other	No	No	No	No

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

#### 7- Program Description

Year/level	Coarse Code	Coarse Name	Credit hours	
			Theoretical	Practical
Third (2024-2025)	MPR 301	Medical Parasitology	60	60

The Third (2024-2025)	MBM 303	Bacteriology	60	60
The Third (2024-2025)	BMV 305	Virology	30	
The Third (2024-2025)	BMI 307	Immunology	45	30

## 8- Expected learning outcome of the program

### Knowledge

1. The student should be acquainted with microbiology diseases and their effects on every part of the body.
2. To distinguish between the normal and abnormal state of microorganisms through his general study and identification microscopy and laboratory.
3. How to write medical reports.
- 4- Encouraging students to engage in this specialization in the future"

### Skills

- 1 - Avoid making mistakes when writing medical reports.
- 2 – Know how and safely to send cases
- 3 - Knowledge of scientific methods to read reports when receiving medical cases from medical institutions.
- 4- The correct ways to diagnose general diseases of humans.

### Values

Acquire the ability to deal with pathological conditions, microscopic injuries, methods of analysis and conclusion and diagnose and meet the needs of patients.  
Acquire the ability to deal optimally with microorganisms .

## 9- Teaching and Learning Strategies

- 1.Theoretical lectures practical application
2. Weekly seminars and seminars
3. Small group discussions to propose solutions to the problems of the individual and society.
4. Face-to-face and electronic blended learning for student activities through the e-learning platform (Class Room).

## 10- Evaluations Methods

1. Daily exams (theoretical and practical)
2. Mid-course exams and end of course exams
3. Weekly seminars and seminars

### 11- Faculty Members

Academic Rank	Specialization		Special requirements/skills		Number of Teaching Staff	
	General	Special			Stuff	Lecture
Professor	Medicine	Med. Immu.			۳	No
Assist Professor	Biology	Med. Micro.			4	No
Lecture	Biology	Med. Micro.			۳	No
Assist Lecture	Biology	Med. Micro.			۹	No

### 12- Professional Development

Orientation of new faculty members

Preparing seminars and introductory courses for new teachers with periodic meetings to introduce them to work contexts, daily guidance, continuous follow-up, and giving advice and guidance.

### 13- Professional development of faculty members

Continuous learning by searching for updates using the library and the Internet in addition to attending seminars

Discussions and specialized scientific seminars, as well as active attendance in teaching hospitals to hone skills.

### 14- Acceptance Criterion

Admission is centralized through the Ministry of Higher Education and Scientific Research based on the student's grades in the sixth scientific after preparing the form for that electronically.

### 15- The most important sources of information about the program

The website of the university and the college in addition to the website of the Ministry of Higher Education and Scientific Research as well as College Library and Central Library at the University.

### 16- Program Development plan

- Developing the scientific and administrative staff in the college through annual evaluation files, which reveal weaknesses and strength.
- Carrying out evaluation studies related to the development and improvement of the performance of senior leaders, faculty members and employees working in the college.
- Proposing strategies, plans and executive policies to ensure quality and reliability.
- Develop guidelines for the methods of applying quality and academic accreditation in order to reach the best.
- Develop detailed data and statistics about the college, its objectives, departments, activities and future plans to be accomplished.
- Provide advice and guidance on what the institution should do in order to improve for the better in full compliance with Accreditation standards.

## Program Skills Outline

				Required program Learning outcomes												
Year/Level	Coarse Code	Course Name	Basic or optional	Knowledge				Skills				Ethics				
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	
Third (2024-2025)	MBM303	Microbiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Third (2024-2025)	MPR301	Parasitology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Third (2024-2025)	BMV305	Virology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Third (2024-2025)	BMI307	Immunology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

## Course Description Form

### 1. Course Name

Microbiology

### 2. Course Code

MPR 301 , MBM 303 , BMV 305 ,BMI 307

### 3. Semester / Year

2023 – 2024

### 4. Description Preparation Date

2024

### 5. Available Attendance forms

Attendance is mandatory

### 6. Number of Credit hours (total) /Number of Unit (total)

Microbiology 90 theoretical hours , 60 practical hours  
Parasitology 90 theoretical hours , 60 practical hours  
Virology 30 theoretical hours , 30 practical hours  
Immunology 75 theoretical hours , 45 practical hours

### 7. Course administration name (mention all, if more than one Name )

- Prof. Dr. Ismail Ibrahim Latif
- Prof. Dr. Lama Taha Ahmed
- Prof. Dr. Burouj Muhammad Razouki
- Prof. Dr. Areej Attia Hussein
- Assist. Prof. Dr. Muhammad Jassim Shaker
- Assist. Prof. Dr. Rawa Abdel Khaleq Hussein
- Assist. Prof. Shaima Rahim Hussein
- Assist. Prof. Anfal Shaker Miteb
- M. Heba Hadi Rashid
- Lec : Adnan Yas Khader

### 8. Course Objective

- Providing students with special skills to know the health problems suffered by the patient, their causes from microorganisms and to know the most appropriate ways and means to solve these problems.
- Providing students with the basic skills to perform various laboratory analyzes.
- The use of modern means in research and analysis of the presence and development of

microorganisms with the work of modern experiments for the most important methods that aim to reduce the impact of pathogens of microorganisms the spread of infectious diseases, including the use of vaccines and the application of personal hygiene and protective measures.

## 9. Teaching and Learning Strategies

Giving theoretical lectures.  
 Special practical laboratories.  
 Practical application in specialized microbiology laboratories.  
 Field visits to various relevant institutions.  
 Face-to-face and electronic blended learning for student activities through the e-learning platform (Class Room).  
 Weekly seminars and seminars.  
 Small group discussions and proposing solutions to the problems of individuals and society.

## 10- Course Structure

### Structure of the theoretical microbiology course / third academic level / first course: bacteria

week	hour	Unit or Subject Name	Required Learning Outcome	Learnin g Method	Evaluatio n Method
١	3	Introduction to medical Microbiology	1-Introduction to medical Microbiology Bacterial 2-classification and nomenclature, Bacterial, nutrition and growth, Bacterial virulence	attending lectures	Exam
٢	3	Bacterial genetics and metabolism	1-It aims to understanding the structure & functions of microbial genome, 2-its gene products & their role in infection & disease, 3-The unit of heredity is gene, Replication of bacterial DNA, Mechanisms of genetic variation, Genetic engineering	attending lectures	Exam
3	3	Antibiotics and chemotherapeutic agents	1-Antimicrobial chemotherapy 2-Mechanisms of action of antimicrobial drugs Inhibition of cell wall synthesis 3-Inhibition of protein synthesis (transcription & translation) 4-Inhibition of nucleic acid synthesis.	attending lectures	Exam
4	3	Gram-positive cocci: Staphylococci	<i>Staphylococcus aureus</i> <i>Staphylococcus epidermidis (albus)</i> <i>Staphylococcus saprophyticus</i> , Morphology, 1-Culture, Pathogenesis, Pathogenicity	attending lectures	Exam

			factors of <i>S. aureus</i> , 2-Toxins and enzymes of <i>S. aureus</i> , <i>S. aureus</i> virulence factors, B-lactamase production & Biofilm formation. 3-Clinical infections caused by <i>S. aureus</i> , Laboratory diagnosis		
5	3	Gram-positive cocci: Streptococci	1-Streptococci, Culture characteristics, Classification of streptococci, 2-Toxins and enzymes of streptococci, <i>Streptococcus pyogenes</i> , Diseases attributable to B-hemolytic streptococci ( <i>st. pyogenes</i> ), 3-Diseases attributable to local infection with B-hemolytic streptococci, 4-Laboratory diagnosis,	attending lectures	Exam
6	3	Gram negative cocci, Neisseria species	1-Gram Negative cocci, Morphology, Culture, <i>Neisseria gonorrhoea</i> , several types of surface structures, 2-Pathogenesis. 3-Laboratory diagnosis, <i>Neisseria meningitides</i> , Laboratory diagnosis.	attending lectures	Exam
7	3	Gram positive non-spore forming bacilli: <i>Corynebacterium diphtheria</i>	1-Distinguish between <i>Corynebacterium</i> and <i>Listeria</i> 2-Describe the two genera microscopically and culturally. 3-List types of clinical infections these organisms produce 4-Predict G +ve causative agents causing clinical cases. 5-Discuss the principles of identifying tests.	attending lectures	Exam
8	3	Gram positive aerobic spore forming bacilli: <i>Bacillus anthracis</i> , <i>B. subtilis</i> , <i>B. cereus</i>	1-Distinguish between G +ve rods genera. 2-Describe each species of Gram-positive rods microscopically and culturally. 3-Differentiate between <i>Bacillus anthracis</i> and other saprophytic species. 4-Differentiate between <i>Clostridium</i> spp. 5-List types of clinical infections these organisms produce 6-Predict G +ve causative agents causing clinical cases. 7-Discuss the principles of identifying test	attending lectures	Exam
9	3	Gram positive anaerobic spore forming bacilli: <i>Clostridia</i> species	1- Morphology & identification, Pathogenesis, Prevention, Clinical findings and Laboratory diagnosis: for <i>Cl. Botulinum</i> , <i>Cl. tetani</i> , <i>Cl. perfringens</i> , and <i>Cl. Difficile</i> .	attending lectures	Exam
10	3	Gram negative enteric bacilli: <i>E. coli</i> , <i>Klebsiella</i> species, <i>Enterobacter</i> , <i>Citrobacter</i>	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enteric causative agents causing clinical cases	attending lectures	Exam

11	3	Gram negative enteric bacilli: Proteus species and others	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enteric causative agents causing clinical cases	attending lectures	Exam
12	3	Gram negative enteric bacilli: Salmonella species	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enteric causative agents causing clinical cases	attending lectures	Exam
13	3	Gram positive non-spore forming bacilli: Corynebacterium diphtheria	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enterics causative agents causing clinical cases	attending lectures	Exam
14	3	Syphilis	1-Spirochetes, <i>T. pallidum</i> , Syphilis 2-Pathogenesis, pathology & clinical findings, Acquired syphilis 3-Congenital syphilis 4-Lab. Diagnosis, Serological tests for syphilis: Non-treponema Ag test (VDRL), Treponema Ab test: Fluorescent treponemal Ab test (FTA-Abs), Treponema pallidum particle agglutination test 5-Epidemiology	attending lectures	Exam
15	3	Final first semester exam	Exam	attending lectures	Exam

## Structure of the practical microbiology course / third academic level / first course, bacterium

week	hour	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	2	Lab Equipment, Biosafety	<ul style="list-style-type: none"> <li>-Recognize equipment used in bacteriology lab with their functions</li> <li>-Understand the principle of biosafety.</li> <li>-Understand biosafety levels in lab.</li> </ul>	Practice laboratory	Exam
2	2	Control of Microorganisms	<ul style="list-style-type: none"> <li>-Understand general disinfection principles.</li> <li>-Distinguish between methods of sterilization and disinfection</li> </ul>	Practice laboratory	Exam
3	2	Types of Culture media, culturing, and pure culture techniques	<ul style="list-style-type: none"> <li>. Define culture media.</li> <li>. list the common ingredients in the culture media.</li> <li>. Explain the purpose of each type of culture media.</li> <li>. the principle of biosafety</li> <li>Distinguish between methods of pure culture</li> </ul>	Practice laboratory	Exam
4	2	Laboratory diagnosis Smear preparation, Simple and Gram stains	<ul style="list-style-type: none"> <li>. Identify laboratory diagnosis steps.</li> <li>. Understand staining techniques.</li> <li>. Illustrate the purpose of each stain</li> <li>Interpret laboratory tests results</li> </ul>	Practice laboratory	Exam
5	2	Cultural morphology AndAntibiotic susceptibility test	<ul style="list-style-type: none"> <li>Identify the colonial morphology of bacterial growth.</li> <li>Understand the principle of antibiotic susceptibility test.</li> <li>Differentiate between types of antibiotic susceptibility test.</li> <li>Understand the principle of each antibiotic susceptibility.</li> </ul>	Practice laboratory	Exam
6	2	Gram- positive cocci: <i>Staphylococci</i>	<ul style="list-style-type: none"> <li>.Describe staphylococci under microscope.</li> <li>.Distinguish between staphylococci and streptococci.</li> <li>.List diseases caused by each spp. of staphylococci.</li> <li>.Predict staphylococcal causative agents causing clinical cases</li> </ul>	Practice laboratory	Exam
7	2	Gram- positive cocci: Streptococci	<ul style="list-style-type: none"> <li>Describe streptococci under microscope.</li> <li>Classify streptococcus spp. according to hemolysis pattern&gt;</li> </ul>	Practice laboratory	Exam

			Classify streptococcus spp. according to Lancefield grouping. List infections caused by each of streptococcal spp. Differentiate each streptococcus spp. From each other. Discuss principles of differentiation tests of each streptococcal spp.		
8	2	Gram-negative cocci ( <i>Neisseriae</i> )	Differentiate between <i>Neisseriae</i> spp. Describe the two species microscopically and culturally. List types of clinical infections these organisms produce Predict g-ve diplococci agents causing clinical cases. Diagnose the <i>Neisseria</i> spp. In clinical sample. List recommended treatment regimens for gonorrhoea 6-Describe the measures for prevention of each organism.	Practice laboratory	Exam
9	2	Gram- positive rods Non-spore formers <i>Corynebacterium</i> , <i>Listeria</i> , <i>Actinomyces</i> & <i>Nocardia</i>	1- Distinguish between <i>Corynebacterium</i> and <i>Listeria</i> 2- Describe the two genera microscopically and culturally. 3- List types of clinical infections these organisms produce Predict G +ve causative agents causing clinical cases. 4- Discuss the principles of identifying tests. 5-Know the prevention ways of each organism	Practice laboratory	Exam
10	2	Gram- positive rods Spore formers <i>Bacillus</i> & <i>Clostridium</i>	1-Distinguish between G +ve rods genera. 2- Describe each species of Gram-positive rods microscopically and culturally. 3-Differentiate between <i>Bacillus anthracis</i> and other saprophytic species. 4-Differentiate between <i>Clostridium</i> spp. 5-List types of clinical infections these organisms produce Predict G +ve causative agents causing clinical cases. 6-Discuss the principles of identifying tests.	Practice laboratory	Exam

			7-Know prevention ways of some organisms		
11	2	Gram-negative Rods Enterobacteriaceae and <i>Pseudomonas</i>	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enterics causative agents causing clinical cases	Practice laboratory	Exam
12	2	<i>Salmonella</i> and <i>Shigella</i>	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enterics causative agents causing clinical cases	Practice laboratory	Exam
13	2	<i>Vibrio</i> , <i>Compylobacter</i> and <i>Helicobacter</i>	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of biochemical tests of each member in this family. 5-Predict enterics causative agents causing clinical cases	Practice laboratory	Exam
14	2	Mycobacterium	1-Describe microscopic morphology and cultural biochemical characteristics of each member in this family. 2-List infections caused by each of these members. 3-Differentiate each member of this family from each other. 4-Discuss principles of	Practice laboratory	Exam

			biochemical tests of each member in this family. 5-Predict enterics causative agents causing clinical cases		
15	2	Exam	Exam	Practice laboratory	Exam

**Structure of the theoretical microbiology course / third academic level / second course (bacteria)**

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	1	Gram negative bacilli: <i>Vibrio cholera</i>	1- General characteristics, <i>Vibrio typing</i> , 2- Pathogenesis, Clinical findings 3- Lab. Diagnosis, Treatment	attending lectures	Exam
2	1	Gram negative bacilli <i>Compylobacter</i> , <i>H. pylori</i>	1- <i>Compylobacter</i> , <i>C. Jejuni</i> & <i>C. coli</i> 2- General characteristics, 3- Pathogenesis, Clinical findings, Lab. 4- Diagnosis	attending lectures	Exam
3	1	Gram negative bacilli: <i>H. influenza</i> species	1- Most important species: - <i>H. influenzae</i> , - <i>H. ducreyi</i> 2- Important properties, Laboratory Diagnosis: Specimens: throat and conjunctival swabs, sputum, sinus drainage, CSF, blood ...etc. 3- Microscopy 4- Culture 4- Capsular swelling 5- Latex agglutination test 6- Treatment and prevention	attending lectures	Exam
4	1	Gram negative bacilli: <i>Bordetella</i> species	1- <i>Bordetella pertussis</i> : The causative agent of very contagious disease called whooping cough (pertussis). 2- Important properties 3- Laboratory diagnosis 4- Treatment and prevention	attending lectures	Exam

5	1	Gram negative bacilli: Brucella species	<ul style="list-style-type: none"> <li>1- -Morphology &amp; identification:</li> <li>2- They are G negative short coccobacilli, aerobic, non-motile.</li> <li>3- Culture</li> <li>4- Pathogenesis</li> <li>5- Clinical findings</li> <li>6- Laboratory diagnosis</li> <li>Agglutination test</li> <li>7- Rapid slide agglutination test</li> <li>8- Tube agglutination test</li> <li>9- - Epidemiology and prevention</li> </ul>	attending lectures	Exam
6	1	Pseudomonas, Listeria	<ul style="list-style-type: none"> <li>1- Morphology &amp; identification of Pseudomonas, Listeria</li> <li>2- Growth characteristics</li> <li>3- Pathogenesis &amp; epidemiology</li> <li>4- Clinical Findings</li> <li>5- Soft tissue infection</li> <li>6- Laboratory diagnosis.</li> </ul>	attending lectures	Exam
7	1	Gram negative bacilli: Yersinia species	<ul style="list-style-type: none"> <li>1- Growth characteristics of Yersinia species</li> <li>2- Pathogenesis &amp; epidemiology</li> <li>3- Clinical Findings</li> <li>4- Laboratory diagnosis</li> </ul>	attending lectures	Exam
8	1	Mycobacterium tuberculosis, pulmonary TB	<ul style="list-style-type: none"> <li>1. Growth characteristics of Mycobacterium tuberculosis, pulmonary TB</li> <li>2. Pathogenesis &amp; epidemiology</li> <li>3. Clinical Findings</li> <li>4. Laboratory diagnosis</li> </ul>	attending lectures	Exam
9	1	Other mycobacterium species and Spirochetes, Mycoplasma	<ul style="list-style-type: none"> <li>1. <u>Growth characteristics</u> of Mycobacterium tuberculosis, pulmonary TB</li> <li>2. Pathogenesis &amp; epidemiology</li> <li>3. Clinical Findings</li> <li>4. Laboratory diagnosis</li> </ul>	attending lectures	Exam
10	1	Actinomyces, Rickettsia	<ul style="list-style-type: none"> <li>1. <u>Growth characteristics</u> of Actinomyces, Rickettsia</li> <li>2. Pathogenesis &amp; epidemiology</li> <li>3. Clinical Findings</li> <li>4. Laboratory diagnosis</li> </ul>	attending lectures	Exam

11	1	Chlamydia	<ol style="list-style-type: none"> <li>1. Growth characteristics of Chlamydia</li> <li>2. Pathogenesis &amp; epidemiology</li> <li>3. Clinical Findings</li> <li>4. Laboratory diagnosis</li> </ol>	attending lectures	Exam
12	1	Introduction of Medical mycology	<ol style="list-style-type: none"> <li>1. To describe the definition of mycology science and the types of cells (yeast and molds)</li> <li>2. the important of the cells with the explain of the most common pathological species .</li> </ol>	attending lectures	Exam
13	1	Candidiasis and yeast important medical species, antifungal treatments	<ol style="list-style-type: none"> <li>1. <i>The explanation the types and species of most common pathogenic</i></li> <li>2. <i>types of yeast infect human</i></li> </ol>	attending lectures	Exam
14	1	<i>Dermatophytes ,Aspergilosis and black death, mycotoxines and Black fungus and mycotoxins and their pathological effects</i>	<ol style="list-style-type: none"> <li>1. The description of most common types of pathogenic species of molds and the symptoms</li> <li>2. Treatment</li> <li>3. diagnosis and the most modern techniques of diagnosis.</li> </ol>	attending lectures	Exam
15	1	Exam	Exam	attending lectures	Exam

### Structure of the theoretical viruses course / third academic level / first course

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	1	Introduction about medical virology	Define viruses and virology. Know the characteristics of viruses. List the criteria for viral classification. Mention type of viruses	attending lectures	Exam
2	1	Replication of viruses	Classify types of replications of viruses. Describe stepwise. Recognize the mechanism of transcription and translation. List types of viral release from infected cell	attending lectures	Exam
3	1	Pathogenesis of	Define pathogenesis.	attending	Exam

		viruses	List steps of pathogenesis Recognize the differences between local and systemic infection. Explain viral pathogenesis at the cellular level	lectures	
4	1	Antiviral Chemotherapy	Classify types of antiviral therapy according to each family Recognize the mechanism of action of each antiviral therapy. Distinguish interferons has induced mechanisms	attending lectures	Exam
5	1	Viral vaccine	List types of vaccine. Distinguish advantages and disadvantages of each type. Identify the mechanism of action	attending lectures	Exam
6	1	First exam	First Exam	attending lectures	Exam
7	1	Herpes simplex virus type 1 and 2	Important properties of HSV-1,-2 Mode of transmission steps of replication cycle Clinical manifestation Method of diagnosis, prevention and treatment	attending lectures	Exam
8	1	Human Cytomegalovirus and Varicella-zoster virus	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
9	1	Epstein-barr Virus and Human herpes virus type-8	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
10	1	Viral Hepatitis (Part 1)	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
11	1	Viral Hepatitis (Part 2)	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis.	attending lectures	Exam

			Enumerate the mechanisms of treatment and prevention		
12	1	Second exam	Second Exam	attending lectures	Exam
13	1	Poxviruses	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. 5. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
14	1	Human Papilloma Viruses	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
15	1	Adenovirus and Human polyoma viruses (B19)	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam

### Structure of the theoretical viruses course / third academic level / second course

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	1	Orthomyxoviruses	Define viruses and virology. Know the characteristics of viruses. List the criteria for viral classification. Mention type of viruses	attending lectures	Exam
2	1	Paramyxoviruses (Part 1)	Classify types of replications of viruses. Describe stepwise. Recognize the mechanism of transcription and translation. List types of viral release from infected cell	attending lectures	Exam
3	1	Paramyxoviruses (Part 2)	Define pathogenesis. List steps of pathogenesis Recognize the differences between local and systemic infection.	attending lectures	Exam

			Explain viral pathogenesis at the cellular level		
4	1	Togaviridae and Coronavirus	Classify types of antiviral therapy according to each family Recognize the mechanism of action of each antiviral therapy. Distinguish interferons has induced mechanisms	attending lectures	Exam
5	1	Rhabdoviruses	List types of vaccine. Distinguish advantages and disadvantages of each type. Identify the mechanism of action	attending lectures	Exam
6	1	First exam	First Exam	attending lectures	Exam
7	1	Picornaviruses	Important properties of HSV-1,-2 Mode of transmission steps of replication cycle Clinical manifestation Method of diagnosis, prevention, and treatment	attending lectures	Exam
8	1	Coxsackie viruses	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
9	1	Enteroviruses	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
10	1	Human immunodeficiency virus (Part 1)	List general characteristic of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
11	1	Human immunodeficiency virus (Part 2)	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
12	1	Second exam	Second Exam	attending	Exam

				lectures	
13	1	Arboviruses (Part 1)	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. 5. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
14	1	Arboviruses (Part 2)	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam
15	1	Prion	List general characteristics of viruses. Identify the mechanism of entry and replication. Analyze result of diagnosis. Enumerate the mechanisms of treatment and prevention	attending lectures	Exam

### Structure of the Practical Viruses course / third academic level / second course

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	1	Laboratory diagnosis of viral infection	<ul style="list-style-type: none"> <li>✓ Identify sample collection, transport sample, sample processing and inoculation in system of living cell and viral identification.</li> <li>✓ List factors that effects on viral infectivity</li> </ul>	attending lectures	Exam
2	1	Direct method - Rapid viral diagnosis (Electron microscope, Immune electron microscope and Ordinary microscope)	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test</li> </ul>	attending lectures	Exam

3	1	Traditional immunological (NT, CFT, HI, LA, PHA, CIEOP, SRH)	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test.</li> <li>✓ Interpretation of results</li> </ul>	attending lectures	Exam
4	1	Newer techniques (Radioimmunoassay, Enzyme linked immunosorbent assay, Immunofluorescence test)	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test.</li> <li>✓ Interpretation of results</li> </ul>	attending lectures	Exam
5	1	Immunological tests (Western blot, Immunohistochemistry)	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test.</li> <li>✓ Interpretation of results</li> </ul>	attending lectures	Exam
6	1	<b>First exam</b>		attending lectures	Exam
7	1	Polymerase chain reaction	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test.</li> <li>✓ Interpretation of results</li> </ul>	attending lectures	Exam
8	1	Gel electrophoresis	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test.</li> <li>✓ Interpretation of results</li> </ul>	attending lectures	Exam
9	1	Reverse transcriptase	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and disadvantages of each test.</li> <li>✓ Interpretation of results</li> </ul>	attending lectures	Exam
10	1	Real time-PCR and In situ hybridizations	<ul style="list-style-type: none"> <li>✓ Describe the principle of test.</li> <li>✓ list steps of work and requirement</li> <li>✓ Explain the advantages and</li> </ul>	attending lectures	Exam

			disadvantages of each test. ✓ Interpretation of results		
11	1	Inoculation (cell culture, animal inoculation and embryonated egg).	✓ Describe the principle of test ✓ list steps of work and requirement ✓ Explain the advantages and disadvantages of each test ✓ Interpretation of results	attending lectures	Exam
12	1	<b>Second exam</b>		attending lectures	Exam
13	1	Introduction of practical / diagnostic mycology	✓ To describe the definition of mycology science and the types of cells (yeast and molds), the important of the cells with the explain of the most common pathological species .	attending lectures	Exam
14	1	Identification of yeast infections by microscopic and cultural methods	✓ <i>The explanation the types and species of most common</i> ✓ <i>pathogenic types of yeast infection human with</i> ✓ <i>methodology of culture ,staining and molecular diagnosis. (pcr)</i>	attending lectures	Exam
15	1	Identification of multicellular fungal infections, introduction of advanced diagnosis methods ,	The description of diagnosis of most common types of pathogenic species of molds and the most modern techniques of diagnosis with using of recent color media	attending lectures	Exam

**Course Structure: Theoretical Parasitology Biology / Third Academic Level / First (First) Course**

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	2	Introduction , Basic principle & concept: Host-parasite relationships	Understanding the parasites biology Disease and pathogenesis Epidemiology , Vector control Diagnosis and treatment Control and prevention	attending lectures	Exam
2	2	Classification of parasites	Understanding diversity Taxonomic organization Diagnostic and identification tools Treatment and control strategies Epidemiological studies	attending lectures	Exam

3	2	Entamoeba histolytica (Trophozoite&cyst stage) morphology, lifecycle, diagnosis, pathogenesis,clinical signs,treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
4	2	E. coli, E. nana and Iodamoeba butschlii) morphology, lifecycle, diagnosis, pathogenesis,clinical signs, treatment, Non – pathogenic commensals, free- living ameoba as athogen	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
5	2	Giardia lamblia, Chilomastix mesnili, Trichomonas vaginalis morphology, lifecycle,Diagnosis,pathogenesis	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
6	2	Leshmania types and Trypanosoma cruzi morphology, lifecycle, diagnosis, pathogenesis,clinical signs,treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
7	2	Ciliate: Balantidium coli, morphology, lifecycle, diagnosis, pathogenesis,clinical signs, treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
8	2	vivax, P. ovale plasmodium P.falciparum , P.malariae morphology, lifecycle, diagnosis, pathogenesis,clinical signs, treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam

9	2	<i>P.falciparum</i> , <i>P.malariae</i> morphology, lifecycle, diagnosis, pathogenesis,clinical signs, treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
10	2	<i>Toxoplasma gondii</i> , morphology, lifecycle, diagnosis, pathogenesis,clinical signs, treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
11	2	<i>Cryptosporidium</i> , morphology, lifecycle, diagnosis, pathogenesis,clinical signs,treatment	Parasite and disease understanding Epidemiological studies, transmission, Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
12	2	<i>Isospora</i> , morphology, lifecycle, diagnosis, pathogenesis,clinical signs,treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
13	2	<i>sarcocystis</i> morphology, lifecycle, diagnosis, pathogenesis, clinical signs, treatment	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
14	2	Immunity against protozoan infection	Disease Prevention Vaccine development Immune evasion Mechanism Epidemiology Strategies	attending lectures	Exam
15	2	Exam	Exam	attending lectures	Exam

**Structure of the practical parasitology course / third academic level / first course  
(first)**

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	2	Introduction of practical / diagnostic parasite	<p>To recognize the types of samples for parasites</p> <p>To list the methods of lab. Diagnosis of parasites</p> <p>To describe all the types of lab. Diagnosis of parasites</p>	Practice laboratory	Exam
2	2	Identification of parasitic infections by direct and indirect method	<p>To recognize the types of samples for parasites</p> <p>To list the methods of lab. Diagnosis of parasites</p> <p>To describe all the types of lab. Diagnosis of parasites</p>	Practice laboratory	Exam
3	2	<i>Entamoeba histolytica</i> (Trophozoite&cyst stage) slides Morphology, lifecycle , lab. diagnosis	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
4	2	E. coli, Endolimax nana & Iodamoeba butschlii) slides Morphology, lifecycle , lab. diagnosis	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p>	Practice laboratory	Exam

			<p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>		
5	2	<i>Giardia lamblia, Chilomastix mesnili</i> , (Morphology, lifecycle, lab. diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
6	2	<i>Trichomonas vaginalis</i> (Morphology, lifecycle, lab. diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
7	2	<i>Leishmania donovani, Leishmania tropica, L. brasiliensis</i> (Morphology, lifecycle, lab. diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by</p>	Practice laboratory	Exam

			<p>(explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>		
8	2	<i>Trypanosoma spp.</i> ( Morphology, lifecycle , lab. diagnosis )	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
9	2	Ciliate: <i>Balantidium coli</i> slides ( Morphology, lifecycle, lab.Diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
10	2	<i>Plasmodium vivax, P. ovale, P. falciparum &amp; P. malariae</i> (Morphology, lifecycle , lab.Diagnosis)	<p>To define the classification of this parasite</p>	Practice laboratory	Exam

			<p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>		
11	2	<i>P. falciparum</i> & <i>P. malariae</i> (Morphology, lifecycle , lab.Diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
12	2	<i>Toxoplasma gondii</i> Morphology, lifecycle , lab. Diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this</p>	Practice laboratory	Exam

			parasite		
13	2	<i>Cryptosporidium</i> (Morphology, lifecycle , lab. Diagnosis)	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
14	2	Review of slides	To recognize all the types of parasites slides	Practice laboratory	Exam

Structure of the theoretical parasitology course / third academic level / second course (worms)

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	2	Cestoda: <i>Diphyllobothrium latum</i> , Morphology, lifecycle , lab. Diagnosis	<ul style="list-style-type: none"> <li>✓ Understanding the parasites biology</li> <li>✓ Disease and pathogenesis</li> <li>✓ Epidemiology , Vector control</li> <li>✓ Diagnosis and treatment</li> <li>✓ Control and prevention</li> </ul>	attending lectures	Exam
2	2	Cestoda: <i>Taenia saginata</i> and <i>T. solium</i> Morphology, lifecycle , lab. Diagnosis	<p>Understanding diversity</p> <p>Taxonomic organization</p> <p>Diagnostic and identification tools</p> <p>Treatment and control strategies</p> <p>Epidemiological studies</p>	attending lectures	Exam

3	2	- <i>Echinococcus granulosus</i> and <i>Echinococcus multilocularis</i> (Morphology, lifecycle, lab. Diagnosis)	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
4	2	<i>Hymenolepis nana</i> , <i>H. diminuta</i> & <i>Dipylidium caninum</i> (Morphology, lifecycle, lab. Diagnosis)	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
5	2	<i>Fasciola hepatica</i> , <i>Clonorchis sinensis</i> (Morphology, lifecycle, lab. Diagnosis)	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
6	2	<i>Fasciolopsis buski</i> & <i>Heterophyes heterophyes</i> . <i>Paragonimus westermani</i> (Morphology, lifecycle, lab. Diagnosis)	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
7	2	<i>Schistosoma</i> spp. (Morphology, lifecycle, lab. Diagnosis)	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
8	2	<i>Ascaris lumbricoides</i> & <i>Enterobius vermicularis</i> ,Morphology, lifecycle, lab. Diagnosis	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
9	2	<i>Trichinella spiralis</i> & <i>Trichuris trichiura</i> (Morphology, lifecycle, lab. Diagnosis)	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam

10	2	<i>Strongyloides stercoralis</i> ( Morphology, lifecycle , lab. Diagnosis	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
11	2	<i>Ancylostoma duodenale</i> & <i>Necator americanus</i> ,Morphology, lifecycle , lab. Diagnosis	Parasite and disease understanding Epidemiological studies, transmission, Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
12	2	<i>Wuchereria bancrofti, loa loa</i> & <i>Onchocerca volvulus</i> ( Morphology, lifecycle , lab. Diagnosis	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
13	2	Anopheles : mouth parts, larva, egg, male and female,Gules mouth parts, larva, egg,male and female, <i>Phlebotomus papatasii</i> & <i>Sarcoptes scabiei</i> Hard tick, soft tick adult, larva ,Cyclops	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
14	2	<i>Phlebotomus papatasii</i> male,female& <i>Sarcoptes scabiei</i> male,female, Hard tick, soft tick adult, larva ,	Parasite and disease understanding Epidemiological studies, transmission, Public health impact Diagnosis tools Treatment and drugs development Prevention and control	attending lectures	Exam
15	2	Exam	Exam	attending lectures	Exam

**Structure of the practical parasitology course / third academic level / second course  
(worms)**

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	2	Cestoda: Diphyllobothrium latum , Morphology, lifecycle , lab. Diagnosis	To recognize the types of samples for parasites  To list the methods of lab. Diagnosis of parasites  To describe all the types of lab. Diagnosis of parasites	Practice laboratory	Exam
2	2	Cestoda: Taenia saginata and T. solium Morphology, lifecycle , lab. Diagnosis	To recognize the types of samples for parasites  To list the methods of lab. Diagnosis of parasites  To describe all the types of lab. Diagnosis of parasites	Practice laboratory	Exam
3	2	- <i>Echinococcus granulosus</i> and <i>Echinococcus multilocularis</i> ( Morphology, lifecycle , lab. Diagnosis)	To define the classification of this parasite  To know types of parasite stages  To recognize the morphology of this stage of parasite by (explain and show slides)  To describe the life cycle of parasite  To identify methods of parasite transmission to human  To list different methods of laboratory diagnosis for this parasite	Practice laboratory	Exam
4	2	<i>Hymenolepis nana</i> , <i>H. diminuta</i> & <i>Dipylidium caninum</i> (Morphology, lifecycle , lab. Diagnosis)	To define the classification of this parasite  To know types of parasite stages  To recognize the morphology of this stage of parasite by (explain and show slides)  To describe the life cycle of parasite  To identify methods of parasite transmission to human	Practice laboratory	Exam

			To list different methods of laboratory diagnosis for this parasite		
5	2	<i>Fasciola hepatica</i> , <i>Clonorchis sinensis</i> (Morphology, life cycle, lab. Diagnosis)	To define the classification of this parasite To know types of parasite stages To recognize the morphology of this stage of parasite by (explain and show slides) To describe the life cycle of parasite To identify methods of parasite transmission to human To list different methods of laboratory diagnosis for this parasite	Practice laboratory	Exam
6	2	<i>Fasciolopsis buski</i> & <i>Heterophyes heterophyes</i> . <i>P. westermani</i> (Morphology, lifecycle, lab. Diagnosis)	To define the classification of this parasite To know types of parasite stages To recognize the morphology of this stage of parasite by (explain and show slides) To describe the life cycle of parasite To identify methods of parasite transmission to human To list different methods of laboratory diagnosis for this parasite	Practice laboratory	Exam
7	2	<i>Schistosoma</i> spp. (Morphology, lifecycle, lab. Diagnosis)	To define the classification of this parasite To know types of parasite stages To recognize the morphology of this stage of parasite by (explain and show slides) To describe the life cycle of parasite To identify methods of parasite transmission to human To list different methods of laboratory diagnosis for this parasite	Practice laboratory	Exam
8	2	<i>Ascaris lumbricoides</i> & <i>Enterobius</i>	To define the classification of this parasite	Practice laboratory	Exam

		<i>vermiculars</i> ,Morphology, lifecycle , lab. Diagnosis	<p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>		
9	2	<i>Trichinella spiralis</i> & <i>Trichuris trichiura</i> and <i>Strongyloides stercoralis</i> ( Morphology, lifecycle , lab. Diagnosis	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
10	2	<i>Ancylostoma duodenale</i> & <i>Necator americanus</i> ,Morphology, lifecycle , lab. Diagnosis	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
11	2	<i>Wuchereria bancrofti</i> , <i>loa loa</i> & <i>Onchocerca volvulus</i> ( Morphology, lifecycle , lab. Diagnosis	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p>	Practice laboratory	Exam

			<p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>		
12	2	<p>Anopheles : mouth parts, larva, egg, male and female</p> <p>Gules mouth parts, larva, egg, male and female</p>	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
13	2	<p><i>Phlebotomus papatasi</i> <i>male, female</i> &amp; <i>Sarcoptes scabiei</i> <i>male, female</i>, Hard tick, soft tick adult, larva, Cyclops</p>	<p>To define the classification of this parasite</p> <p>To know types of parasite stages</p> <p>To recognize the morphology of this stage of parasite by (explain and show slides)</p> <p>To describe the life cycle of parasite</p> <p>To identify methods of parasite transmission to human</p> <p>To list different methods of laboratory diagnosis for this parasite</p>	Practice laboratory	Exam
14	2	Review of slides	To recognize all the types of parasites slides	Practice laboratory	Exam
15	2	Exam			Exam

### Structure of the theoretical immunology course / third academic level / first course

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	1	innate (nonspecific) immune response	1. To recognize the significance of the immune system 2. To distinguish between the innate (nonspecific) and adaptive (specific) immune systems 3. To understand the mechanisms of combating infection/disease (killing pathogens) 4. To know the humoral and cellular components of the innate immune response 5. To recognize the mechanisms of action of the components of the innate immune response	attending lectures	Exam
2	1	Antigens	1. To compare the immunogen, antigen, and hapten 2. To describe the factors influencing immunogenicity 3. To define the chemical nature of immunogens 4. To compare the structures of T-independent and T-dependent antigens 5. To introduce the concept of hap ten-carrier conjugates and to describe their structure 6. To characterize antigenic determinants 7. To define superantigen	attending lectures	Exam
3	1	Complement	1. Understand different pathways of complement activation. 2. Know the enzymatic and non-enzymatic mechanisms of C activation. 3. Know the biological properties of C activation products. 4. Know the significance of the C system in host resistance, inflammation, and damage to self. 5. Understand the mechanisms of regulating C activation and its products	attending lectures	Exam
4	1	immunoglobulins: structure & function i & ii	1. To discuss the general properties of all immunoglobulins 2. To describe the basic structure of immunoglobulins 3. To relate immunoglobulin structure with function 4. To define immunoglobulin hypervariable and framework regions 5. To define immunoglobulin classes and subclasses, types and subtypes 6. To describe the structures and properties of immunoglobulin classes	attending lectures	Exam
5	1	immunoglobulins: structure & function I & II	1. To discuss the general properties of all immunoglobulins 2. To describe the basic structure of immunoglobulins 3. To relate immunoglobulin structure with function 4. To define immunoglobulin hypervariable and framework regions 5. To define immunoglobulin classes and subclasses, types and subtypes 6. To describe the structures and properties of immunoglobulin classes	attending lectures	Exam
6	1	immunoglobulins: isotypes, allotypes and idiotypes	1. To explain the structural basis for immunoglobulin isotypes, allotypes and idiotypes 2. To describe some of the uses of isotypes, allotypes and idiotypes	attending lectures	Exam
7	1	immunoglobulins: genetics	1. To describe the organization and expression of the immunoglobulin gene families. 2. To explain the origins of antibody diversity	attending lectures	Exam

8	1	immunoglobulins: Ag-Ab reactions and selected tests	1. 2. 3. 4. To describe the nature of Ag-Ab reactions To compare and contrast antibody affinity and avidity To delineate the basis for antibody specificity and cross reactivity To discuss the principles of commonly used tests for antigen/antibody reaction	attending lectures	Exam
9	1	antibody formation(part1)	1.To describe general characteristic of specific immune response2.to compare and contrast primary and secondary antibody response3.to describe the molecular event involved in class switching and membrane immunoglobulin expression	attending lectures	Exam
10	1	Immunization(part2)	1. Know the distinction between passive and active immunization and their examples 2. Distinguish between artificial and natural means of immunization 3. Know the applications and problems of artificial passive immunization 4. Know the applications and problems of artificial active immunization 5. Know the modern approaches to immunization	attending lectures	Exam
11	1	: immune cells and Ag recognition	1. To review the role of immune cells in protection from different types of pathogens 2. To discuss the types of cells involved in immune responses 3. To describe the nature of specificity in adaptive immune responses 4. To understand the role of lymphocyte recirculation in immune response	attending lectures	Exam
12	1	MHC and T cell receptors	1. To give an overview of the role of MHC in immune response 2. To describe the structure and function of the MHC 3. To describe the structure and function of the TCR 4. To discuss the genetic basis for generation of diversity in TCR 5. To describe the nature of the immunological synapse and the requirements for T cell activation	attending lectures	Exam

### Structure of the practical immunology course / third academic level / first course

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1	2	Sample collection, preservation and storage & Principles of immunological tests	1.to Know and identify the methods for sample collection and handling and storage	Practice laboratory	Exam
2	2	Laboratory diagnosis immunological tests	1.Understand different methods for diagnosis 2 .to Know the Principle of immunological methods diagnosis 3.know the Significant of serological tests	Practice laboratory	Exam
3	2	Laboratory diagnosis immunological tests	1.Understand different methods for diagnosis 2 .to Know the Principle of immunological methods diagnosis 3.know the Significant of serological tests	Practice laboratory	Exam
4	2	Imunofluorescence	1.Understand different methods for diagnosis 2 .to Know the Principle of immunological	Practice	Exam

			methods diagnosis 3.know the Significant of serological tests	laborator y	
5	2	Radioimmunoassay	1.Understand different methods for diagnosis 2 .to Know the Principle of immunological methods diagnosis 3.know the Significant of serological tests	Practice laborator y	Exam
6	2	Enzyme-linked immunofluorescent assay	1.Understand different methods for diagnosis 2 .to Know the Principle of immunological methods diagnosis 3.know the Significant of serological tests	Practice laborator y	Exam
7	2	Mini VIDAS	<i>1.Understand different methods for diagnosis 2.to Know the Principle of immunological methods diagnosis 3.know the Significant of serological tests</i>	Practice laborator y	Exam
8	2	Immunochromatography assay	<i>1.Understand different methods for diagnosis 2 .to Know the Principle of immunological methods diagnosis 3.know the Significant of serological tests</i>	Practice laborator y	Exam

**Structure of the theoretical immunology course / third academic level / second course**

Week	Hours	Unit or Subject Name	Required Learning Outcome	Learning Method	Evaluation Method
1 - 2	1	Ag processing and presentation	1. To compare and contrast Ag recognized by the TCR and BCR 2. To describe the pathways involved in processing endogenous and exogenous antigens 3. To discuss self MHC restriction in APCs 4. To compare and contrast presentation of conventional and superantigens 5. To discuss the role of positive and negative selection in the thymus in generation of self MHC restricted T cells	attending lectures	Exam
3 - 4	1	Cell-cell interactions in immune responses	1. To discuss the central role of Th cells in immune responses 2. To describe the cell-cell interactions which occur in 1) Ab responses to T-dependent Ag, 2) generation of CTL, and 3) activation of macrophage and NK cells 3. To discuss responses to T-independent Ag 4. To discuss the mechanisms of killing by CTL and macrophages	attending lectures	Exam
5 - 6	1	Immunoregulation	1. To discuss regulation of immune responses including regulation by antibody, Tregs, and cytokines 2. To discuss some genetic factors influencing immunoregulation	attending lectures	Exam
7 - 8	1	Tolerance and Autoimmunity	1. Understand the concept and significance of tolerance 2. Know the factors that determine induction of tolerance 3. Understand the mechanism of tolerance induction 4. Understand the concepts of autoimmunity and disease 5. Know the features of major autoimmune diseases 6. Know the theories on etiology of autoimmune disease	attending lectures	Exam

9 – 10	1	Hypersensitivity reactions	1. Understand the classification of hypersensitivity reactions 2. Know the diseases associated with hypersensitivity reactions 3. Understand the mechanisms of damage in hypersensitivity reactions 4. Know the methods for diagnosing conditions due to hypersensitivity 5. Know the modes of treating disease due to hypersensitivity and their rationale	attending lectures	Exam
11 – 12	1	Immunodeficiency	1. Understand Primary and Secondary immunodeficiencies 2. Characterization, diagnosis, and treatment of various immunodeficiencies 3. Studies on HIV and Development of AIDS 4. Analysis of Strategies for Prevention and Treatment of AIDS	attending lectures	Exam
13 – 14	1	COVID 19 VACCINE		attending lectures	Exam

### 11- Course Evolution

- Mid- and end-of-course exams.
- Practical, oral and clinical examinations.
- Reports preparation.
- Short daily exams

### 12- Learning and Teaching Resources

1-Required textbooks	Markell and Voges medical parasitology 9 <sup>th</sup> edition 2006 Roberts and Janovy foundation parasitology 1996
2-Main references (sources)	Marquardt ,Dermaree and Grieve parasitology and vector biology (2000) Madigan M; Martinko J, eds. (2006). Brock Biology of Microorganisms (13th ed.). Pearson Education. p. 1096. Washington, JA (1996). "10 Principles of Diagnosis". In Baron, S (ed.). Medical Microbiology (4th ed.). University of Texas Medical Branch at Galveston. Fenner F (2009). Mahy BW, Van Regenmortal MH (eds.). Desk Encyclopedia of General Virology (1 ed.). Oxford: Academic Press. p. 15. Goldsby RA, Kindt TK (2003). Immunology (5th ed.). San Francisco: W.H. Freeman.
3- Recommended books and references (scientific journals, reports)	"Journal of Medical Microbiology" "Microbiology and Molecular Biology Reviews" "Journal of Virology" "Clinical Microbiology Reviews"
4-Electronic references, websites	NCBI Ncbi ,Lancet

This course description provides a necessary summary of the most important characteristics of the course and the learning objectives that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

### 1. Program Vision

Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.

### 2. Program Mission

Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.

### 3. Program Objectives

- Achieving of quality standards and medical accreditation according to IGL derived on the basis of scientific institutional quality standards.
- Graduating medical doctors, with a bachelor's degree in medicine and general surgery, who will be well-prepared to conduct a patient examination, diagnose the disease, and dispense treatment on a scientific and medical basis, advanced clinical, and professional knowledge, skills, and attitudes they need to practice in an ethical manner to provide excellent health services and enable them for long life learning.
- Following graduation, our students will be able to work in a multidisciplinary team in health sector to ensure the team's optimal functioning and effective patient outcomes.
- Preparing doctors who will be able to interact in the workplace and solve urgent problems in response to the needs of the health delivery system/ society and changing circumstances which make them capable of working in Iraq and internationally, as well as pursuing postgraduate study and training in any medical branch.
- Graduating doctors with high skills and knowledge in conducting scientific

research in basic, clinical, behavioral, and biomedical fields.

- Encouraging faculty, staff, and students to enhance their technical skills and utilize information and communication technology to convey knowledge, produce scientific research, and create curricula for educational programs.

Implementing a development program for the faculty and staff.

#### 4. Program Accreditation

Applied for

#### 5. Other external influences

Teaching hospital, library, internet, community, doctors' syndicate

#### 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institute requirement	ξ	λ	%100	
College requirement	ξ	λ	%100	
Department requirement	ξ	λ	%100	
Summer Training	ξ	λ	%100	
Other				

## 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/Third	PHA309	pharma	theoretical	practical
			96	64

## 8. Expected learning outcomes of the program

### Knowledge

Introducing students to the principles of pharmacology and their relationship to the health system followed.

### Skills

Providing students with special skills to know the health problems that society suffers from, their causes, how diseases are distributed and the influence of various factors in them, and to know the most appropriate ways and means to solve these problems.

### Ethics

Gain the ability to deal with patients and meet their needs.

Gain the ability to optimally deal with medical records and statistics.

## 9. Teaching and Learning Strategies

- 1 - Giving theoretical lectures.
- 2 - Special practical laboratories to gain skills in solving statistical problems.
- 3- Laboratory of application of nutritional measurements.
- 4- Practical and clinical training in hospitals and health centers.
- 5- Field training to various relevant institutions.
- 6- Integrated, in-person and e-learning (via the Classroom platform).
- 7- Seminars and weekly discussion groups.
- 8- Small group discussion and suggestion of solutions to individuals and community problems.

## 10. Evaluation methods

Mid-course and final exams.

2- Pop quizzes.

3- Score for exercises.

4- Oral, practical and clinical examinations.

5- Reports.

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Medicine and General Surgery	Medicine			1	
Professor	Chemical	Bio chemical			1	
A. Professor	Pharmacology	Pharma			1	
Lecturer	Medicine and General Surgery	Community Medicine			1	
Lecturer	Physics	Medical physics			1	

### Professional Development

#### Mentoring new faculty members

Introductory seminars and symposia for new faculty members with periodic meetings to introduce them to the work with daily guidance and continuous follow up along with advising and instructing them.

#### Professional development of faculty members

Continuous learning by searching for developments using the library and the Internet, in addition to attending seminars and specialized scientific symposia, along with active attendance in teaching hospitals to hone skills.

## 12. Acceptance Criterion

The admission is centralized through the Ministry of Higher Education and Scientific Research, based on the student's score in the twelfth grade (scientific branch) after preparing the online form for that.

### 13. **Program**

University and college website, in addition to website of the Ministry of Higher Education and Scientific Research, along with college library and university's central library.

### **14. Program Development Plan**

- Developing the scientific and administrative staff in the college through annual evaluation files that reveal strengths and weaknesses.
- Carrying out evaluation studies related to developing and improving the performance of senior leaders, faculty members and staff working in the college.
- Propose strategies, plans and operational policies to ensure quality and reliability.
- Develop guidelines for methods of applying quality and academic accreditation in order to reach the best.
- Developing detailed data and statistics about the college, its objectives, departments, activities and future plans to be accomplished.
- Providing advice and guidance on what the institution should do in order to improve for the best in full compliance with accreditation standards.

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
2024-2025/Third	PHA309	Pharmacology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

## Course Description Form for Pharmacology

<b>1. Course Name:</b>	
Pharmacology	
<b>2. Course Code:</b>	
PHA309	
<b>3. Semester / Year:</b>	
2023\2024	
<b>4. Description Preparation Date:</b>	
2024	
<b>5. Available Attendance Forms:</b>	
Mandatory attendance	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
Total number of hours: 96 theoretical hours +64practical hours (8 units)	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
Name: ph.D ali mousa jafar Emial <a href="mailto:ali@uodiyala.edu.iq">ali@uodiyala.edu.iq</a>	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>● Providing students with special skills to know the health problems that society suffers from, their causes, how diseases are distributed and the influence of various factors in them, and to know the most appropriate ways and means to solve these problems.</li> <li>● Providing students with basic skills to perform various statistical tests. Providing students with the skills to measure the nutritional status of the population</li> </ul>
<b>9. Teaching and Learning Strategies</b>	
<b>Strategy</b>	<p>Giving theoretical lectures.</p> <p>Special practical laboratories to gain skills in solving statistical problems.</p> <p>Laboratory of application of nutritional measurements.</p> <p>Practical and clinical training in hospitals and health centers.</p> <p>Field training to various relevant institutions.</p> <p>Integrated, in-person and e-learning (via the Classroom platform).</p> <p>Seminars and weekly discussion groups.</p> <p>Small group discussion and suggestion of solutions to individuals and community problems.</p>

## 10. Course Structure

Week	Hours	Unit or subject name	Learning method	Evaluation method

## 11. Cours Evaluation

Mid-course and final exams.

2- Pop quizzes.

3- Score for exercises.

4- Oral, practical and clinical examinations.

5- Reports

## 12. Learning and Teaching Resources

Required textbooks (curricular book , if any) Lippincott Illustrated Review of Pharmacology

Main references (source)

- Recommended book and references (scientific journals , reports .....)
- Katzung Basic and Clinical Pharmacology

**Rang and Dale Clinical Pharmacology**

Electronic References , Website [www.drugs.com](http://www.drugs.com)

[www.Pubmed.com](http://www.Pubmed.com)

## First Course Subjects/Theory

### The structure of the course

Week	Hours	Unit or subject name	Evaluation method	Learning method	Evaluation method
١	٣	Introduction to Pharmacology	Pharmacology	Lecture	Exam
٢	٣	Pharmacokinetics	Pharmacology	Lecture	Exam
٣	٣	Pharmacodynamics	Pharmacology	Lecture	Exam
٤	٣	Dosage forms	Pharmacology	Lecture	Exam
٥	٣	Routes of administration	Pharmacology	Lecture	Exam
٦	٣	Beta-Blockers	Pharmacology	Lecture	Exam
٧	٣	Nitric oxide	Pharmacology	Lecture	Exam
٨	٣	Eye drops	Pharmacology	Lecture	Exam
٩	٣	Physostigmine	Pharmacology	Lecture	Exam

١٠	٣	Exercise and heart rate	Pharmacology	Lecture	Exam
١١	٣	Drug Interactions	Pharmacology	Lecture	Exam
١٢	٣	Drugs in Pregnancy	Pharmacology	Lecture	Exam
١٣	٣	Drugs in Lactation	Pharmacology	Lecture	Exam
١٤	٣	Adverse Drug Reactions	Pharmacology	Lecture	Exam
١٥	٣	Drug Calculations	Pharmacology	Lecture	Exam

### Second Course Subjects/Theory

The structure of the course					
Week	Hours	Unit or subject name	Evaluation method	Learning method	Evaluation method
١	3	Drugs for Respiratory System	Pharmacology	Lecture	Exam
٤&٣&٢ ٦&٥&	١٥	Antimicrobial Drugs	Pharmacology	Lecture	
٧	3	Anticancer Drugs	Pharmacology	Lecture	Exam
٨&٩&١٠ ١١&١٢	١٢	Drugs for Endocrine System	Pharmacology	Lecture	Exam
١٣&١٤	٦	Drugs for Gastrointestinal Drugs	Pharmacology	Lecture	Exam
١٥&١٦	٦	Miscellaneous Drugs and subjects	Pharmacology	Lecture	Exam

## Second Course Subjects/Practical

### The structure of the course

Week	Hours	Unit or subject name	Evaluation method	Learning method	Evaluation method
١	3	Measuring blood pressure and heart rate	Pharmacology	Lecture + laboratory experiment	Exam <sup>1</sup>
٢	3	Effect of Atropine on the eye	Pharmacology	Lecture + laboratory experiment	Exam
٣	3	Toxicity of Physostigmine	Pharmacology	Lecture + laboratory experiment	Exam
٤	3	The effect of adrenaline on the heart	Pharmacology	Lecture + laboratory experiment	Exam
٥	3	Drug dissolution and deposition	Pharmacology	Lecture + laboratory experiment	Exam
٦	3	Animal handling	Pharmacology	Lecture + laboratory experiment	Exam
٧	3	Injections	Pharmacology	Lecture + laboratory experiment	Exam
٨	3	Respirometer	Pharmacology	Lecture + laboratory experiment	Exam
٩	3	Toxicity of the drugs	Pharmacology	Lecture	Exam
١٠	3	Clinical trials	Pharmacology	Lecture + laboratory experiment	Exam

۱۱		Drug in renal failure	Pharmacology	Lecture + laboratory experiment	Exam
۱۲		Drug in liver failure	Pharmacology	Lecture + laboratory experiment	Exam
۱۳		Experimental Pharmacology	Pharmacology	Lecture + laboratory experiment	Exam
۱۴		Drug Abuse	Pharmacology	Lecture + laboratory experiment	Exam
۱۵		Discussion of Seminars	Pharmacology	Lecture + laboratory experiment	Exam

**The academic description of the College of Medicine was completed under the direct supervision of the Dean, Prof. Dr. Ismail Ibrahim Latif**

**With direct coordination by the official of the Quality Assurance and University Performance Division, Lecture . Manar Abdel Razzaq Hassan**

**The Academic Description Writing Committee was formed in accordance with Administrative Order No. 422 dated 1/31/2024, consisting of :**

Assistant Lecture. Lina Ali Hasballah ..... Quality Assurance Division

Head Inspector Ikram Moneim Mustafa...Quality Assurance Division

Assistant head Programmer Rana Abdel Sattar Khader..... Quality Assurance Division

Lecture Dr. Qais Jaafar Khalaf..... Surgery branch

Professor Dr . Najdat Shukr Mahmoud.... pediatric s branch

Assistant Lecture. Ammar Ahmed Hussein.... Chemistry branch

Lecture.Dr. Azal Sadiq Daoud... Gynecology and obstetrics branch

Assistant Lecture. Enas Ammar Muhammad.... Medicine branch

Assistant. Professor Dr. Asmaa Abbas Ajwad.... Physiology and Medical Physics branch

Lecture . Manar Abd Alazzaq Hassan+ Assistant Lecture. Lina Ali Hasballah + prof .luma taha..... Microbiology Branch

Assistant Lecture. Muhammad Qasim Saleh..... Community Family Medicine Branch

Lecture. Mustafa Abdel Karim Salman.....Anatomy branch

Assistant. Professor Dr. Zahraa Najah Mahdi.... Pathology branch

Lecture. Ibrahim Tariq Zidane..... Pharmacology branch

**With Respect**