



Wasit University

College of Science



Department of Pathological Analysis

BSc. Science- Pathological Analysis



Table of Contents

1. Mission & Vision Statement	بيان المهمة والرؤية
2. Program Specification	مواصفات البرنامج
3. Program (Objectives) Goals	أهداف البرنامج
4. Program Student learning outcomes	مخرجات تعلم الطالب
5. Academic Staff	الهيئة التدريسية
6. Credits, Grading and GPA	الاعتمادات والدرجات والمعدل التراكمي
7. Modules	المواد الدراسية
8. Contact	اتصال

1: Program Mission:

The department adopts honesty, sincerity and prudence as its mission and approach in preparing specialised human resources who enter the job market with confidence and contribute scientifically and practically to building society and driving it forward through involvement in various state institutions, especially medical ones, given their impact on human health and safety. In order to complement the department's mission, it must emphasise conducting sound scientific studies and research, particularly applied research aimed at serving society and the country. The department's mission is imbued with a humanitarian dimension through instilling the principles of medical ethics in its graduates as they practise their profession, thus making the department's mission scientific, national, economic and humanitarian.

Program Vision:

The Pathological Analysis Department strives to champion education and scientific research based on modern and advanced principles that keep pace

with rapid technological progress and discoveries and inventions in various disciplines that form the backbone of the department. In addition to following a scientific and educational research methodology for the teaching staff in order to raise generations with a high level of awareness and competence to bear responsibility and contribute effectively to building our beloved country and raising its status among nations, The department's vision also aims to spread a spirit of optimism and hope for a bright future for students, teaching staff and employees in the department, scientifically, artistically, administratively and even on a human level, by strengthening the bonds of love and peace among its members.

2: Program Specification

Programmed code:	BSc-path	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

Pathological analysis is a broad field encompassing a range of disciplines related to various types of analysis. Throughout their studies, students acquire both fundamental and advanced knowledge in subjects such as microbiology, biotechnology, chemistry, biophysics, and biostatistics, as well as parasitology, histology, and the principles of pathological analysis. These subjects provide the necessary foundation, preparing students for the specialized coursework taught in the advanced stages of their undergraduate studies.

Students earn a Bachelor of Science degree in Pathological Analysis upon successfully completing eight semesters—two per academic year—accumulating a total of 240 European credits across the prescribed curriculum. Students acquire essential practical laboratory skills, enabling them to gain a precise scientific understanding of the principles behind biochemical and hematological tests and practical experiments. They learn to safely conduct these tests and interpret results within the department and college laboratories, under the supervision of experienced, specialized faculty members.

3: Program Objectives

Provided that ambition remains and aspirations for the future continue to be entertained, the ceiling of goals will be subject to renewal through the agency of new developments, activity, and diligent work. Such work may be undertaken by the department's staff or through the support and overcoming of difficulties by the college and university administrations. The department's strategic goals are as follows:

- 1-The primary objective is the preparation of human resources that will contribute to the development and progress of society.
- 2-The conferring of bachelor's degrees in pathological analysis constitutes the fundamental basis upon which the medical field is constructed.
- 3-Thirdly, the introduction of postgraduate studies in a range of medical specialisations is to be noted.
4. The development of the research skills of the department's students is to be pursued through the following means: firstly, by following the scientific research methodology; secondly, by keeping pace with technical developments; and thirdly, by applying everything new and innovative in practice.
5. It is recommended that the teaching staff be encouraged and supported in their efforts to be creative and innovative by publishing applied and academic research in international research journals with a high impact factor.
6. It is vital to ensure that the Department of Pathological Analysis maintains a fixed goal of becoming a source of scientific and practical inspiration for state institutions and society. This can be achieved by holding conferences, training courses, introductory seminars, and other activities that raise the level of the department and the faculty and reflect positively on the university.
7. The establishment of a scientific and administrative system within the department is imperative, with the objective of ensuring its development and progression in accordance with the university's growth and societal demands.
8. The integration of contemporary technological frameworks within educational settings and the administration of departments is a subject that warrants consideration.
9. It is imperative that scientific and cultural exchange with international universities is elevated to the status of a strategic objective for the department. This should be achieved through the implementation of research fellowships, study missions, and training courses.
10. The establishment of an integrated data unit is to be based on comprehensive quality standards in education, under the supervision of competent specialists from the department.

4: Program Student learning outcomes

Graduates of the Department of Pathological Analysis receive a bachelor's degree in pathological analysis. This degree provides them with basic knowledge in the field of pathological analysis, with a focus on general biology,

biotechnology, molecular biology, and blood analysis, as well as the fundamentals of pre-medical or pre-dental education.

After completing all stages, students are qualified to enrol in professional health programmes and work in practical laboratories, environmental centres, and scientific research centres. They can also pursue postgraduate studies.

The scientific outcomes that students achieve after graduation are:

A1- The ability to enumerate cell components and explain their relationship to each other in a living cell.

A2- The ability to present research results in their field of specialisation in written and oral form.

A3- The ability to conduct various biological laboratory experiments and field studies using scientific equipment, taking into account biosafety and biosecurity protocols.

A4- The ability to analyse data statistically.

5: Academic Staff

Faculty Members						
Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof. Dr. Hussein Ali Mohamed	Veterinary medicine	Virology			Yes	
Assist. Prof. Dr. Ali Mahdi mutlaq	Veterinary medicine	Histology			Yes	
Assist. Prof. Dr. Mahdi saber al-dresawi	Biology	Molecular biology			Yes	
Prof. Dr. Noor habib humaidan	Biology	Zoology-immunity			Yes	
Assist. Prof. Dr. jenan tuma	Biology	Genetics			Yes	
Prof. Dr. mutashar jaduaa	Veterinary medicine	Physiology			Yes	
Assist. Prof. Dr. majeda	Biology	Parasitology			Yes	

abdulkhaliq ali						
Prof. zinah shakir shalal	Veterinary medicine	Infectious diseases			Yes	
Assist. Prof. Dr. naser nafia Ibrahim	Biology	Nano Biotechnology			Yes	
Dr. Nada hameed ajam	Biology	Zoology-Physiology			Yes	
Assist. prof. Aqdas Mohamed	Biology	Zoology-Physiology			Yes	
Dr. Asawer A. Ibrahim	Biology	Zoology-Histology			Yes	
Dr. hanan sajad ahmed	Biology	Zoology-Physiology			Yes	
Dr. Zahra alwan jasim	Biology	Zoology-Physiology			Yes	
Dr. Lina musa khadim	Biology	Zoology-genetics			Yes	
Assist. Lec. Ali Shakir kamil	Biology	Zoology- virology			Yes	
Assist. Lec. Raghda saad jameel	Biology	Biotechnology			Yes	
Assist. Lec. Aya hatam	Biology	Zoology- genetics			Yes	
Assist. Lec. Aya ethaib Mohamed	Biology	Zoology-parasite			Yes	
Assist. Lec. Ehab majed abas	Biology	Microbiology			Yes	
Assist. Lec. Mohsen abas sahib	Biology	Microbiology			Yes	
Dr. Hala fauzy hasan	Biology	Zoology-genetics			Yes	
Assist. Lec. Sama ali fadhil	Biology	Zoology-physiology			Yes	
Assist. Lec. Anfal abdulsalam	Biology	Microbiology			Yes	
Assist. Lec. Zainab ali	Computer	Computer			Yes	

abdulhussein						
Assist. Lec. Ansam majed hasan	Law	Law			Yes	
Assist. Lec. Zahra jalil obaid	Biology	Zoology-histology			Yes	
Dr. Rafel firas jabber	Biology	Zoology-histology			Yes	
Assist. Lec. Rusul faris kadhim	Biology	Zoology-histology			Yes	
Dr. Raghad ali Hussein	Biology	Zoology-histology			Yes	
Assist. Lec. Ryiam nemah akar	Medical microbiology	Medical microbiology			Yes	
Assist. Lec. Nabaa ali	Biology	Microbiology			Yes	
Assist. Lec. Duaa abdukhaliq	Biology	Zoology-parasite			Yes	
Assist. Lec. Ahmed abdulrazaq	Biology	Microbiology			Yes	
Assist. Lec. Eman hamza khudur	Biology	Zoology-physiology			Yes	
Assist. Lec. Nora abas farhan	Biology	Biology			Yes	
Karar ali tawfiq	Biology	Biology			Yes	
Assist. Lec. Zahra karim jabber	Biology	Biology			Yes	
Mohamed razaq Hussein	Pathological analysis	Pathological analysis			Yes	

6: Credits, Grading and GPA

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance

Group (50 - 100)	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

7: Modules

Semester 1 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Path-111	principles of microbiology	79	96	7.00	C	
Path-112	Human cytology	79	96	7.00	C	
Path-113	Analytical chemistry	64	61	7.00	B	
Path-114	Biosafety and Biosecurity	33	27	4.00	B	
WU03	Computer	64	36	3.00	B	
WU02	English Language	48	37	2.00	B	

Semester 2 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Path-121	Principle of pathological analysis II	79	96	7.00	C	
Path-122	Human anatomy	79	96	7.00	C	

Path-123	Medical physics	64	86	6.00	B	
Path-124	Statistics	48	87	6.00	B	
WUO4	Human Rights and Democracy	33	17	2.00	B	
WU01	Arabic language	33	17	2.00	B	

Semester 3 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Path-211	Human histology	64	61	5.00	C	
Path-212	Pathogenic bacteriology	64	61	5.00	C	Path-111
Path-213	Medical virology	64	61	5.00	C	Path-111
Path-214	Principles of physiology	64	61	5.00	C	
Path-215	Parasitic protozoa	64	50	5.00	C	Path-111
Path-216	General genetics	64	61	5.00	C	

Semester 4 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Path-221	Tissue culture	64	61	5.00	C	
Path-222	Medical mycology	64	61	5.00	C	Path-111
Path-223	Principles of immunology	64	61	5.00	C	
Path-224	Medical physiology	64	61	5.00	C	Path-214

Path-225	Parasitic helminths	79	46	5.00	C	
Path-226	Biochemistry	64	61	5.00	C	

Semester 5 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Path-311	Infectious diseases	79	71	6.00	C	
Path-312	Clinical immunology	79	71	6.00	C	Path-223
Path-313	Medical molecular biology	79	71	6.00	C	
Path-314	Pathological analysis	79	71	6.00	C	Path-121
Path-315	Microbial diagnosis	79	71	6.00	C	

Semester 6 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
Path-321	Serology and vaccines	79	71	6.00	C	
Path-322	Medical genetics	79	71	6.00	C	Path-216
Path-323	Enzymology	79	71	6.00	C	
Path-324	Antibiotics	79	71	6.00	C	
Path-325	Hematology	79	71	6.00	C	

Semester 7 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSWL	USSW L	ECTS	Type	Pre- request
Path-411	Blood diseases	79	71	6.00	C	Path-325
Path-412	Endocrinology	64	71	6.00	C	
Path-413	Epidemiology	64	71	6.00	C	
Path-414	Genetic engineering	79	71	6.00	C	Path-313
Path-415	Optional 1	63	27	4.00	E	
Path-416	Research project	30	45	2.00	C	

Semester 8 / 30 ECTS / 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre- request
path421	Clinical chemistry	64	71	6.00	C	
path422	Histopathology	64	71	6.00	C	Path-211
path423	Medical biotechnology	79	71	6.00	C	
path424	Moecular diagnosis	79	71	6.00	C	
path425	Optional 2	63	27	4.00	E	
path426	Research project	32	43	2.00	C	

8: Contact:

Program manager: prof. dr Hussein Ali Mohammed / medical virology

E.mail : hmohammad@uowasit.edu.iq /

phone : 077 00758653

Program Coordinator / dr. – Ali Shakir Kamil | PhD in Life Sciences / Zoology

e.mail alisuaifi@uowasit.edu.iq

phone: 07748203148

Academic Program Description Form

University name/Wasit

College/Institute/ College of Science

Scientific Department/ Department of pathological analysis

Name of the academic or professional program

Bachelor's degree in pathological analysis

/ Bachelor of Science in Biology & Bachelor of science in pathological analysis

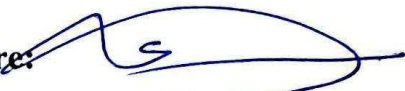
Bologna Grade 1, Grade 2 and Grade 3 Academic system:/ semesters



Description Preparation Date: 7/9/2025

Signature: 
Head of Department Name:
Dr. Hussein Ali Mohammed
Date: 8/9/2025

الأستاذ الدكتور
حسين علي محمد
رئيس قسم التحليلات المرضية

Signature: 
Scientific Associate Name:
Dr. Ali Jabbar Fraih
Date: 9/9/2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 11/9/2025

Signature/  م.م. دنيا فاضل عباس

م.م. دنيا فاضل عباس

م.م. دنيا فاضل عباس مسؤول شعبة ضمان الجودة والاعتماد

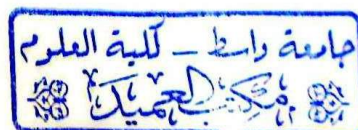
Approval of the Dean:

ا.م. د. فائق جميل حسن

Assist/Prof
Dr. Faik-Jamal Hassan Mayah
Dean

17/9
2025

1



المرحلة الاولى

الفصل الاول

2025-2026م

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Fundamentals of Computer Science		Module Delivery	
Module Type	Basic		☒ Theory Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	WUO3			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	UGI	Semester of Delivery	one	
Administering Department	Pathological analysis	College	Science	
Module Leader	Zainab ali Abdul Hussein	e-mail	zabdulhussein@uowasit.edu.iq	
Module Leader's Acad. Title	Assistant lecturer	Module Leader's Qualification	Master	
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	2025-9-1	Version Number	1	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	None
Co-requisites module	None	Semester	None

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Giving the student a general idea of computer material at a study environment . 2. Understanding the basic rules for dealing with and managing computers (computer basics , computer components ,hardware and software licenses , operating systems ,.....), with the aim of preparing the student to enter the programs he needs in the department . 3. Giving the student knowledge about the office applications as basic principles for students in college of sciences
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Knowing computer peripherals , their connections and windows system. 2. Distinguish between the important tabs in the word program. 3. The ability to write an entire paragraph with formatting .
Indicative Contents المحتويات الإرشادية	Introduction to computer principles Microsoft office word 2010

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Using computers and display screens to explain lectures to increase students mental comprehension. 2- Practical applications in the computer lab of what was explained in the theoretical lecture . 3- Using direct questions in the classroom as brainstorming skills. 4- Encouraging students to solve class and homework assignments and to perform specialized reports.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	15%(15)	4,8,12	All
	Assignments	1	5%(5)	10	All
	Projects / Lab.	15	15%(15)	continuous	All
	Report	1	5%	13	/
Summative assessment	Midterm Exam	2hr	10%(10)	9	All
	Final Exam	3hr	50%(50)	16	All
Total assessment			100		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Part1:chapter one : Introduction computer fundamentals
Week 2	Part1:chapter one : Introduction computer components
Week 3	Part1:chapter one : writing the equations
Week 4	Part1:chapter one : quizzes1
Week 5	Part2:chapter two : computer components/hardware
Week 6	Part2:chapter two : computer components/software
Week 7	Part2:chapter two : writing the equations
Week 8	Part2:chapter two : quizzes2
Week 9	Part3:chapter three : computer safety
Week 10	Part3:chapter three : software licenses
Week 11	Part3:chapter three : virus
Week 12	Part3:chapter three : writing the equations + quizzes3
Week 13	Part4:chapter four: operating system
Week 14	Part4:chapter four : desktop components
Week 15	Part4:chapter four : writing the equations
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to Microsoft office word2010
Week 2	File tab
Week 3	Home tab + quizzes1
Week 4	Insert objects to Microsoft office word2010+ writing the equations
Week 5	Page layout tab+ quizzes2
Week 6	View tab + writing the equations
Week 7	References tab + quizzes3

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	أساسيات الحاسوب وتطبيقاته المكتبية	نعم
Recommended Texts		
Websites	1-سلسلة يسر المصطفى للعلوم "أساسيات الحاسوب , أوفس 2010", د.زياد محمد عبود , دار الدكتور للنشر والتوزيع بغداد , 2013. 2 -مايكروسوفت وورد 2010 , مايكروسوفت اكسل 2010 , موقع الشركة الرسمي. www.microsoft.com. 3.Edwards , Benj. "Microsoft Word Turns 25". PC World.November 7 , 2010 4.Word 2010-Creating a Cross-Reference, www.1se.ac.uk/internet/LSEServices/IMT/guides/software Guides/ office2010/Word-2010-Reference.aspx. 5.John W. Jacobs, Introduction to Microsoft Word 2010.Technology center.2010. 6.MS-Word 2010 Advanced: Part I. Templates , Forms and Styles.http://bookboon.com/	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Biosafety and Biosecurity		Module Delivery
Module Type	Basic		☒ Theory Lecture Lab ☐ Tutorial * Practical ☐ Seminar
Module Code	Path-114		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	1	Semester of Delivery	
Administering Department	Pathological analysis	College	College of science
Module Leader	Nasser Nafiaa Ibrahim	e-mail	nalqurashy@uowasit.edu.iq
Module Leader's Acad. Title	Asst. Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	2025-9-1	Version Number	2

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module		Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- Identifying the objectives of (Biosafety and Biosecurity) 2- Knowing the principles (Biosafety and Biosecurity) 3- Comparison between the four levels of safety and their importance 4-Learn about the uses of different materials 5- Defining the difference between the terms and concepts of (Biosafety and Biosecurity) 6- Learn how to use and prevent hazardous materials in the laboratory
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Identifying the objectives of (Biosafety and Biosecurity) 2- Knowing the principles (Biosafety and Biosecurity) 3- Comparison between the four levels of safety and their importance 4-Learn about the uses of different materials 5- Defining the difference between the terms and concepts of (Biosafety and Biosecurity) 6- Learn how to use and prevent hazardous materials in the laboratory
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. How to deal with dangerous and non-dangerous chemicals and microorganisms inside the laboratory, how not to take them out to the outside environment, prevent the spread of diseases and dangerous chemicals, and maintain the safety of laboratory workers.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	67	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.5

Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	100
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Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction: Definitions and concepts
Week 2	Biological waste
Week 3	Why we need Biosafety
Week 4	Biosafety Containment Levels
Week 5	Biohazard Symbol
Week 6	Biohazards Materials
Week 7	Control of biological hazards
Week 8	Training and qualification of laboratory personnel
Week 9	The division of labor system of laboratory
Week 10	Elements of Biosafety
Week 11	Biohazard work area
Week 12	laboratory hygiene
Week 13	Occupational Safety and Health
Week 14	Examination

Week 15	Examination
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Laboratory biosafety manual Third edition	Yes
Recommended Texts	Biorisk management Laboratory biosecurity guidance	Yes
Websites	https://en.wikipedia.org/wiki/Biosafety	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Analytical chemistry		Module Delivery	
Module Type	Basic		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	Path-113			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1	Semester of Delivery		1
Administering Department	Pathological Analysis	College	College of Science / University of Wasit	
Module Leader	Qasim Mezban Salih		e-mail	kgamli@uowasit.edu.iq
Module Leader's Acad. Title	assistant professor		Module Leader's Qualification	Ph.D
Module Tutor	unavailable		e-mail	unavailable
Peer Reviewer Name	unavailable		e-mail	unavailable
Scientific Committee Approval Date	1/9/2025	Version Number	1	

Relation with other Modules			
Prerequisite module	none	Semester	
Co-requisites module	none	Semester	

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	-1Cognitive objectives: -1Enhance the student's ability to understand this science and its importance among other sciences. 2- Provide the student with information that enables them to comprehend chemical analysis methods. 3- Introduce the student to the latest cognitive developments in the field of analytical chemistry. 4- Explain the most important methods of descriptive and quantitative chemical analysis. 1-B- The course's skill objectives are as follows: 1- The ability to use laboratory tools and equipment. 2- Teaching students how to use laboratory equipment and tools and how to handle them. 3- Conducting practical experiments in the laboratory and developing students' ability to conduct laboratory analyses related to this science.. 4- The ability to analyze and discuss the results of practical experiments using the scientific method of reasoning. 5- Training students on how to write objective scientific reports. 6- Preparing modern educational illustrative tools.
Module Learning Outcomes	Teaching and Learning Methods 1- Theoretical lectures and classroom discussions. 2- Use a projector and blackboard to explain and engage students. 3- Conduct short daily exams. 4- Use laboratory tools and equipment and conduct scientific experiments. 5-Require students to write theoretical research and practical reports related to the curriculum. Assessment Methods 1. Monthly exams. 2. Short quizzes on previous lectures. 3..Extracurricular activities.
Indicative Contents	1. Develop students' ability to analyze information and reach decisions. 2. Provide students with self-learning skills through writing research papers. 3. Pose and discuss questions in class to enrich their knowledge. 4. Enhance students' self-confidence and strengthen their academic and professional character. 5- Working to refine students' personalities and discover their interests and talents through scientific and cultural activities. 6- Organizing scientific trips and field trips to medical and research institutions to broaden students' awareness.

Learning and Teaching Strategies

Strategies	1- Theoretical lectures and scientific discussion in the classroom. 2- Using a projector and blackboard to explain and attract students' attention. 3- Conducting daily short tests.
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Student Workload (SWL)

Structured SWL (h/sem)	63	Structured SWL (h/w)	4
Unstructured SWL (h/sem)	112	Unstructured SWL (h/w)	7.5
Total SWL (h/sem)	175		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Projects / Lab.	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction of analytical chemistry
Week 2	Methods of analysis
Week 3	Solutiones
Week 4	Statistical treatment of analytical data
Week 5	Chemical reaction

Week 6	Neutralization
Week 7	Express concentrations of solutions
Week 8	The relationship between molarity ,normality with percentage
Week 9	p-Functions
Week 10	Volumetric analysis (titration analysis)
Week 11	Redox reaction
Week 12	Precipitation methods
Week 13	Acid-Base Equilibria
Week 14	Buffer solution
Week 15	Mole fraction and Molality
Week 16	Concentration in parts per thousand or million or billion

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Learn about laboratory tools and equipment
Week 2	Preparation of solutions from solids and liquids
Week 3	Quantitative gravimetric analysis (precipitation)
Week 4	Calculating the mole fraction of some solutions
Week 5	Volumetric analysis (acid-base titration)
Week 6	Oxidation-reduction correction
Week 7	Calculating concentrations in parts per million and parts per billion

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	ANALYTICAL CHEMISTRY By Gary .Christian	
Recommended Texts		
Websites	Principles Of General Chemistry By Silberberg	

Grading Scheme				
Group	Grade	Marks (%)	Definition	
Success Group (50 - 100)	A - Excellent	90 - 100	Outstanding Performance	
	B - Very Good	80 - 89	Above average with some errors	
	C - Good	70 - 79	Sound work with notable errors	
	D - Satisfactory	60 - 69	Fair but with major shortcomings	
	E - Sufficient	50 - 59	Work meets minimum criteria	
Fail Group (0 – 49)	FX – Fail	(45-49)	More work required but credit awarded	
	F – Fail	(0-44)	Considerable amount of work required	
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Academic English 1		Module Delivery
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	WU02		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGI	Semester of Delivery	Two
Administering Department	Mechanical	College	Engineering
Module Leader		e-mail	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PhD
Module Tutor	Ali Faraj Hammadi	e-mail	alifaraj@uowasit.edu.iq
Peer Reviewer Name	- Hala A.Naman AL Tae - Ismail Sharhan Hburi - Ahmed Adel Naji	e-mail	alaataeh@uowasit.edu.iq isharhan@uowasit.edu.iq ahmedadil@uowasit.edu.iq
Scientific Committee Approval Date	9-11-2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	This module provides all the language and skills students need to improve their English, with grammar, vocabulary, and skills work in every unit. The aim is represented by the module's trusted methodology combines solid grammar and practice, vocabulary development, and integrated skills.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Demonstrate understanding of academic texts and summarize them orally and in writing. 2- Demonstrate an ability to write with a fair degree of accuracy in a variety of genres. 3- cope effectively with everyday situations everywhere in English 4- Demonstrate learner independence and be aware of their own linguistic strengths and weaknesses. 5- Participate in discussions/seminars on a variety of subject related, academic and general topics.
Indicative Contents المحتويات الإرشادية	12.5 hrs : Reading Skills 12.5 hrs : Writing Skills 12.5 hrs : Listening Skills 12.5 hrs : Speaking Skills

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Reading a range of pre-intermediate level articles on selected general topics. Writing a topic (informal emails, e.g.,) to classmates to discuss group work. Writing and submitting an assignment to a lecturer, Writing slides for presentations. Listening to authentic material at the beginner level to develop listening skills and comprehension. For Speaking, students may self-select and discuss topics with classmates on a group project. Typical topics that could be used at this level in the teaching of vocabulary include The World Around Us (Countries, Nationality, Language, Physical world, Weather, etc.). It may be appropriate for students to select grammar points for discussion in class, or for the lecturer to select them as they arise in students' writing. Grammar points that typically arise at this level include present simple and past simple; present continuous; question forms and auxiliary verbs; comparison; word order; prepositions; basic phrasal verbs.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20%(20)	6, 10	LO 1, LO2
	Home work (ONLINE+ONSITE)	2	10%(10)	5,10	LO2
	Report	.	-	-	-
	Seminar	1	10%(10)	12	All
Summative assessment	Midterm Exam	2	10%	6,12	All
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	Unit.1 Hello!
Week 2	Unit.2 Your world
Week 3	Unit.3 All about you
Week 4	Unit.4 Family and friends
Week 5	Unit.5 The way I live
Week 6	Unit.6 Every day

Week 7	Unit.7 My favorites
Week 8	Unit.8 Where I live
Week 9	Unit.9 Times past
Week 10	Unit.10 We had a great time!
Week 11	Unit.11 I can do that!
Week 12	Unit.12 Please and thank you
Week 13	Unit.13 Here and now
Week 14	Unit.14 It's time to go!
Week 15	Presentation (seminars)
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1:
Week 2	Lab 2:
Week 3	Lab 3:
Week 4	Lab 4:
Week 5	Lab 5:
Week 6	Lab 6:
Week 7	Lab 7:

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	New headway beginner student book	Yes
Recommended Texts	Murphy R English Grammar in Use	No
Websites	https://apoyanblog.files.wordpress.com/2017/08/new_headway_beginner_-_student	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

تفاصيل الساعات المجدولة في الإِسبوع الواحد

CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)
2	0	0	0	0	0

CL تعني ساعة تدريس في الصف

Lec تعني ساعة تدريس اونلاين

Lab تعني ساعة مختبر

Pr تعني ساعة تطبيقية (عادة تخصص المجموعات الطبية)

Tut تعني ساعة مساعدة توتوريال

Sem تعني ساعة سيمانار و ممكن ان يستضاف احد فيها لالقاء موضوع او يقدم فيها الطلبة

نموذج للنشاطات غير المجدولة

الأنشطة المذكورة هي امثلة

يجب ان لا تتجاوز ساعاتك 17 ساعة بالفصل

نوع النشاط	عدد الاسبوع	عدد الساعات لكل اسبوع
تحضير الدروس اليومية	12	1
التهيئة للعرض التقديمي (إن كان هناك عرض تقديمي)	•	•
التهيئة للامتحانات اليومية	2	1
التهيئة للامتحان النهائي	1	3
التهيئة للمشروع (إن كان هناك مشروع مطلوب من قبل استاذ المادة)	-	-
المجموع الكلي للساعات غير المجدولة		17

Code	Course/Module Title	ECTS	Semester
	Academic English 1	2	Two
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/sem)
2	2	33	17
Description			
The purpose of this module is to develop students' linguistic ability by focusing on the key skills of reading, writing, speaking and listening, to encourage students to become independent learners and to introduce them to strategies and skills to enable them to cope with the demands, both academic and cultural, of undergraduate study in an English-speaking environment.			

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Human Cytology		Module Delivery	
Module Type	Core		☒ Theory Lecture ☒ Lab ☐ Tutorial ☐ Practical Seminar	
Module Code	Path-112			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1	Semester of Delivery		1
Administering Department	path	College	College of science	
Module Leader	Leena Moussa Kadhium		e-mail	lalkhafajy@uowasit.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.	
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	1-9-2025	Version Number	1	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	none	Semester	
Co-requisites module	none	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Study of the cell in terms of (shape, structure, types, function, division, and cell death). 3. This course deals with the modern techniques in studying cell biology 6. To perform tests related to cell.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Learn about recent studies in cell biology 2. Identify the basic organelles in the cell. 3. Distinguish between plants and animals cell 4. Distinguish between Prokaryotic cell and Eukaryotic cell 5. Recognize cell shape ,size and function
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	112	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction of cell biology
Week 2	Chemistry of the cell
Week 3	Shape, size and function of the cell
Week 4	Prokaryotic cell and Eukaryotic cell
Week 5	Plasma membrane and Cellular Transport
Week 6	cytoplasm& membranous organelles
Week 7	Cell Organelles(Ribosomes and Endoplasmic reticulum)
Week 8	Golgi apparatus, lysosome and Peroxisome
Week 9	Mitochondria and Chloroplasts
Week 10	Cytoskeleton of the cell
Week 11	The nucleus
Week 12	Cell receptors
Week 13	Cell signaling
Week 14	Cell cycle
Week 15	Cell death
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
	Material Covered
Week 1	Microscope (types and parts of microscope)
Week 2	Examining the shapes and sizes of the cells under a microscope
Week 3	Prepare slides for the animal cell
Week 4	Prepare slides for the plant cell
Week 5	Identifying cell organelles using a microscope
Week 6	Techniques and methods for studying the cell
Week 7	Cell disruption methods

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Cytology(2009)Edmund S.Cibas	yes
Recommended Texts	Cell biology (2017) Thomas D.Pollard	no
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

DRMODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Principles of Microbiology		Module Delivery
Module Type	Core		☒ Theory lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Path-111		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	Pathological analysis	College	Science
Module Leader	Dr.Hanan Sajjad Ahmed	e-mail	solaries2020@gmail.com
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/9/2025	Version Number	2

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1 - The student's understanding of the basic principles of microbiology. 2- Introducing the student to the basic techniques used in the microbiology laboratory and teaching them the skills necessary to conduct laboratory experiments while understanding the scientific basis for testing. 3-The ability to apply these principles of microbiology in hospital and community settings. 4- - Applying the practical skills the student has learned in the laboratory to conduct diagnostic tests for microscopic pathogens. 5- Linking diseases to their causes.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Cognitive Objectives 1. Introduce the student to the basics of microbiology. 2. Familiarize themselves with basic laboratory techniques. 3. Gain a realistic understanding of the nature of the microorganisms the student works with in the laboratory. 4.Understand the environment of microorganisms, their medical and practical uses, and how they relate to basic biological concepts.
Indicative Contents المحتويات الإرشادية	1 - Microscopic examination. 2 - Preparing slides for pathogenic species and how to handle them safely. 3 - Preparing appropriate environments and culturing microscopic pathogens. 4 - Optimal use of sterilization and disinfection techniques. Affective and Value-Based Objectives 1. The ability to read and interpret test results. 2. Link microscopic and morphological characteristics to the pathogenic microorganism. 3. Convert and summarize test data into symbols and labels that facilitate the physician's understanding and assist in making therapeutic decisions. 4. Understand the connection between results, symptoms, and causes.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Theoretical and practical lectures using modern presentation methods, along with appropriate laboratory experiments.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	112	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5,10	
	Assignments	2	10% (10)	2,12	
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	
Summative assessment	Midterm Exam	2 hr	10% (10)	7	
	Final Exam	2 hr	50% (50)	16	
Total assessment			100%(100 marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Fundamentals principles of Microbiology Introduction of microbiology
Week 2	Types of microorganisms
Week 3	Microbial Cell Morphology and Fine structure
Week 4	Plasma membrane (cytoplasmic membrane)
Week 5	Microbial Nutrition
Week 6	The Study of Microbial Growth
Week 7	Environmental Factors affecting Microbial Growth
Week 8	Microbial genetics

Week 9	Classification of bacteria
Week 10	Structure and function of bacteria
Week 11	Growth and death of bacteria
Week 12	Bacterial Physiology (Bacterial metabolism). - Nutrient cycles and regulation
Week 13	Bacterial genetics. - Genetic material. - Plasmids, replication, mutation and genetic recombination
Week 14	Mycobacterium
Week 15	Introduction to Medical Virology
Week 16	Mycology

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	lab.1: Essential requirement of Microbiological laboratory
Week 2	lab.2: The Microscope
Week 3	lab.3: Sterilization
Week 4	lab.4: Culture Media
Week 5	lab.5: Culture Methods lab.6: Shape of Bacterial Cell & Gram Stain
Week 6	lab.7: Gram-negative bacteria vs. Gram-positive bacteria lab.8: Acid-fast stain
Week 7	lab.9: Capsule stain / Spore stain lab.10: Laboratory Methods for Detection of Antimicrobial Resistance

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
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Required Texts	Talaro, K.P.; Chess, B. (2008) Foundation in Microbiology. 8th edition. Harley, J.P. Prescott, L. M. (2002). Laboratory exercises in microbiology. 5th edition	
Recommended Texts	Microbiology Society Journals	
Websites	http://academy.asm.org/index.php/general-microbiology	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

المرحلة الاولى

الفصل الثاني

2025-2026م

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Human Anatomy		Module Delivery
Module Type	Core		☒ Theory Lecture ☒ Lab ☐ Tutorial Practical Seminar
Module Code	Path-122		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	Analysis Pathology	College	Science
Module Leader	Dr. Ali Mahdi Mutlag	e-mail	amutlag@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Prof.	Module Leader's Qualification	PhD
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1-2-2025	Version Number	2

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Provide understanding to student about the anatomical structure of human body particularly skeleton, heart and vessels, and other systems. 2. Identify locations and functions of anatomical structures in human body including bones, heart and vessels, and other anatomical structures of other systems. 3. Training the students about the structures and locations of human body systems including bones, heart and vessels, and anatomical structures of other human body systems. 4. Provide specific anatomical skills to the students including thinking, analysis, description anatomical locations, conclusion and comparing, and other anatomical skills.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Knowledge objectives 1. The student able to understand and determine the anatomical structures in human body. 2. The student able to describe and determine the anatomical locations of human body structures including bones, heart and vessels, and other anatomical structures in human body. 3. The student able to think and analyze regarding human anatomy, and able to determine and describe the anatomical structures and their locations in human body.
Indicative Contents المحتويات الإرشادية	1. Macroscopic examination of anatomical samples. 2. Determine the anatomical structures and their locations by naked eye. 3. Use learning tools and skills acquire. Analytic objectives 1. Ability to describe anatomical structures. 2. Ability to determine the locations of anatomical structures. 3. Ability to merge anatomical structure with its location in human body. 4. Ability to develop specific anatomical skills.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Lectures PDF, Lectures PPT, Images, Learning videos, seminar and discussion, description using samples, Practical small groups learning

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	112	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	
	Assignments	2	10% (10)	2, 12	
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	
Summative assessment	Midterm Exam	2 hr	10% (10)	7	
	Final Exam	2 hr	50% (50)	16	
Total assessment			100% (100 marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Integumentary system
Week 2	Skeletal system (Axial)
Week 3	Skeletal system (appendicular)
Week 4	Cardio vascular system (heart structure).
Week 5	Cardio vascular system (blood vessels)
Week 6	Nervous system (central).
Week 7	Nervous system (peripheral)
Week 8	Muscular system
Week 9	Lymphatic system

Week 10	Respiratory system
Week 11	Respiratory system
Week 12	Urinary system
Week 13	Urinary system
Week 14	Genital system
Week 15	Genital system
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	lab.1: introduction to human anatomy
Week 2	lab.2: the anatomical position
Week 3	lab.3: anatomical explanation for body tissue
Week 4	lab.4: skeletal system
Week 5	lab.5: axial skeleton
Week 6	lab.6: appendicular skeleton
Week 7	First exam
Week 8	lab.7: anatomy of respiratory system
Week 9	lab.8: anatomy of digestive system
Week 10	Anatomy of cardiac system
Week 11	Anatomy of urinary system
Week 12	lab.9: type of muscle tissue
Week 13	Second exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	SnelRS. Clinical Anatomy by Regions. 9th edition. Philadelphia, PA: Lippincott Williams & Wilkins. 2012 Netter. Atlas of human anatomy. 7th edition. Elsevier 2019	

Recommended Texts	Grays basic anatomy by Richard L. Dark, Wayne Vogl, and Adam W. M. Mitchell. Churchill Livingstone. 2012	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Human rights and Democracy		Module Delivery
Module Type	Basic		☒ Theory ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	WUO4		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGI	Semester of Delivery	Two
Administering Department	WAR	College	College of Engineering
Module Leader	Entidar Rasheed Izewaer	e-mail	inrasheed@uowasit.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	none
Scientific Committee Approval Date	20/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives

أهداف المادة الدراسية

A- Cognitive goals

1- Acquiring the skill of distinguishing between states' relations with their citizens.

2- Dealing with the concept of human rights.

3- Acquisition of knowledge in dealing with problems affecting those rights.

4- Gaining knowledge of the origins and roots of human rights.

5- Reaching knowledge of the practical application of human rights.

6- Developing the student's ability to perform assignments and deliver them on time.

7- Logical thinking to find solutions to the problems facing students in society, especially with the increase in societal problems such as domestic violence, electronic extortion, and the spread of drug abuse.

The Iraqi and the extent of his demand for the maintenance and preservation of those rights.

8- View the data on the Iraqi constitution and the extent to which it is required to maintain and preserve those rights.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Graduating a generation that is aware, educated, and aware of its duties as an individual in society and the state, and its rights in exchange for those duties. 2- Developing in society a culture of respect for the other, regardless of his beliefs, personal inclinations, attitudes, and societal behaviors. 3- Referring first and foremost to the law regarding any offensive phenomena that may prevail in the work environment. 4- Developing the student's ability to dialogue and discussion. 5- It has a major role in analyzing emerging problems in society. 6- It contributes to increasing students' knowledge of how to prepare scientific reports.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1- Developing the student's ability to deal with societal problems. 2- Developing the student's ability to deal with the analysis of laws and the mechanisms of their application. 3- Developing the student's ability to deal with the multiple means available in the work environment. 4- Developing the student's ability to dialogue and discussion. 5- Developing the student's ability to employ his study tools as practical tools in the work environment. 6- Developing the ability to harmonize between the different conditions that prevail in the work atmosphere in proportion to the ability of the labor market to absorb the different conditions.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1- Managing the lecture in such a way that the student feels the importance of time. 2- Assigning the student some group activities and duties. 3- Allocate a percentage of the grade for group activities. 4- Developing the topic of group campaigns that shed light on negative societal phenomena and the role of students as active individuals in society. 5- Active participation in the classroom is evidence of the student's commitment and responsibility. 6 Commitment to the deadline for submitting the assignments and reports required of the student to submit them. 7- Quarterly and final exams reflect commitment and knowledge and skill achievement.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	The nature of human rights.
Week 2	Human rights in Islam.
Week 3	Human rights in modern political thought.
Week 4	Human rights in contemporary political thought.
Week 5	Human rights in international conventions
Week 6	Human rights in the Iraqi constitution in force

Week 7	Midterm exam +Human rights violations in multiple experiences with the Universal Declaration of Human Rights
Week 8	Legal rights in the International Covenant on Civil and Political Rights
Week 9	Types of rights mentioned in the Iraqi constitution in force with the provisions of the Iraqi constitution related to rights and freedoms
Week 10	The historical development of the concept of democracy in the civilization of the Mesopotamia Greek civilization and Roman civilization.
Week 11	The difference between freedom and democracy
Week 12	Islamic views in the democratic system of government
Week 13	Forms of democracy and conditions for the success of the democratic system
Week 14	Elements and pillars of the democratic system
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Human rights book, Dr. Taha Hamid Hassan	Yes
Recommended Texts	Human rights book, Dr. Hamid Hanoun	No

0	0	0			واجب بيتي
2	1	2	التهيئة للواجب البيتي		
3	1	3	تحضير التقرير		انجاز التقرير
0	0	0		القاء العرض التقديمي	العروض التقديمية
0	0	0	التهيئة للعرض التقديمي		
2	1	2	التهيئة للامتحانات اليومية		الامتحانات اليومية
.	.	.		الامتحان	امتحان نصف الفصل
4	4	1	التهيئة للامتحان		
3	3	1		الامتحان	امتحان نهاية الفصل
4	4	1	التهيئة للامتحان		
50	العبء الكلي للمادة خلال الفصل:				
2	عدد الوحدات:				
*لا توجد ساعات مجدولة لهذه النشاطات كون تم استيفائها ضمن الصفوف الدراسية.					

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Principle of pathological analysis II		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Path-121		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	UGx11 1	Semester of Delivery	1
Administering Department	قسم التحليلات المرضية	College	كلية العلوم / جامعه واسط
Module Leader	Dr. Hanan Sajjad Ahmed	e-mail	solaries2020@gmail.com
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D
Module Tutor	UGx11 1	e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. The student's understanding of the basic principles of disease diagnostic techniques. 2. Introducing the student to the basic techniques used in the pathology laboratory and learning the skills necessary to conduct laboratory experiments while understanding the scientific basis of the tests. 3. The ability to apply these principles and laboratory analysis techniques in hospital and community settings. 4- Applying the practical skills the student has learned in the laboratory to conduct diagnostic tests for pathogens. 5- Linking diseases to their causes.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Cognitive Objectives 1. To familiarize the student with the basics of pathological analysis. 2. To master basic laboratory techniques. 3. To gain a realistic understanding of the nature of the types of pathogens the student works with in the laboratory.
Indicative Contents المحتويات الإرشادية	1 - Microscopic examination. 2 - Preparing slides for pathogenic species and how to handle them safely. 3 - Preparing appropriate environments and culturing pathogen species. 4 - Optimal use of sterilization and disinfection techniques. - Affective and value-based objectives 1 - The ability to read and interpret test results. 2 - Relate microscopic and morphological characteristics to pathogenic microorganisms. 3- Converting and abbreviating test data into codes and labels that facilitate physicians' decision-making and assist them in making treatment decisions. 4- Understanding the connection between results, symptoms, and causes.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical and practical lectures using modern presentation methods, along with appropriate laboratory experiments.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	109	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	7

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	91	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	8
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5,10	
	Assignments	2	10% (10)	2,12	
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	
Summative assessment	Midterm Exam	2 hr	10% (10)	7	
	Final Exam	2 hr	50% (50)	16	
Total assessment			100%(100 marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Fundamentals of pathological analysis
Week 2	Introduction of pathological analysis
Week 3	Medical Laboratory
Week 4	Types of laboratory
Week 5	Blood collection
Week 6	Blood test
Week 7	Blood type
Week 8	Hematology and blood disease
Week 9	Examination
Week 10	Bilirubin
Week 11	Diabetes mellitus
Week 12	Kidney Function testes
Week 13	Kidney diseases

Week 14	Liver Function tests
Week 15	Liver disease
Week 16	Follicle stimulating hormone(FSH)

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
	Material Covered
Week 1	lab.1: Essential requirement of Laboratory safety
Week 2	lab.2: Sampling
Week 3	lab.3: general urine examination G.U.E
Week 4	lab.4: general stool examination G.S.E
Week 5	lab.5: Glucose test lab.6: lipid profile
Week 6	lab.7: renal function test lab.8: uric acid
Week 7	lab.9: liver function test lab.10: Bilirubin test

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Brunzel, N. A. (2021). Fundamentals of Urine and Body Fluid Analysis-E-Book. Elsevier Health Sciences.	
Recommended Texts	Cook, D. J., & Warren, P. J. (2015). Cellular pathology: An introduction to techniques and applications. Scion Publishing Ltd.	
Websites	Web-Based Education: Learning from Experience - Page 377	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Statistics		Module Delivery	
Module Type	Basic		☒ Theory Lecture Lab ☐ Practical ☐ Seminar	
Module Code	Path-124			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	1	Semester of Delivery		2
Administering Department	Path	College	كلية العلوم / جامعة واسط	
Module Leader	Dr. Faik Jameel Hassan		e-mail	fmayah@uowasit.edu.iq
Module Leader's Acad. Title	Assist.prof		Module Leader's Qualification	Ph.D
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025		Version Number	2

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	It enables the student to become familiar with and understand the key characteristics of the statistics course—particularly the vital component concerning statistical equations relevant to biological disciplines, which measure the significance of changes in the derived values. Equipping the student with the principles of statistics. -Understanding the fundamental components of the statistics curriculum. -Learning how to apply statistical methods using computer-based statistical software.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Mastering applied statistical methods. Enabling the student to use statistical methods and measures, both theoretically and practically.
Indicative Contents المحتويات الإرشادية	Familiarity with statistical measures. Developing the ability to statistically analyze real-life phenomena.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem)	150		

الحمل الدراسي الكلي للطلاب خلال الفصل	
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Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to statistics
Week 2	Introduction to statistics
Week 3	Central Tendency measurements
Week 4	Central Tendency measurements
Week 5	Central Tendency measurements
Week 6	Measurements of variations
Week 7	Measurements of variations
Week 8	Probability
Week 9	Probability
Week 10	Probability
Week 11	Probability
Week 12	Statistical Distributions
Week 13	Statistical Distributions
Week 14	Statistical Distributions
Week 15	Statistical Distributions

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Donald N. Forthofer, Eun Sul Lee, Introduction to Biostatistics: A Guide to Design, Analysis, and Discovery, Academic Press INC. (1995)	
Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Course Description Form

Module Information			
Course information			
Module Title	Human Rights and Democracy		Module Delivery
Module Type	B		☒ Theory Lecture ☐ Lab ☐ Practical ☐ Seminar
Module Code	WUO4		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	2
Administration Department	Pathological analyses	College	the sciences
Module Leader	M.M. Ensam Majed Hassan	e-mail	ansam@uowasit.edu.iq
Module Leader's Acad. Title	Assistant lecturer	Module Leader's Qualification	Master's
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1-9-2025	Version Number	1

Relation with other Modules			
Relationship with other subjects			
Prerequisite module	NONE	Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guiding content	
Module Aims Course objectives	Providing the student with general knowledge about the origins and freedoms and roots of the concept of human rights and fundamental how to deal with problems affecting human rights, especially the problems facing students, and the extent of the student's knowledge of respecting and preserving these rights in order to produce an f its duties towards its aware and educated generation that is aware o country and its rights in return for those duties, and developing its culture and mutual respect between individuals without any discrimination, and developing the student's ability to dialogue and .discuss
Module Learning Outcomes Learning outcomes for the subject	Enabling the student to comprehend and understand the rights that must be implemented and adhered to in the field of human rights and to develop the .guarantees cognitive aspects related to the constitution and human rights
Indicative Contents Guidance contents	All topics related to the application and understanding of .human rights content

Learning and Teaching Strategies Learning and teaching strategies	
Strategies	and students, exchange of ideas and Interactive lectures between professors questions, group discussions, daily and monthly tests, and research reports, all .aim to enhance students' ability to understand the content of human rights

Student Workload (SWL) .calculated as 15 weeks The student's academic load is			
Structured SWL (h/sem) Regular student load during the semester	33	Structured SWL (h/w) Regular weekly student workload	2
Unstructured SWL (h/sem) Irregular student load during the semester	17	Unstructured SWL (h/w) student study load per week Irregular	1.3
Total SWL (h/sem) The student's total academic load during the semester	50		

Module Evaluation					
Course material evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Tests	2	20% (20)	5 and 10	LO #1, 2, and 10, 11
	واجبات	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	سمنر	1	10% (10)		
	تقرير	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Theoretical weekly curriculum	
	Material Covered
Week 1	The concept of human rights
Week 2	Characteristics of human rights
Week 3	Types of human rights
Week 4	in ancient times Study of human rights
Week 5	Study of human rights in the Middle Ages
Week 6	Study of human rights in modern times
Week 7	Rights and freedoms in the current 2005 Constitution
Week 8	Human rights sources
Week 9	human rights guarantees
Week 10	Democracy
Week 11	Types of democracy
Week 12	Forms of democracy
Week 13	elections
Week 14	Types of electoral systems
Week 15	Advantages and disadvantages of democratic systems
Week 16	Pillars of democracy

Learning and Teaching Resources		
teaching resources Learning and		
	Text	Available in the Library?
Required Texts	Human Rights Book by Dr. Hamid Hanoun The Book of Rights and Freedoms by Dr. Ani-Hassan Shafi' Al The current Iraqi Constitution of 2005	
Recommended Texts		
Websites		

Grading Scheme				
Grading scheme				
Group	Grade	Appreciation	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	privilege	90 - 100	Outstanding Performance
	B - Very Good	very good	80 - 89	Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors
	D - Satisfactory	middle	60 - 69	Fair but with major shortcomings
	E - Sufficient	acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	in) Precipitate (process	(45-49)	More work required but credit awarded
	F – Fail	Failed	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	اللغة العربية		Module Delivery
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	WU01		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGI	Semester of Delivery	one
Administering Department	WAR	College	College of Engineering
Module Leader	زينب دايخ مطر	e-mail	Zainabd303@uowasit.edu.iq
Module Leader's Acad. Title	مدرس	Module Leader's Qualification	PhD.
Module Tutor		e-mail	
Peer Reviewer Name	مشتاق كاظم جمعة	e-mail	mjmaah@uowasit.edu.iq
Scientific Committee Approval Date	٢٠٢٣-١١-٩	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	لا يوجد	Semester	لا يوجد
Co-requisites module	لا يوجد	Semester	لا يوجد

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	١- المهارة اللغوية للطلبة و تمكينهم من التعبير عن أفكارهم و مشاريعهم باللغة العربية و بطلاقة. Linguistic proficiency of students by enabling them to express their ideas and projects in fluent Arabic. ٢- تجنب الطلبة التحدث باللغة الدارجة او الكلمات غير العربية Students avoid speaking in colloquial and non-Arabic language in the simplest ways. ٣- كتابة التقارير و المقالات باللغة العربية و بشكل انسيابي و دقيق و منظم Writing reports and articles in fluent, concise and well-organized Arabic. ٤- استخدام قواعد اللغة العربية بشكل صحيح لان اللغة هي الأداة الأساسية للتواصل بين افراد المجتمع. Use Arabic grammar correctly; Because language is the primary tool of communication between members of society. ٥- قراءة و فهم النصوص الاكاديمية باللغة العربية. Reading and understanding academic texts in Arabic. ٦- تطوير قابلية الطلبة على أداء المهام و تقديمها في الوقت المطلوب. Developing the student's ability to perform assignments and submit them on time.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	عند الانتهاء من هذا الفصل، سيكون الطلاب قادرين على: ١- إجادة القراءة والكتابة والتحدث باللغة العربية. ٢- استخدام اللغة العربية للتواصل بفعالية في الأوساط الأكاديمية والمهنية. ٣- التعرف على التعبيرات اللغوية والأدبية. ٤- إظهار فهم لأهمية مهارات اللغة العربية للنجاح في الهندسة. ٥- تطبيق مهارات التفكير النقدي وحل المشكلات في مواقف العالم الحقيقي. ٦- يساهم في زيادة معرفة الطلاب بكيفية إعداد التقارير العلمية. Upon completion of this course, students will be able to: 1- Demonstrate proficiency in reading, writing, and speaking to Arabic. 2-Use Arabic to communicate effectively in academic and professional settings 3- Gain an understanding of linguistic and literary expressions 4-Demonstrate an understanding of the importance of Arabic language skills for success in engineering 5-Apply critical thinking and problem-solving skills to real-world situations 6- It contributes to increasing students' knowledge of how to prepare scientific reports.

Indicative Contents المحتويات الإرشادية	القواعد (١٢ ساعة) الاملاء (٨ ساعة) الادب (٦ ساعة) مهارات عامة (٤ ساعة)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	- تقديم المحاضرات النظرية وتحديد المعلومات الأكثر أهمية من خلال استخلاص الكلمات المفتاحية والأفكار. - يتم منح الطلاب فرصاً لإنتاج اللغة، وتلقي تعليقات مباشرة لتحسين مهاراتهم اللغوية. - Present theoretical lectures and determine the information that is most significant by extracting keywords and ideas. - Students are given opportunities to produce language, and receive direct feedback to improve their language skills.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعاً			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعياً	1.13
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20%	3, 5, 7, and 11	All
	Assignments	0	0		
	Projects / Lab.	-	-		
	Report	2	20%	4, and 10	All
Summative assessment	Midterm Exam	2hr	10%	9	1, 2, 3, 6
	Final Exam	3hr	50%		All
Total assessment			100%		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Grammar: Speech and what it consists of: the noun, the verb, and the letter. First: the verb and its parts, its signs, and the past tense. القواعد: - الكلام وما يتكون منه: الاسم، والفعل، والحرف. أولاً: الفعل وأجزاؤه، وعلاماته، والفعل الماضي.
Week 2	Grammar: subject and the news, types of subject and its rulings, definition of the news and its types. القواعد: المبتدأ والخبر، أنواع المبتدأ وأحكامه، تعريف الخبر وأنواعه.
Week 3	Grammar: Inna and its sisters, the five verbs. القواعد: إن وأخواتها، الأفعال الخمسة.

Week 4	Grammar: Plural of the sound masculine and the attached to it. And Introducing the sources of the Arabic language. قواعد : جمع المذكر السالم والملحق به. التعريف بمصادر اللغة العربية.
Week 5	Grammar: the number قواعد: العدد.
Week 6	Grammar: the verbal sentence, the subject and its deputy القواعد: الجملة الفعلية والفاعل ونائبه
Week 7	Spelling: Rules for writing Hamza> الاملاء: قواعد كتابة الهمزة
Week 8	Spelling: Common linguistic errors. And punctuation marks. الاملاء: الأخطاء اللغوية الشائعة, وعلامات الترقيم
Week 9	Mid exam
Week 10	Spelling: The difference between ḍād, dha, sīn and sūf ..املاء: الفرق بين الضاد والطاء والسين وسوف
Week 11	Spelling: The rules for writing an alif at the end of a word. الاملاء: كتابة قواعد كتابة الالف في نهاية الكلمة
Week 12	Literature: The poet Badr Shaker Al-Sayyab, his life and collections, an analysis of the poem (Jikur and the City), and a reading and analysis of a prose text by Ibn Uwaynah the Sufi. الأدب: الشاعر بدر شاكر السياب, حياته ودواوينه, وتحليل قصيدة (حيكور والمدينة), وقراءة وتحليل نص نثري لابن عيينه الصوفي
Week 13	Literature: The poet Nazik Al-Malaika, her life and poetry, an analysis of the poem (Strangers) and a reading of the prose text of the sermon of the pious by Imam Ali - peace - be upon him الأدب: الشاعرة نازك الملائكة, حياتها ودواوينها, وتحليل قصيدة (غرباء) وقراءة نص نثري خطبة المتقين للإمام علي – عليه السلام-

Week 14	Qur'anic texts, lessons in Islamic education, interpretation and rhetorical miracles. النصوص القرآنية دروس في التربية الإسلامية والتفسير والإعجاز البلاغي
Week 15	Public lecture and discussions محاضرة و مناقشات عامة
Week 16	Preparation for the final exam التهيؤ للامتحان النهائي

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	لا يوجد
Week 2	لا يوجد
Week 3	لا يوجد
Week 4	لا يوجد
Week 5	لا يوجد
Week 6	لا يوجد
Week 7	لا يوجد

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Explanation of Ibn Aqeel on the Alfiyyah of Ibn Malik, edited by Muhyiddin Abdul Hamid شرح ابن عقيل على ألفية ابن مالك، تحقيق محيي الدين عبد الحميد.	
Recommended Texts	Arabic language for non-specialization departments اللغة العربية للاقسام غير المتخصصة	
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

جدول الساعات المجدولة وغير المجدولة لمادة

Arabic Language

نوع النشاط	الساعات المجدولة SSWL	الساعات غير المجدولة USSWL	عدد الأسابيع	ساعة لكل أسبوع	العبء الكلي للساعات
محاضرات	محاضرات في القاعات الدراسية		15	2	20
المختبر	دوام المختبر		0	0	0
مناقشات*	المناقشات		0	0	0
مشروع عملي*	مشروع عملي		0	0	0
	التهيئة للمشروع		0	0	0
تحضير الدروس اليومي		تحضير الدروس اليومي	10	1	10
العروض التقديمية*	لقاء العرض التقديمي		0	0	0
		التهيئة للعرض التقديمي	1	1	1
الامتحانات اليومية	الامتحان		0	0	0

4	1	4	التهيئة لامتحانات اليومية		
0	0	0		الامتحان	امتحان نصف الفصل
2	2	1	التهيئة لامتحان		
3	3	1		الامتحان	امتحان نهاية الفصل
2	2	1	التهيئة لامتحان		
50	العبء الكلي للمادة خلال الفصل:				
2	عدد الوحدات:				
*لا توجد ساعات مجدولة لهذه النشاطات كون تم استيفاؤها ضمن الصفوف الدراسية.					

المرحلة الثانية
الفصل الاول
2025-2026م

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Human Histology	Module Delivery	
Module Type	Core	☒ Theory Lecture × Lab Practical ☐ Seminar	
Module Code	Path-211		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	3		
Administering Department	التحليلات المرضية	College	العلوم
Module Leader	Ali Mahdi Mutlag	e-mail	amutlag@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Prof.	Module Leader's Qualification	Ph.D.
Module Tutor	Raghad Ali Hussien Noora Abbas Farhan	e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1-9-2025	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	NONE	Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Giving the student the ability to understand the functions and physiology of his body's various systems 2. Providing the student with the ability to know the histological structures and functions histology of body organs 3. Providing the student with the ability to dissect laboratory animals 4. Giving the student the ability to evaluate an individual's health through his ability to read various tests. 5. Practical recognition of different histological structure of organs 6. Provide an experiences of histology laboratory work and handling. 7. Basic of pathological changes with some medical applications
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The course outcomes summarized as 1. Knowing the basic histological tissues 2. Histology of body system 3. Histological structures of the organs 4. Mechanism of functions of the body organs
Indicative Contents المحتويات الإرشادية	1. Developing the ability of recognize the tissues 2. Experience to know the different organs through the histological structures 3. Ability to find the difference the normal and abnormal tissue 4. Functions of the tissue variations throughout the body system 5. Distribution of different tissues between the different organs 6. Knowing how to use the histology equipment in the lab.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Teaching and learning the general aspects and topics of the histology. 2. Learning the histological structure of the different systems and their organs

	3. Learning the principles of histology and primary tissue 4. Teaching the functional histology of organs. 5. Teaching the distinguishing between the normal and abnormal features
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Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	36	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	10	All
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Definition of histology , medical important, types if histology , types of tissues
Week 2	Definition , function, location, properties, types , simple and stratified
Week 3	Introduction , classification , development , histological structure
Week 4	Connective Tissue (Introduction, composition , types of fibers , uses, classification)

Week 5	Muscle tissue (Introduction , muscle fiber , muscle orientation , classification of muscle)
Week 6	Cartilage (Introduction, cartilage cells , matrix , classification)
Week 7	Bone (cells , types of bones , matrix , functions)
Week 8	Nervous tissue (Introduction , properties, composition , nerve cell , supporting cells , nervous system)
Week 9	Respiratory system (Introduction, composition , histological structure of organs , function)
Week 10	Blood (Definition, composition, blood cells, blood, plasma, function), Cardiovascular system
Week 11	Definition of immunity , organs of lymphatic system, histological structure , function
Week 12	Organs of digestive tract , histological structure of organs, functions, location
Week 13	Glands of digestive system , histology , function , secretion , location
Week 14	Glands association with digestive system Definition , function , organs , histological structure, location , clinical application
Week 15	Organ of special sense (Eye, Ear) Definition , function , organs , histological structure, location , clinical application
Week 16	Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Epithelial Tissue
Week 2	Connective tissue (CT proper and special CT)
Week 3	Blood
Week 4	Cardiovascular system
Week 5	Respiratory System
Week 6	Digestive system
Week 7	Skin and urinary system

Learning and Teaching Resources

مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Junqueira's Basic Histology Text and Atlas, 16e Anthony L. Mescher	
Recommended Texts	Wheater's Functional Histology: A Text and Colour Atlas (FUNCTIONAL HISTOLOGY (WHEATER'S)) 6th Edition	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
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نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Principles of Physiology		Module Delivery
Module Type	C		☒ Theory Lecture ☐ Lab ☐ Practical ☐ Seminar
Module Code	Path-214		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	3	Semester of Delivery	1
Administering Department	Pathological Analysis	College	College of science
Module Leader	ا.م.د. مطشر جدوع	e-mail	mjiheel@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	2024/9/11	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	NONE	Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	A- The aim of studying this course is to review the activities of the systems and organs to understand the human body and its functions. B- Giving students the ability to research and teach. C- Empowering students with methods of scientific thinking and writing. D- Providing students with applied and experimental skills through scientific and laboratory topics. E- Refine the student's academic and practical personality so that he can serve society.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A- Cognitive objectives: 1- Enhancing the student's ability to understand this science and its importance among other sciences. 2- Providing the student with information that enables him to understand the various functional mechanisms of the body's systems. 3- Introducing the student to the latest cognitive developments in the field of human physiology. 4- Explaining the most important functions related to the heart, blood, lymphatic organs, breathing, digestion, nutrition, metabolism, waste elimination, and reproduction. B - The following skills objectives are specific to the course: 1-The ability to use laboratory tools and equipment. 2- Teaching students the process of drawing a blood sample, and the correct handling of an optical microscope. 3- Conducting physiological experiments in the laboratory and developing students' ability to conduct laboratory analyzes related to this science. 4-The ability to analyze and discuss the results of practical experiments by following the scientific method of reasoning. 5-Training students on how to write objective scientific reports. 6-Preparing modern illustrative methods in education.
Indicative Contents المحتويات الإرشادية	1- Developing students' ability to analyze information and reach decisions. 2- Students acquire the skill of self-learning through writing research papers. 3- Asking questions and discussing them in class to enrich the state of knowledge. 4-Enhancing the student's self-confidence and strengthening his

	academic and professional personality. 5-Working to refine the student's personality and discover his inclinations and talents through scientific and cultural activities. 6- Conduct scientific trips and field trips to medical and research institutions to expand students' awareness.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1-Theoretical lectures and scientific discussion method inside the hall. 2-Use a projector and blackboard to explain and attract students' attention. 3- Conduct daily short exams. 4- Use laboratory tools and equipment and conduct scientific experiments. 5- Obliging students to write theoretical research and practical reports related to the curriculum.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	36	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (20)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	2	10%(10)	4 and 8	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All

Total assessment	100% (100 Marks)		
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Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to physiology. (Anatomy and physiology)
Week 2	Structural and functional organization
Week 3	Characteristics of life
Week 4	Homeostasis
Week 5	Transport of materials across cell membrane
Week 6	Midterm exam 1
Week 7	Nervous control (Divisions of CNS)
Week 8	Nervous control (Action potential ,Characteristics and features of action potential Neuromuscular Junction, Reflex Arc)
Week 9	Endocrinology (Hormone definition, chemical nature of hormones)
Week 10	Endocrinology (Pituitary gland)
Week 11	Endocrinology(Pineal gland, thyroid, parathyroid and thymus gland)
Week 12	Endocrinology(Pancreas and adrenal glands)
Week 13	Midterm exam 2
Week 14	Male reproductive system
Week 15	Female reproductive system
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Collecting Samples for Laboratory Testing 1
Week 2	Collecting Samples for Laboratory Testing 2
Week 3	Blood collection
Week 4	Draw Blood practical 1
Week 5	Draw Blood practical 2

	First mid exam
Week 6	Anticoagulants
Week 7	WBCs count Leukocytes count
Week 8	RBCs count
Week 9	Packed cell volume (pcv)
Week 10	Platelets count
Week 11	Reticulocyte count
Week 12	Blood groups
Week 13	Second mid exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Medical physiology 2. Text book of medical physiology	Available
Recommended Texts	Scientific journals, reports, electronic references, Internet sites...	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A – Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Course Description Form

Module Information				
Course information				
Module Title	Crimes of the baath in Iraq		Module Delivery	
Module Type	B		☒ Theory Lecture ☐ Lab ☐ Practical ☐ Seminar	
Module Code	WU05			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	2	Semester of Delivery		2
Administration Department	Pathological analyses		College	Science
Module Leader	Ansam Majed Hassan		Email	ansam@uowasit.edu.iq
Module Leader's Acad. Title	Assistant teacher		Module Leader's Qualification	Master's degree
Module Tutor			Email	
Peer Reviewer Name			Email	
Scientific Committee Approval Date	1-9-2025		Version Number	1

Relationship with other Modules			
Relationship with other subjects			
Prerequisite module	NONE		Semester
Co-requisites module	NONE		Semester

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes, and guiding content	
Module Aims Course objectives	Educating students and raising their awareness by reviewing all the becoming crimes committed by the former regime of the party and familiar with all its topics through understanding the concept of crime and its types, and being familiar with the most prominent psychological and physical violations that the Iraqi people were t by these crimes subjected to, and being aware of all the effects lef and providing the student with knowledge and skill in defending his .rights
Module Learning Outcomes Learning outcomes for the subject	Knowledge and understanding of all Baath Party crimes, developing practical and promoting values and ethics, and learning about recent ,professional skills developments in this field by analyzing the causes of crime and understanding its .impact on victims and their families
Indicative Contents Guidance contents	erstanding and All topics related to the application, und .knowledge of all the crimes of the Baath Party

Learning and Teaching Strategies Learning and teaching strategies	
Strategies	Interactive lectures between professors and students, exchange of ideas and and monthly tests, and research reports, all questions, group discussions, daily aim to enhance students' ability to understand and comprehend the crimes of the .Baath Party

Student Workload (SWL) .The student's academic load is calculated as 15 weeks			
Structured SWL (h/sem) student load during the Regular semester	33	Structured SWL (h/w) Regular weekly student workload	2
Unstructured SWL (h/sem) Irregular student load during the semester	17	Unstructured SWL (h/w) Irregular student study load per week	1.3
Total SWL (h/sem) student's total academic load The during the semester	50		

Module Evaluation					
Course material evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Tests	2	20% (20)	5 and 10	LO #1, 2, and 10, 11
	واجبات	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	سمنر	1	10% (10)		
	تقرير	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Theoretical weekly curriculum	
	Material Covered
Week 1	The concept of crime in language and terminology
Week 2	Crime sections
Week 3	Baath Party crimes under the Supreme Criminal Court Law
Week 4	their effects Identifying psychological crimes and
Week 5	Identifying the mechanisms of psychological crimes
Week 6	Identifying social crimes
Week 7	The Baath Party's position on religion
Week 8	militarization of society
Week 9	Identifying environmental crimes
Week 10	marshes draining the
Week 11	orchard bulldozing
Week 12	War pollution
Week 13	Identifying mass graves

Learning and Teaching Resources		
Learning and teaching resources		
	Text	Available in the Library?
Required Texts	The Baath Party's crimes method Prisoners Foundation Archive Political	
Recommended Texts		
Websites		

Grading Scheme				
Grading scheme				
Group	Grade	Appreciation	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	in) Precipitate (process	(45-49)	More work required but credit awarded
	F – Fail	Failed	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Pathogenic Bacteriology	Module Delivery		
Module Type	Core	☒ Theory Lecture × Lab ☐ Practical ☐ Seminar		
Module Code	Path-212			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level		3	Semester of Delivery	1
Administering Department		التحليلات المرضية	College	كلية العلوم
Module Leader	Dr. Ali Shakir Kamil	e-mail	alisuraifi@uowasit.edu.iq	
Module Leader's Acad. Title		Professor	Module Leader's Qualification	Ph.D
Module Tutor		e-mail		
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date		1-9-2025	Version Number	2

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Path-111	Semester	1
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	The main goal of a Bacteriology course is to provide students with a comprehensive understanding of bacterial biology, including their structure, function, genetics, physiology, and interactions with the environment and hosts. Students should develop the ability to analyze the role of bacteria in health, disease, industry, and the environment, while gaining practical skills in bacteriological techniques, enabling them to diagnose infections, study bacterial processes, and apply this knowledge to fields such as medicine
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Apply critical thinking skills to solve problems in bacteriology, such as diagnosing infections or determining the cause of outbreaks. 2. Communicate scientific concepts clearly in both written and oral forms, particularly in the context of microbiological data and research findings.
Indicative Contents المحتويات الإرشادية	1. Bacterial Pathogenicity and Virulence 2. Mechanisms of bacterial pathogenicity 3. Toxins (exotoxins, endotoxins), enzymes, and adhesion factors 4. Host immune response and bacterial evasion tactics

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1. Traditional Lectures: Provide foundational knowledge on bacteriology topics, using visual aids such as slides, diagrams, and animations to explain complex bacterial processes (e.g., bacterial cell division or metabolism). 2. Case Studies: Present real-world bacterial infection scenarios, encouraging students to apply bacteriology concepts to diagnose the problem, suggest treatment, and explain pathogenic mechanisms.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125
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Module Evaluation تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	LAP	1	10% (10)	10	ALL
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction to Medical Bacteriology
Week 2	Bacterial Classification and Identification
Week 3	Bacterial Growth and Reproduction
Week 4	Bacterial Metabolism I
Week 5	EXAM
Week 6	Bacterial Metabolism II
Week 7	Bacterial Genetics
Week 8	Bacterial Pathogenicity I
Week 9	Antibiotics and Antimicrobial Resistance
Week 10	EXAM
Week 11	<i>Staphylococcus</i>
Week 12	<i>Streptococcus</i>
Week 13	<i>Nisseria</i>

Week 14	<i>E coli</i>
Week 15	<i>Bacillus</i>
Week 16	EXAM

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	Material Covered
Week 1	Gram stain and microscopy of unknown bacterial samples
Week 2	Gram stain and microscopy of unknown bacterial samples
Week 3	Hemolysis on Blood Agar
Week 4	<i>Staphylococcus</i> , <i>Streptococcus</i>
Week 5	Antibiotic Susceptibility Testing
Week 6	Neisseria Identification
Week 7	Biochemical Tests for Enterobacteriaceae
Week 8	Enterobacteriaceae / E. L.F
Week 9	Enterobacteriaceae/ E.L.N. F
Week 10	Enterobacteriaceae / Salmonella
Week 11	Pseudomonas
Week 12	EXAM
Week 13	Anaerobic Culture Techniques

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Prescott's Microbiology	
Recommended Texts	Lippincott microbiology	

Websites	
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Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Parasitic protozoa		Module Delivery
Module Type	Core		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar
Module Code	Path-215		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	3	Semester of Delivery	
Administering Department	Pathological analysis	College	كلية العلوم / جامعة واسط
Module Leader	A.Prof. Dr. Majidah A.Ali	e-mail	majidahali@uowasit.edu.iq
Module Leader's Acad. Title	دكتور استاذ مساعد	Module Leader's Qualification	دكتوراه
Module Tutor	غير متوفر	e-mail	غير متوفر
Peer Reviewer Name	غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date	11/9/2024	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Path-111	Semester	1
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Identify the types of parasites and discrimination of patients for unsatisfactory and know the symptoms and how to prevent them and methods of detection and places of deployment and the time period for detection and deployment phases of infectious control and eliminate them.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Article annual divided into two parts, the first part and the second parts protozoa and worms
Indicative Contents المحتويات الإرشادية	Article annual divided into two parts, the first part and the second parts protozoa and worms`

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Article annual divided into two parts, the first part and the second parts protozoa and worms

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction for parasitology
Week 2	Introduction for phylum : protozoa
Week 3	Order : Amoebida (Entamoeba)
Week 4	Order : Amoebida(Endolimax& Iodamoeba)
Week 5	Order :Spirotricha(Balantidium)
Week 6	Order: Diplomonadidae(Giardia)
Week 7	Order : Dinoflagellata (Naegalaria)
Week 8	Order : Trichomonadina (Trichomonas)
Week 9	Examination
Week 10	Order: Eucoccidiida(Toxoplasma)
Week 11	Order: Eucoccidiida Cryptosporidium
Week 12	Order: Kinetoplastida Trypanosoma
Week 13	Order: Kinetoplastida Leishmania
Week 14	Order :Haemosporidia Plasmodium
Week 15	Order: Piroplasmida Babesia
Week 16	Examination

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	protozoa
Week 2	Order : Amoebida (Entamoeba)
Week 3	Order : Amoebida(Endolimax& Iodamoeba)
Week 4	Order :Spirotricha
Week 5	Order: Diplomonadidae
Week 6	Examination
Week 7	Trichomonadina: Order
Week 8	Order: Eucoccidiida (intestinal)
Week 9	Order: Eucoccidiida (blood)
Week 10	Order: Piroplasmida
Week 11	Order: Kinetoplastida <i>Trypanosoma</i>
Week 12	Order: Kinetoplastida <i>Leishmania</i>
Week 14	Order :Haemosporidia
Week 15	Order: Piroplasmida Babesia
Week 16	Examination
Week 17	Examination

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Medical parasitology/ Vogal/2016	

Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Medical virology		Module Delivery
Module Type	Core		☒ Theory Lecture ☒ Lab ☐ Practical ☐ Seminar
Module Code	Path-213		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	3	Semester of Delivery	1
Administering Department	Pathological analysis	College	Science
Module Leader	Dr. Hussein Ali Mohammed	e-mail	hmohammad@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	2025-9-1	Version Number	2

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Principles of microbiology	Semester	1
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- Identifying the various types of pathogenic viruses that cause disease in humans and their classifications. 2- Understanding how to diagnose infections caused by them. 3- Recognizing disease symptoms and the mechanisms by which different viral types cause illness. 4- Understanding their replication mechanisms. 5- Exploring applications associated with this field of study.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Identifying various viral types. Understanding the different diagnostic methods for these viral types. Learning about treatment approaches. Developing the ability to devise new diagnostic methods. Enhancing technical skills for work in pathology laboratories. Acquiring skills in collecting pathological samples. Mastering the use of laboratory equipment and materials. Developing the ability to derive results from minimal data. Learning to handle dangerous viral types safely.
Indicative Contents المحتويات الإرشادية	This course provides a comprehensive overview of viral types found in nature, focusing on those relevant to humans. It covers their structure—which varies according to the specific virus—as well as methods of classification, replication, diagnosis, the underlying mechanisms involved, and strategies for their control.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures and group discussions for the purpose of facilitating the explanation of material, addition to use of diagrams and illustrations. The students should gain fundamental knowledge on various aspects of virology and immunology and should get acquainted with the infrastructure required for working with viruses and to also acquire knowledge about various safety measures.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا
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Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (20)	3, 5, 7, 10	LO #1, 2, and 10,
	Lab	1	10% (10)	10	All
	Report	1	10% (10)	13	LO #5, 8, and 10
	seminar	2	10% (10)	all	all
Summative assessment	Midterm Exam	1hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to viruses
Week 2	Replication of Viruses-1
Week 3	Replication of Viruses-2
Week 4	Classification of viruses –part 1
Week 5	Classification of viruses – part 2
Week 6	Cultivation of Viruses
Week 7	Principles of Viral Diseases
Week 8	First exam.
Week 9	Prevention & Treatment of Viral Infections
Week 10	Viral Genetics

Week 11	Subviral Pathogens: Viroids, Virusoids & Prions
Week 12	AIDS & Hepatitis B
Week 13	Second exam.
Week 14	Hepatitis C Virus
Week 15	Mid exam.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	General Introduction
Week 2	General Introduction
Week 3	Cultivation of Viruses
Week 4	Detection of Viral Growth in Embryonated Eggs
Week 5	Screen test
Week 6	Titration of viruses by haemagglutination
Week 7	Exam.1
Week 8	Laboratory Cultivation of Viruses
Week 9	Principle Steps of Preparing Primary Cell Culture in Laboratory
Week 10	Laboratory Diagnosis Of Viral Infections
Week 11	Neutralization test (NT)
Week 12	Plaque assay for influenza virus
Week 13	Exam.2
Week 14	Diagnosis of viral infection of skin and mucous membrane

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Foundations In Microbiology, Eighth	

	Edition.2012	
Recommended Texts	Kathleen Park Talaro, Barry Chess	
Websites	https://accessmedicine.mhmedical.com/book.aspx?bookID=2629	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

DRMODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	General Genetics		Module Delivery	
Module Type	Core		☒ Theory Lecture ☒ Lab ☐ Tutorial Practical Seminar	
Module Code	Path-216			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	3	Semester of Delivery		1
Administering Department	قسم التحليلات المرضية	College	كلية العلوم / جامعه واسط	
Module Leader	Dr. Jinan Tuma Sabah		e-mail	jtuma@uowasit.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	PhD	
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	2025-9-1	Version Number	1	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To provide students with fundamental information regarding the principles of heredity and enable them to apply this knowledge within the fields of teaching and the educational process. 2. The study aims to foster a precise understanding of genes specifically, and genetics in general. 3. To examine the importance of genetics and its relationship to other sciences, as well as its significance and benefits—spanning medical and social contexts—in our daily lives.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Studying and understanding how genetic traits are transmitted in living organisms. 2. Examining the role of genes—or groups of genes—in health. 3. Studying genetic factors and disorders is crucial for promoting health and combating diseases. 4. Studying molecular genetics aids in gaining a deeper understanding of diseases.
Indicative Contents المحتويات الإرشادية	1. The study aims to help female students understand Mendel's laws by solving genetics problems. 2. To explore the branches of genetics and their relationship to other sciences, while utilizing educational tools and developing skills. 3. To identify genetic diseases that affect humans.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	PDF lectures, PPT lectures, images, educational videos, seminars and discussions, demonstrations using samples, and small-group practical learning.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem)	125		

الحمل الدراسي الكلي للطالب خلال الفصل	
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Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5,10	
	Assignments	2	10% (10)	2,12	
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	
Summative assessment	Midterm Exam	2 hr	10% (10)	7	
	Final Exam	2 hr	50% (50)	16	
Total assessment			100%(100 marks)		

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Genetics
Week 2	Chromosomes Morphology and Chemical Composition
Week 3	Mendel's laws of inheritance
Week 4	Genes Interactions
Week 5	Allelic Gene Interaction
Week 6	Non-allelic genes interaction
Week 7	Pleiotropism
Week 8	Multiple alleles
Week 9	Sex-Linkage Inheritance
Week 10	Sex-Determination in Animal
Week 11	Quantitative inheritance (polygenic inheritance)
Week 12	Cytoplasmic inheritance (maternal inheritance)

Week 13	Population genetics
Week 14	Gene Linkage and Genetic Maps
Week 15	exam
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
	Material Covered
Week 1	lab.1: introduction of general genetic
Week 2	lab.2: Experiment of Observing cell division_mitosis
Week 3	lab.3: Experiment of observing meiotic division from reproductive cell
Week 4	lab.4: Probability and chi_square testing for mendel
Week 5	lab.5: Experiment of studing multiple allelism using blood group lab.6: Exam
Week 6	lab.7: Experiment of observing polytene chromosome lab.8: Experiment of sexing and genetic notation in drosophila
Week 7	lab.9: Exam lab.10: Experiment of mutation in drosophila

Learning and Teaching Resources				
مصادر التعلم والتدريس				
	Text			Available in the Library?
Required Texts	Bateson, W (1907). "The Progress of Genetic Research".			
Recommended Texts	1. علم الخلية والوراثة المؤلف سعد حسين القحطاني سنة النشر 2013 2. علم الوراثة تاليف د. مكرم ضياء شكاره			
Websites				
Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings

	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

المرحلة الثانية
الفصل الثاني
2025-2026م

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Principles of Immunology		Module Delivery	
Module Type	C		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-221			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	4	Semester of Delivery		2
Administering Department	Pathological Analysis	College	كلية العلوم / جامعة واسط	
Module Leader	Dr. Noor Habib Humaidan		e-mail	nalmaksosy@uowasit.edu.iq
Module Leader's Acad. Title	Assisstant prof	Module Leader's Qualification	Ph.D	
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025	Version Number	1	

Relation with other Modules				
العلاقة مع المواد الدراسية الأخرى				
Prerequisite module	None		Semester	
Co-requisites module	NONE		Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	To teach students the fundamentals of immunology—covering all topics, examples, and relevant applications—with a particular focus on the diagnosis of human diseases (the health aspect). The aim is to equip students with a solid scientific foundation in immunology, enabling them to play an effective role in serving the community.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Understanding concepts 2- Enhancing mental capacity for reasoning and deduction 3- Linking ideas to scientific reality and its applications 4- Developing scientific logic and its tools 5- Improving information retention and recall 6- Fostering creativity and innovation, both individually and collectively
Indicative Contents المحتويات الإرشادية	Ability to conduct scientific experiments Ability to write reports Ability to explore and innovate Confidence in expression and articulating ideas.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Delivering theoretical lectures using available presentation technologies (projectors). Conducting practical experiments in the laboratory and acquiring laboratory skills to cover the practical aspects in full detail.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	86	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lab	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Immunology as Science
Week 2	Innate Immunity
Week 3	Cells of the immune system
Week 4	Adaptive immunity
Week 5	Lymphatic organs
Week 6	The effectiveness of the immune system and the immune response
Week 7	Exam
Week 8	Antigens and Immunogen
Week 9	Antibodies
Week 10	Antigen-Antibody Reaction
Week 11	Immune response
Week 12	T cell and B cell
Week 13	Immunodeficiency

Week 14	Cytokine
Week 15	Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Immune System Structures and Components
Week 2	Lymphatic System Structures and Components
Week 3	Isolation of Serum and Plasma
Week 4	Serology tests
Week 5	Exam
Week 6	Agglutination Reactions
Week 7	Blood group
Week 8	Brucella test (Rose Bengal Test)
Week 9	Pregnancy test and ASOT
Week 10	Exam
Week 11	Complement Fixation Test
Week 12	ELISA
Week 14	Type of ELISA
Week 15	Review for the semester

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		

	Medical Microbiology and Immunology, Jawetz, 2013. • Medical Microbiology and Immunology, Warren Levinson, 2016. • Microbiology and Immunology, Subhash Chandra Parija, 2012 • Cellular and molecular immunology 2015 • Sara's Immunology 2014	
Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	English Language 2		Module Delivery	
Module Type	Basic		☒ Theory Lecture Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	WU23			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	4	Semester of Delivery		2
Administering Department	Path	College	SCi	
Module Leader	Dr. Rafel Firas Jaber		e-mail	Rafal@uowasit.edu.iq
Module Leader's Acad. Title	LECTURER	Module Leader's Qualification	Ph.D	
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	1-9-2025	Version Number	2	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module		Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	• Enhance students' English writing skills. • Reinforce understanding of advanced grammar and spelling rules. • Develop the ability to express ideas clearly and effectively. • Improve research skills and use of sources in writing. • Encourage interaction and peer feedback for improved writing skills. • Prepare students for writing in academic and professional
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Improve English writing skills. 2- Analyze and evaluate texts effectively. 3- Produce clear and organized writings. 4-Conduct independent research and critically use sources. 5-Identify different writing styles. 6-Engage in peer review and provide feedback. 7-Apply principles of clarity and coherence in writing.
Indicative Contents المحتويات الإرشادية	1-Advanced Grammar and Sentence Structure 2-Academic Writing Skills 3-Literary Analysis 4-Creative Writing 5-Presentation Skills 6-Examples 7-Question forms 8-Vocabulary 9-Writing 10- Homework Class activities

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	
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Student Workload (SWL)			
الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوع			
Structured SWL (h/sem) الحمل الدراي س المنتظم للطلاب خلال الفصل	33	Structured SWL (h/w) الحمل الدراي س المنتظم للطلاب أسبوعي	2
Unstructured SWL (h/sem) الحمل الدراي س غري المنتظم للطلاب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراي س غري المنتظم للطلاب أسبوعي	1
Total SWL (h/sem) الحمل الدراي س الكلي للطلاب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 and 10	LO#1,#2 and 10,#11
	Assignments	2	10%(10)	2 and 12	LO#3,#4 and #6,#7
	Projects / Lab.	1	10%(10)	continuous	All
	Report	1	10%(10)	13	LO#5,8and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO#1-#7
	Final Exam	3hr	50%(50)	16	All
Total assessment					

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Tenses A. Present simple B. Getting to know you
Week 2	Past Simple
Week 3	Present Continuous
Week 4	Past Continuous
Week 5	Present Perfect
Week 6	First Exam
Week 7	Past Perfect
Week 8	The Future Tense
Week 9	Writing Skills Types of Writing
Week 10	Reported Statement 1-Examples 2-Question forms 3-Vocabulary 4-Writing 5- Homework
Week 11	Reading Skills
Week 12	Listening Skills
Week 13	A. Every day English B. Let's go shopping 1-Examples 2-Question forms 3-Vocabulary 4-Writing 5- Homework

Week 14	Speaking Skills
Week 15	Greetings 1-Examples 2-Question forms 3-Vocabulary 4-Writing 5- Homework
Week 16	Second Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Headway Plus (Intermediate workbook) .John and Liz Soars/ Oxford Headway Plus (Pre-intermediate workbook) Students Book .John and Liz Soars/ Oxford	
Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جي د	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer 2		Module Delivery
Module Type	B		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	WU22		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	4	Semester of Delivery	
Administering Department	Path	College	SCI
Module Leader	Zainab ali Abdul Hussein	e-mail	zabdulhussein@uowasit.edu.iq
Module Leader's Acad. Title	Assistant lecturer	Module Leader's Qualification	Master
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1-9-2025	Version Number	01

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	- Provide a basic Knowledge of AI and this module builds on the introductory module in AI , AI Principles , Goals ,and purposes ,rule-based system, knowledge representation and problem solving will be treated with examples and tutorials . finally explaining the principles of expert systems .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The course is the primary introduction to AI .the course aims to present the basic representation and reasoning paradigms used in AI in both theory and practice with careful attention to the underlying principles of logic , search , and probability . it is also designed to show students practical examples of the use of AI in applications and to encourage further reading .
Indicative Contents المحتويات الإرشادية	Introduction to AI (what is AI?). AI Principle ,Goals, Purposes . Rule –based system, branches, applications, characteristics AI. Knowledge representation. Problem solving(formulating problems ,example problems). Search strategies . Production systems. Expert systems.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The student should use utilities in Lab to skill of AI
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	11	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 and 10	LO#1,#2 and 10,#11
	Assignments	2	10%(10)	2 and 12	LO#3,#4 and #6,#7
	Projects / Lab.	1	10%(10)	continuous	All
	Report	1	10%(10)	13	LO#5,8and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO#1-#7
	Final Exam	3hr	50%(50)	16	All
Total assessment					

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Definition of AI
Week 2	History of AI
Week 3	Artificial intelligence is becoming an industry
Week 4	Artificial neural networks
Week 5	The Logic of Ambiguous
Week 6	Ambiguous conclusion
Week 7	Expert systems
Week 8	Robot
Week 9	Practical application of robots
Week 10	Philosophical Issues in AI
Week 11	The future of AI
Week 12	Types of AI
Week 13	AI in our daily lives
Week 14	Applications of AI

Week 15	Advantage of AI
Week 16	Disadvantage of AI

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to the concept of Microsoft office 2010
Week 2	Basic tasks of Microsoft office excel2010
Week 3	Insert objects in Microsoft office excel2010
Week 4	Creating mathematical formulas in Microsoft office excel2010
Week 5	Additional tasks in Microsoft office excel2010
Week 6	The most important keyboard shortcuts in Microsoft office excel2010
Week 7	Solutions to the questions at the end of each chapter and some notes added

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"مدخل الى عالم الذكاء الاصطناعي" 2005, الدكتور عادل عبدالنور	Yes
Recommended Texts	Ahmed Banafa, "Introduction to Artificial Intelligence(AI)", 1st Edition (2024)	No
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Parasitic Helminths		Module Delivery
Module Type	C		☒ Theory Lecture ☒ Lab ☐ Practical ☐ Seminar
Module Code	Path-223		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	4	Semester of Delivery	
Administering Department	Pathological analysis	College	كلية العلوم / جامعة واسط
Module Leader	A.Prof. Dr. Majidah A.Ali	e-mail	majidahali@uowasit.edu.iq
Module Leader's Acad. Title	دكتور استاذ مساعد	Module Leader's Qualification	دكتوراه
Module Tutor	غير متوفر	e-mail	غير متوفر
Peer Reviewer Name	غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Path-215	Semester	1
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	Identify the types of parasites and discrimination of patients for unsatisfactory and know the symptoms and how to prevent them and methods of detection and places of deployment and the time period for detection and deployment phases of infectious control and eliminate them.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Enabling the student to acquire skills in investigating the origin of common parasitic causes. 2. Enabling the student to acquire the knowledge necessary to design vaccines against common parasitic infections.
Indicative Contents المحتويات الإرشادية	Enabling the student to acquire the knowledge necessary to design vaccines against common parasitic infections.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1. The student's ability to define the basics of parasitology and its interaction with other sciences. 2. Identifying the ways parasitic causes spread and methods of diagnosing them.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	86	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction for Helminthes
Week 2	Phylum : Nemathelminthes
Week 3	Order: Ascaridata Ascaris
Week 4	Order :Trichelata (Trichinella)
Week 5	Order :Trichelata (Trichuris)
Week 6	Order: Oxyurata Enterobius
Week 7	Order: Strongylata Ancylostoma / Examination
Week 8	Order: Strongylata Necator
Week 9	Order: Rhabditata Strongyloides
Week 10	Phylum : Platyhelminthes
Week 11	Order: Echinostomata Fasciola
Week 12	Order: Strigeata Schistosoma
Week 13	Order:Opisthorchiata Clonorchis
Week 14	Order: Cyclophyllidea Taenia

Week 15	Order: Cyclophyllidea Echinococcus / Examination
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Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Phylum : Nematelminthes
Week 2	Order: Opisthorchiata
Week 3	Order: Ascaridata
Week 4	Order :Trichelata (<i>Trichinella</i>)
Week 5	Order :Trichelata (<i>Trichuris</i>)
Week 6	Order: Oxyurata
Week 7	Order: Strongylata / Examination
Week 8	Order: Rhabditata
Week 9	Phylum : Platyhelminthes
Week 10	Order: Echinostomata
Week 11	Order: Strigeata
Week 12	Order: Cyclophyllidea
Week 14	Order: Echinostomata
Week 15	Order: Cyclophyllidea Taenia / Examination

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Medical parasitology/ Vogal /2013 2. Human parasitology 4 th edition / Burton J. Bogitsh, Clint E. Carter and Thomas N. Oeltmann	

Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Medical Phyiology		Module Delivery
Module Type	C		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar
Module Code	Path-222		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	4	Semester of Delivery	
Administering Department	Pathological Analysis	College	Collage of Science/wasit university
Module Leader	Assist prof doctor Mutashar jaddoa		e-mail
Module Leader's Acad. Title	Assist prof	Module Leader's Qualification	PhD
Module Tutor	Nonviable	e-mail	mjiheel@uowasit.edu.iq
Peer Reviewer Name	Nonviable	e-mail	Nonviable
Scientific Committee Approval Date	1-9-2025	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Path-214	Semester	1
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	A- Cognitive objectives: 1- Enhancing the student's ability to understand this science and its importance among other sciences. 2- Providing the student with information that enables him to understand the various functional mechanisms of the body's systems. 3- Introducing the student to the latest cognitive developments in the field of human physiology. 4- Explaining the most important functions related to the heart, blood, lymphatic organs, breathing, digestion, nutrition, metabolism, waste elimination, and reproduction. B- The following skills objectives are specific to the course: 1-The ability to use laboratory tools and equipment. 2- Teaching students the process of drawing a blood sample, and the correct handling of an optical microscope. 3- Conducting physiological experiments in the laboratory and developing students' ability to conduct laboratory analyzes related to this science. 4. The ability to analyze and discuss the results of practical experiments by following the scientific method of reasoning. 5-Training students on how to write objective scientific reports. 6-Preparing modern illustrative methods in education.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Teaching and learning methods 1-Theoretical lectures and scientific discussion method inside the hall. 2-Use a projector and blackboard to explain and attract students' attention. 3- Conduct daily short exams. 4- Use laboratory tools and equipment and conduct scientific experiments. 5- Obliging students to write theoretical research and practical reports related to the curriculum. Evaluation methods 1- Monthly exams. 2-Short tests for previous lectures. 3- Extracurricular scientific activities.
Indicative Contents المحتويات الإرشادية	1.Developing students' ability to analyze information and reach decisions. 2- Giving students the skill of self-learning through writing research papers. 3- Asking questions and discussing them in class to enrich the state of knowledge. 4- Enhancing the student's self-confidence and enhancing his academic and professional personality. 5-Working to refine the student's personality and discover his inclinations and talents through scientific and cultural activities. 6- Conducting scientific trips and field trips to medical and research institutions to expand students' awareness.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1- Theoretical lectures and method of scientific discussion inside the hall. 2-Use the projector and blackboard to explain and attract students' attention. 3- Conduct daily short tests. 4- Use laboratory tools and equipment and conduct scientific experiments. 5- Obliging students to write theoretical research and practical reports related to the curriculum.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	86	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All

Total assessment	100% (100 Marks)		
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Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Female reproductive system Ovulation
Week 2	Female reproductive system Estrus cycle
Week 3	male reproductive system spermatogenesis
Week 4	Cardiovascular system Heart and blood vessels anatomy
Week 5	Cardiovascular system Cardiac cycle, electrocardiogram, Cardiac electrical conduction device
Week 6	Cardiovascular system Blood pressure Blood coagulation
Week 7	Cardiovascular system Blood cells and plasma
Week 8	Cardiovascular system Blood groups
Week 9	Lymphatic system
Week 10	Respiratory system
Week 11	Semester exam
Week 12	Digestive system: Digestion process
Week 13	Factors affecting digestion
Week 14	Digestive system: Absorption process
Week 15	Urinary system

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Anatomy of Female reproductive system
Week 2	Investigation of ovaries
Week 3	Anatomy of Male reproductive system
Week 4	Semen examination
Week 5	General urine examination
Week 6	Macroscopic urine examination
Week 7	Review
Week 8	First exam
Week 9	Microscopic urine examination part 1
Week 10	Microscopic urine examination part 2
Week 11	Chemical urine examination
Week 12	General stool examination
Week 13	Microscopic stool examination
Week 14	Second exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1-Seeley R.R.,Tate P.,Stephens T.D. Anatomy &Physiology.McGraw-Hill Science Inc. 2-Hall J.E.Guyton and Hall, Textbook of Medical Physiology. Saunders Inc.	متوفر

Recommended Texts		
Websites	استعراض المجالات البحثية المتخصصة و المواقع الالكترونية المتعلقة بعلوم الحياة وفلسفة الانسان.	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Biochemistry		Module Delivery	
Module Type	C		☒ Theory Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	Path-224			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	4	Semester of Delivery		2
Administering Department	Path	College	Sci	
Module Leader	Naser nafia Ibrahim		e-mail	nalaurashy@uowasit.edu.iq
Module Leader's Acad. Title	Assistant professor		Module Leader's Qualification	Ph.D
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1-9-2025	Version Number	2	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	

Co-requisites module		Semester	
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Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	✦ The primary objective from this course is to provide a thorough background in the biochemical principles that are particularly important to biological arranging. ✦ The aim of biochemistry is to describe & explain, in molecular terms, all chemical processes of living cells. ✦ Biochemists have aimed to isolate the numerous molecules found in cells, determine their structures, and analyze how they function. ✦ Students are qualified to complete their postgraduate studies inside and outside the country. ✦ Students acquire a reasonable level of chemical knowledge that is consistent with what is known among the various universities of the world, especially the solid ones. ✦ They have an understanding of the basic topics in chemistry and its applications in the field of laboratories with appropriate knowledge of the various axes of chemistry.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	✦ Training students on how to identify biochemical compounds by focusing on medically relevant topics. ✦ Providing them with sufficient information to enable them to understand the biological reactions taking place in the human body at the molecular level. ✦ Conducting practical applications of metabolic processes in the human body. ✦ Explaining diseases and clinical cases resulting from metabolic disorders in the human body. ✦ Explaining the biochemical methods used in diagnosing some diseases.
Indicative Contents المحتويات الإرشادية	✦ Biochemistry can be defined as the science interested with the chemical basis of life. ✦ Biochemistry described as the science interested with the chemical constituents of living cells and with the reactions and processes they undergo. ✦ Biochemistry includes large areas of cell biology, molecular biology, molecular genetic, as well as explanation the normal and pathological cases of organisms.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The chief strategy that will be dependence in delivering this unit is presentation and conversation meetings with the participation of students in the explanation and chemical analysis of cell structures, though at the same time refining and growing their skills. This will be reached through classes, interactive discussion group and by participation in laboratory experiments.
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوع

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	11, LO #1, 2, and 10
	Assignments	2	10% (10)	2 and 12	7, LO , 3, 4 and 6
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Molecules and life - models of living cells - properties and functions of cell parts, water and solutions.
Week 2	Carbohydrates , Monosaccharides
Week 3	Carbohydrates , Disaccharides
Week 4	Carbohydrates ,Oligosaccharides
Week 5	Carbohydrates , Polysaccharides
Week 6	Classification of lipid , Properties of lipids , Classification of lipids - Fatty Acids - Characteristics of Fatty Acids
Week 7	Phospholipids, Phospholipids Types
Week 8	1st mid examination
Week 9	Nucleotides and nucleic acids, functions of nucleotides, nitrogenous bases, (RNA & DNA).
Week 10	Amino acids, types of amino acids- definition of proteins , functions of proteins classification of proteins, structural structure of proteins
Week 11	Enzymes, Characteristics of enzymes, Classification of enzymes - Cofactors, type of Cofactors
Week 12	vitamins , General characteristics of vitamins, function of vitamins, classification of vitamins
Week 13	Bioenergetics , ATP (Adenosine triphosphate)
Week 14	Biological Oxidation, Mitochondria and respiratory chain
Week 15	2ed mid examination
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered

Week 1	Introduction of carbohydrate
Week 2	carbohydrate Analysis
Week 3	Reaction with mineral acid
Week 4	Reaction with oxidative material
Week 5	Bial's test , Molisch's test
Week 6	Benedict's test
Week 7	Tollens test
Week 8	Barfoed's test
Week 9	1 st mid examination
Week 10	Disaccharide tests
Week 11	Electrochemical methods
Week 12	Starch detection
Week 13	Biuret test
Week 14	Glycogen detection
Week 15	2 nd mid examination
Week 16	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Fundamentals of Biochemistry 1 st edition, 2008	
Recommended Texts	الكيمياء الحياتية 1- الكيمياء الحياتية 2	√
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Course Description Form

Module Information				
Subject information				
Module Title	Arabic Language 2		Module Delivery	
Module Type	B		☒ Theory Lecture Lab ☐ Practical ☐ Seminar	
Module Code	WU21			
ECTS Credits	2			
SWL (hr / sem)	50			
Module Level	4	Semester of Delivery		
Administration Department	Path	College	Sci	
Module Leader	Ansam Majed Hassan		e-mail	ansaam @uowasit.edu.iq
Module Leader's Acad. Title	Professor lec.	Module Leader's Qualification	Master's	
Module Tutor	unavailable		e-mail	
Peer Reviewer Name	unavailable	e-mail	unavailable	
Scientific Committee Approval Date	1-9-2025	Version Number	1	

Relation with other Modules			
Relationship with other subjects			
Prerequisite module	None .		Semester
Co-requisites module	NONE		Semester

Module Aims, Learning Outcomes and Indicative Contents Course objectives, learning outcomes and guiding content	
Module Aims Subject objectives	Communicating with students in their mother tongue, introducing them avoiding common linguistic errors, raising ,to correct writing and reading the professional and research level of students, and developing .grammatical and literary abilities in university students
Module Learning Outcomes Learning outcomes for the subject	wledge of the origins of speech and Enabling students to gain kno sentences, what they are composed of and their types, enabling students to gain knowledge of ancient and modern poetry, and providing students letters correctly, and providing with the ability to speak and pronounce with the skill of writing sentences correctly and with the fewest them .possible number of errors
Indicative Contents Guidance Contents	Developing the student's ability to receive and enable him to evaluate of all types of and develop the student's knowledge and perceptions knowledge

Learning and Teaching Strategies Learning and teaching strategies	
Strategies	Interactive lectures between students and the teacher, exchanging ideas, questions and group discussions on all topics of the Arabic personal evaluation of each student through his ,language understanding and comprehension of this subject, identifying the strengths and weaknesses of each student, encouraging students to learn independently, including modern teaching methods in the ating an atmosphere of competition between students curriculum, cre and eliminating all individual differences by using modern educational .methods

Student Workload (SWL) .The student's academic load is calculated for 15 weeks			
Structured SWL (h/ sem) Regular student load during the semester	33	Structured SWL (h/w) Regular weekly student load	2
Unstructured SWL (h/ sem) Irregular student load during the semester	17	Unstructured SWL (h/w) Irregular student load per week	1

Total SWL (h/ sem) The student's total academic load during the semester	50
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Module Evaluation					
Course material evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10 ,11
	Assignments	2	10% (10)	2 and 12	LO, 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO #1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
Theoretical weekly curriculum	
	Material Covered
Week 1	Parts of speech and what they consist of: noun, verb and particle
Week 2	Jawahiri's poem with his life and analysis-Al
Week 3	`Qat-Hamzat al Wasl and-Hamzat al
Week 4	Muwashahat and its types
Week 5	Tanween
Week 6	Solar and lunar letters
Week 7	Affirmation

Week 8	Mutanabbi his life with his poem with analysis-Al
Week 9	Subject and predicate
Week 10	Exception in language
Week 11	The call
Week 12	Kan and her sisters
Week 13	(Spelling (the difference between the letters Dād and Dā
Week 14	(Spelling (rules for writing the closed and open taa
Week 15	Writing numbers

Learning and Teaching Resources		
Learning and teaching resources		
	Text	Available in the Library?
Required Texts	specialists, -The Arabic language book for non the book of Ibn Aqil's explanation , and .websites	
Recommended Texts		
Websites		

Grading Scheme				
Grading chart				
Group	Grade	Appreciation	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	privilege	90 - 100	Outstanding Performance
	B - Very Good	very good	80 - 89	Above average with some errors
	C - Good	good	70 - 79	Sound works with notable errors
	D - Satisfactory	middle	60 - 69	Fair but with major shortcomings
	E - Sufficient	acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	under) Precipitate (processing	(45-49)	More work required but credit awarded
	F – Fail	Failed	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone “near-pass fails” so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

المرحلة الثالثة
الفصل الاول
2025-2026م

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	clinical immunology		Module Delivery	
Module Type	C		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-312			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	5	Semester of Delivery		1
Administering Department	PATH	College	SCI	
Module Leader	ا.م.د. نور حبيب حميدان		e-mail	
Module Leader's Acad. Title	استاذ مساعد دكتور		Module Leader's Qualification	دكتوراه
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	2025-9-1	Version Number	1	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	Provide students with fundamental knowledge of the immune system and its components. - Explain the cellular and molecular basis of innate and adaptive immune responses. - Enable students to understand immune-related disorders including autoimmunity and allergy. - Enhance critical thinking skills in interpreting immunological tests and clinical applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students will be able to: 1. Identify the main components of the immune system and their functions. 2. Differentiate between innate and adaptive immunity and explain their mechanisms. 3. Interpret immunological changes in infections and autoimmune diseases. 4. Apply theoretical knowledge to understand basic immunological diagnostic techniques. 5. Develop analytical and critical thinking skills in evaluating immunological data.
Indicative Contents المحتويات الإرشادية	Introduction to Immunology: definition and importance. - Innate immunity: physical barriers, innate immune cells, cytokines. - Adaptive immunity: T and B lymphocytes, antibodies, activation mechanisms. - Major Histocompatibility Complex (MHC) and transplantation. - Immunity against bacteria, viruses, and parasites. - Immune disorders: autoimmunity, allergy, and immunodeficiency. - Diagnostic immunological techniques (ELISA, Flow cytometry, Immunofluorescence).

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Lectures supported with visual presentations. - Group discussions and seminars. - Laboratory practical sessions for immunological techniques. - Student presentations. - Quizzes and case studies to link theory with clinical application.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lab	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Immunology as Science
Week 2	Innate Immunity
Week 3	Cells of the immune system
Week 4	Adaptive immunity
Week 5	Lymphatic organs

Week 6	The effectiveness of the immune system and the immune response
Week 7	Exam
Week 8	Antigens and Immunogen
Week 9	Antibodies
Week 10	Antigen-Antibody Reaction
Week 11	Immune response
Week 12	T cell and B cell
Week 13	Immunodeficiency
Week 14	Cytokine
Week 15	Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Immune System Structures and Components
Week 2	Lymphatic System Structures and Components
Week 3	Isolation of Serum and Plasma
Week 4	Serology tests
Week 5	Exam
Week 6	Agglutination Reactions
Week 7	Blood group
Week 8	Brucella test (Rose Bengal Test)
Week 9	Pregnancy test and ASOT
Week 10	Exam
Week 11	Complement Fixation Test

Week 12	ELISA
Week 14	Type of ELISA
Week 15	Review for the semester

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Medical Microbiology and Immunology, Jawetz, 2013. • Medical Microbiology and Immunology, Warren Levinson, 2016. • Microbiology and Immunology, Subhash Chandra Parija, 2012 • Cellular and molecular immunology 2015 • Sara's Immunology 2014	
Recommended Texts	Abbas A.K., Lichtman A.H., Pillai S. Cellular and Molecular Immunology, 10th Edition. Elsevier, 2022. 2022، السيفير 10 عباس وآخرون، علم المناعة الخلوي والجزيئي، الطبعة	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	infectious diseases		Module Delivery
Module Type	CORE		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar
Module Code	Path-311		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	5	Semester of Delivery	1
Administering Department	PATH	College	SCI
Module Leader	DR. Ahmed Darwesh Jabar		e-mail: adarweesh@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D
Module Tutor	غير متوفر		e-mail: غير متوفر
Peer Reviewer Name	غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Prepare the laboratory samples individually. Providing the student with the ability to draw blood samples and perform various blood analyses. • • Conduct all laboratory experiments while adhering to modern technologies. •
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Implementing plans, instructions and controls issued by the higher authorities.
Indicative Contents المحتويات الإرشادية	Giving the student the ability to evaluate an individual's health through his ability to read various tests.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures and group discussions for the purpose of facilitating the explanation of material, addition to use of diagrams and illustrations.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	The important infectious diseases and the methods of transmitting of infectious diseases.
Week 2	The important methods to prevent, control of infectious diseases and defenses against infection
Week 3	-Anthrax disease and <i>Mycobacterium spp</i> .
Week 4	Morphology, shape of Botulism disease.
Week 5	Bacterial staining methods and study culture techniques of its.
Week 6	Monthly Exam.
Week 7	<i>Haemophilus influenzae</i> , Pasturellosis and the methods of transmission.
Week 8	Vibriosis and Campylobacterosis.
Week 9	Giardiasis , <i>Cryptosporidium spp</i> . and Scabies infection
Week 10	Malaria disease.
Week 11	Classification of viruses and study Corona virus general characteristics of virus and life cycle of its.
Week 12	Monthly Exam.
Week 13	Hepatitis virus.
Week 14	HIV ,MUMPS ,Herpes simplex virus .
Week 15	Small pox , Ebolavirus . Final Exame

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
	Material Covered
Week 1	Microbiology safety rules.
Week 2	Procedure and equipment's for specimen collection.
Week 3	Analytical profile index, and principle of its.
Week 4	Bacterial culture techniques, and study the morphological of shape of bacteria
Week 5	<i>Staphylococcus spp.</i> , <i>E. coli</i> and Salmonellosis .
Week 6	Bacterial staining methods and study the incubation conditions and duration through the culturing techniques of its.
Week 7	study the method which use to Culture and Cultivation of its Bacteria.
Week 8	The important methods to diagnosis of this parasites
Week 9	The methods techniques to prepare blood slide and staining from infected patient
Week 10	The methods techniques to diagnosis of corona virus.
Week 11	The methods techniques to diagnosis of virus
Week 12	The methods techniques to diagnosis of viruses
Week 14	The methods techniques to diagnosis of viruses
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts		
Recommended Texts		

Websites	
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Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Pathological analyses		Module Delivery	
Module Type	CORE		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-314			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	5	Semester of Delivery		
Administering Department	PATH	College	SCI	
Module Leader	Nasser Nafiaa Ibrahim		e-mail	nalqurashy@uowasit.edu.iq
Module Leader's Acad. Title	Asst. Professor		Module Leader's Qualification	Ph.D.
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025		Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- Equipping students with expertise in pathological analysis. 2- Supplying state health institutions with specialized personnel. 3- Preparing highly skilled personnel proficient in pathological analysis and the operation of high-tech equipment. 4- Providing students with the technical skills to operate the instruments and equipment used in their theoretical and practical studies. 5- Researching and studying the latest developments in pathological analysis and keeping pace with scientific advancements in the field.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A- Cognitive Objectives To provide the student with sufficient information to gain experience in dealing with the life sciences and laboratory techniques. To provide experience in understanding all laboratory equipment and modern technologies. To provide sufficient information to keep pace with and study modern sciences. To develop the student's ability to recall what has been learned. 1- Level One: Developing knowledge regarding microorganisms inhabiting soil and water. 2- Level Two: Improving comprehension; developing the ability to interpret, predict, and draw conclusions. 3- Level Three: Developing application capabilities. 4- Level Four: Equipping the student with analytical skills (Analysis). 5- Level Five: Developing the student's ability to integrate ideas and information (Synthesis)—the inverse of analysis.
Indicative Contents المحتويات الإرشادية	Lectures, use of the whiteboard, and presentations aided by data projectors • Demonstrations using diagrams, images, and educational films • Interactive discussion • Self-learning • E-learning and scientific seminars

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures and group discussions for the purpose of facilitating the explanation of material, addition to use of diagrams and illustrations.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125
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Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Definition of hematology as science, Function of blood and the composition of blood
Week 2	Hematopoiesis period and Haemopoietic growth factors
Week 3	myeloid and lymphoid stem cells, classification and function
Week 4	Steps of erythropoiesis process, Erythrocyte production, and metabolism
Week 5	Steps of hemostasis, Formation of a Platelet Plug
Week 6	Types of Hemoglobin, Abnormalities of Hemoglobin Production, and Haemoglobin Degradation
Week 7	Synthesis of Heme-molecule and Synthesis of Globin- molecule
Week 8	Iron Absorption and Metabolism, Dietary Iron: Heme Iron and non- Heme Iron
Week 9	Regulation of Total Iron in The Body, The sites of iron storage in the body
Week 10	Platelets formation and function
Week 11	Membrane lipid in Outer Monolayer and inner Monolayer
Week 12	Types of Erythrocyte Membrane Proteins and Membrane integrity
Week 13	Regulation of RBC production and Degradation
Week 14	Disorders of leukocyte function, Leukaemoid reaction, and General characteristic of monocytes

Week 15	Exam
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Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to pathological analysis
Week 2	Haemopoiesis
Week 3	progenitor cells
Week 4	Erythropoiesis
Week 5	Hemostasis
Week 6	Hemoglobin Production and Degradation
Week 7	Synthesis of Haemoglobin
Week 8	Iron Metabolism
Week 9	Iron transport and storage
Week 10	Platelets
Week 11	Erythrocyte Membrane – lipid composition
Week 12	Erythrocyte Membrane Proteins Composition
Week 14	The life cycle of a red blood cell
Week 15	white blood cells (leucocytes)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	• Essentials of Clinical Pathology Book First Edition: 2010 ISBN 978-93-80704-19-7 • Manual of laboratory and Diagnostic Tests. Edition (8) copyright2009 Vol. (1) (2).by Lippincott Williams& wilkins. • Robbins Pathology Books Textbook of Diagnostic Microbiology ISBN: 978-1-4160-6165-6-Fourth Edition.	

Recommended Texts	• Healthcare scientist • Laboratory automation • Automated analyzer	
Websites	International Laboratory Accreditation Cooperation. ILAC http://ilac.org/signatory-detail Health Management Technology magazine Journal of Laboratory Automation	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	microbial diagnosis	Module Delivery	
Module Type	CORE	☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-315		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	5		
Administering Department	PATH	College	SCI
Module Leader	DR. Hussein Ali Mohammed	e-mail	hmohmmad@uowasit.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	غير متوفر	e-mail	غير متوفر
Peer Reviewer Name	غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date	2025-9-1	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Develop a working knowledge of techniques and procedures commonly used in the clinical microbiology laboratory. 2. Use appropriate safety protocol and laboratory techniques for processing specimens.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Theoretical lectures and group discussions for the purpose of facilitating the explanation of material, addition to use of diagrams and illustrations.
Indicative Contents المحتويات الإرشادية	The students should gain fundamental knowledge on various aspects of virology and immunology and should get acquainted with the infrastructure required for working with viruses and to also acquire knowledge about various safety measures.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Teaching and learning strategies and methods adopted in implementing the program in general. Style of thinking and discussion Practical tests used in laboratories Teaching through exploratory lecture Lecture, use of the blackboard, and delivery. - Illustrative presentations (using diagrams, pictures, and educational films) - Interactive discussion - Self-education)

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction and History
Week 2	Biosafety Levels and its related Microorganisms
Week 3	Biosafety Levels and its related Microorganisms
Week 4	Diagnostic applications
Week 5	Diagnostic applications
Week 6	Blood infections Diag
Week 7	Blood infections Diag
Week 8	Respiratory tract infections Diag
Week 9	Urinary tract infection
Week 10	Urinary tract infection
Week 11	Genital tract infections
Week 12	Genital tract infections
Week 13	Digestive tract infections
Week 14	Digestive tract infections
Week 15	C.N.S infections, Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction
Week 2	Risk and managements
Week 3	Different Methods
Week 4	Diagnosis and Prevention
Week 5	Blood infections Diag
Week 6	Blood infections Diag
Week 7	Respiratory tract infections Diag
Week 8	Urinary tract infection
Week 9	Urinary tract infection
Week 10	Genital tract infections
Week 11	Genital tract infections
Week 12	Digestive tract infections
Week 14	Digestive tract infections
Week 15	C.N.S infections, Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Medical Microbiology ,Jawetz and Melnic 2018. • Microbiology and Immunology ,Levenson ,2016 • Diagnostic Microbiology, 2017	

Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	medical molecular biology		Module Delivery	
Module Type	Core		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-313			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	5	Semester of Delivery		
Administering Department	Path	College	Sci	
Module Leader	Dr. Mahdi Saber Al-deresawi		e-mail	malderesawi@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Prof		Module Leader's Qualification	PhD
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025		Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Ability to use different teaching methods
	The ability to diagnose genetic diseases
	the capability to identify and analyze genetic abnormalities in a laboratory setting, as well as being able to distinguish between different types of abnormalities.
	Identifying genetic mutations and their relationship to some genetic diseases
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Detection the mutation and mutagenesis
	Early detection of cancer and other diseases
	The ability to read relevant scientific research and literature.
	Identify modern molecular techniques and their importance in diagnosis and treatment
Indicative Contents المحتويات الإرشادية	In order to analyze sample, the patient must provide written consent by signing

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures presented using modern methods of presentation, such as video lectures or electronic lectures for training purposes.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation				
تقييم المادة الدراسية				
	Time/Nu	Weight (Marks)	Week Due	Relevant Learning

		Number			Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Molecular Biology: Introduction and History Background
Week 2	Nucleic Acids : DNA
Week 3	Nucleic acids: RNA
Week 4	RNA Transcription
Week 5	RNA modification and splicing
Week 6	DNA Replication
Week 7	Mutagens and Mutations
Week 8	Repair Systems
Week 9	Gene Regulation
Week 10	Transposable Elements
Week 11	Genetic Vectors
Week 12	Bacterial genetics: conjugation
Week 13	Bacterial genetics: Transformation
Week 14	Bacterial genetics: Transduction
Week 15	Genetic engineering

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction
Week 2	DNA
Week 3	RNA
Week 4	Transcription
Week 5	RNA splicing
Week 6	Replication
Week 7	Mutation
Week 8	Repair systems
Week 9	Gene Regulation
Week 10	Transposon
Week 11	Plasmids
Week 12	conjugation
Week 14	Transformation
Week 15	Transduction

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	-Molecular Biology /3rd Edition- 2018 -David Clark, Nanette Pazdernik, Michelle McGehee 1. -ABC OF CLINICAL GENETICS /Third edition/Helen M Kingston <i>Consultant Clinical Geneticist, Regional Genetic Service, St Mary's Hospital, Manchester, UK</i> -Molecular Genetics of Bacteria/4th Edition Jeremy W. Dale and Simon F. Park/University of Surrey, UK	
Recommended Texts	Molecular Genetics of Bacteria/4th Edition Jeremy W. Dale and Simon F. Park/University of Surrey, UK	

Websites	https://www.objectivequiz.com/dna-replication-questions-answers
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Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Module Description Form

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Medical Mycology		Module Delivery		
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar		
Module Code	Path-316				
ECTS Credits	5.00				
SWL (hr/sem)	125				
Module Level		UGIII	Semester of Delivery		First
Administering Department		Pathological Analysis	College	Science	
Module Leader	Asawer Abdul Jabbar Ibraheem		e-mail	asawirabi@uowasit.edu.iq	
Module Leader's Acad. Title		Lecture	Module Leader's Qualification		PhD.
Module Tutor	Name (if available)		e-mail	E-mail	
Peer Reviewer Name		Name	e-mail	E-mail	
Scientific Committee Approval Date			Version Number		

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None		Semester
Co-requisites module	None		Semester

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1-Introducing students to medicinal fungi, their characteristics, diagnostic methods, and their importance to humans and animals, as well as the diseases they cause. 2. Introducing students to the classification of medicinal fungi and the technical developments taking place in this field, such as chemical and molecular methods. 3. Introducing students to pathogenic fungi and how to treat and prevent them, as well as toxin-producing fungi and those used in industry and biological control.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Graduates should be able to know and understand each of the following: 1. The theoretical principles and foundations related to the scientific subject of cognitive sciences. 2. The foundations of scientific research, methods of measurement, analysis, and finding solutions to scientific problems. 3. The importance of theoretical scientific aspects related to the applications of various sciences. 4. Scientific and linguistic terms and their definitions for various scientific subjects. 5. Methods related to the analysis and design of scientific experiments for various scientific subjects.
Indicative Contents المحتويات الإرشادية	1- Comprehension 2- Creativity and scientific thinking 3- Analyzing accurate scientific data and conclusions from tests presented to the student as a result of study, correctly understanding the scientific material, and applying it practically, such as laboratory experiments. 4- Identifying obstacles and problems in applications and finding appropriate solutions.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Lecture method 2- PowerPoint system 3- Homework and study groups system Learning methods: 1- Weekly quick exams 2- Discussion, questions, and answers 3- Encouraging teamwork by dividing students into groups 4- Encouraging academic reports to enhance students' knowledge and mastery of the subject 5- Organizing field trips 6- Organizing classroom and extracurricular activities

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction to medical mycology
Week 2	Taxonomy of fungi
Week 3	Fungal Diseases (Mycoses)
Week 4	Candidiasis
Week 5	Systemic or Deep mycosis
Week 6	Therapy of Fungal Infections
Week 7	First exam
Week 8	Opportunistic mycoses: Aspergillosis
Week 9	Mucormycosis

Week 10	Penicillosis
Week 11	Cryptococcosis
Week 12	Antifungal antibiotics
Week 13	Molecular Identification
Week 14	Clinical diagnosis of medical fungi
Week 15	Second exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Introduction to medical mycology
Week 2	Microbiologic examination tests
Week 3	Specimen collection and transport
Week 4	Culture media
Week 5	Mycosis
Week 6	Cutaneous mycoses
Week 7	First exam
Week 8	Laboratory diagnosis
Week 9	Subcutaneous Mycoses
Week 10	Clinical manifestations
Week 11	Aspergillosis
Week 12	Penicillosis
Week 13	Cryptococcosis
Week 14	Molecular Identification
Week 15	Second exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Chander, J. (2017). Textbook of medical mycology. JP Medical Ltd. 2-Oxford Textbook of Medical Mycology. 2018. Christopher C. Kibbler, Richard Barton et al.	
Recommended Texts	1-Medical mycology. 2005. by Merz and Hay. 2- Fundamental Medical Mycology. 2011. Shadomy, H.J. and Lyon, G.M. 3- Medical Mycology, 2013. Azhar A. F. Al-Attraqchi. 4-Wickes, B. L., & Wiederhold, N. P. (2018). Molecular diagnostics in medical mycology. Nature communications, 9(1), 1-13.	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

المرحلة الثالثة
الفصل الثاني
2025-2026م

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Enzymology		Module Delivery	
Module Type	CORE		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-323			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level		3	Semester of Delivery	
Administering Department		Pathological analysis	College	Science
Module Leader	Dr. Mahdi Saber Al-deresawi		e-mail	malderesawi@uowasit.edu.iq
Module Leader's Acad. Title		Asst.Prof	Module Leader's Qualification	
Module Tutor		غير متوفر	e-mail	غير متوفر
Peer Reviewer Name		غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date		2025-9-1	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Non	Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1 - The student's understanding of the basic principles of Enzymology. 2- Introducing the student to the basic techniques used in the clinical enzymology laboratory and teaching them the skills necessary to conduct laboratory experiments while understanding the scientific basis for testing. 3-The ability to apply these principles of enzmology in hospital and community settings.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-This course aimed to best understanding to the chemical stracture, Properties, Kinetics of enzymes 2- understanding of the nature of the enzyme and these role in diagnosis

Indicative Contents المحتويات الإرشادية	1. The ability to read and interpret test results. 2. Convert and summarize test data into symbols and labels that facilitate the physician's understanding and assist in making therapeutic decisions. 4. Understand the connection between results, symptoms, and causes.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical and practical lectures using modern presentation methods, along with appropriate laboratory experiments.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	111	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	115		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to enzymology
Week 2	structure and properties of enzymes
Week 3	Enzyme Nomenclature and EC Classification
Week 4	Enzyme–Substrate Interactions
Week 5	The Active Site of Enzymes
Week 6	Mechanisms of Enzyme Catalysis
Week 7	Enzyme Kinetics
Week 8	Factors Affecting Enzyme Activity
Week 9	Competitive, Non-competitive and Uncompetitive Inhibition
Week 10	Allosteric Enzymes and Regulation
Week 11	Coenzymes, Cofactors and Vitamins
Week 12	Enzyme Regulation and Metabolic Control
Week 13	Enzymes in Clinical Diagnosis
Week 14	Enzyme Assays and Measurement of Enzyme Activity
Week 15	Enzymes in Disease and Drug Therapy

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Chemical nature examination
Week 2	Chemical Properties for enzymes.
Week 3	Denaturation of enzyme
Week 4	Rate of reaction determination
Week 5	Exam
Week 6	Effect of PH Temperatures
Week 7	Michaelis-Menten equation
Week 8	Affinity of enzyme.
Week 9	Lineweaver- Burk plot applications
Week 10	Exam

Week 11	Antibiotic effect on some enzymes
Week 12	Allosteric effectors
Week 14	Electrophoresis of enzymes
Week 15	fructose urea determination

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	A Practical Introduction to Structure, Mechanism, and Data Analysis by Robert A. Copeland:	NO
Recommended Texts	Lppincots illustarated reviewes:(Biochemistry, Richared Harvey &Denise Ferrier, Wolters Kluwer, Fifth edition ,2011)	No
Websites	https://share.google/siCHdTEbCK8fLAr6Q	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A – Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	hematology	Module Delivery	
Module Type	CORE	☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-325		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	6	Semester of Delivery	2
Administering Department	PATH	College	SCI
Module Leader	Dr . Aqdas mohammed	e-mail	aaltaiy@uowasit.edu.iq
Module Leader's Acad. Title	Assist prof	Module Leader's Qualification	phD
Module Tutor	غير متوفر	e-mail	غير متوفر
Peer Reviewer Name	غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025	Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Giving the student the ability to understand the functions and physiology of his body's various systems . • Providing the student with the ability to draw blood samples and perform various blood analyses. • Providing the student with the ability to dissect laboratory animals . • Giving the student the ability to evaluate an individual's health through his ability to read various tests.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Giving the student the ability to evaluate an individual's health through his ability to read various tests.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures and group discussions for the purpose of facilitating the explanation of material, addition to use of diagrams and illustrations.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Definition of hematology as science, Function of blood and the composition of blood
Week 2	Hematopoiesis period and Haemopoietic growth factors
Week 3	myeloid and lymphoid stem cells, classification and function
Week 4	Steps of erythropoiesis process, Erythrocyte production, and metabolism
Week 5	Steps of hemostasis, Formation of a Platelet Plug
Week 6	Types of Hemoglobin, Abnormalities of Hemoglobin Production, and Haemoglobin Degradation
Week 7	Synthesis of Heme-molecule and Synthesis of Globin- molecule
Week 8	Iron Absorption and Metabolism, Dietary Iron: Heme Iron and non- Heme Iron
Week 9	Regulation of Total Iron in The Body, The sites of iron storage in the body
Week 10	Platelets formation and function
Week 11	Membrane lipid in Outer Monolayer and inner Monolayer
Week 12	Types of Erythrocyte Membrane Proteins and Membrane integrity
Week 13	Regulation of RBC production and Degradation
Week 14	Disorders of leukocyte function, Leukaemoid reaction, and General characteristic of monocytes
Week 15	Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to hematology
Week 2	Haemopoiesis
Week 3	progenitor cells
Week 4	Erythropoiesis
Week 5	Hemostasis
Week 6	Hemoglobin Production and Degradation
Week 7	Synthesis of Haemoglobin
Week 8	Iron Metabolism
Week 9	Iron transport and storage
Week 10	Platelets
Week 11	Erythrocyte Membrane – lipid composition
Week 12	Erythrocyte Membrane Proteins Composition
Week 14	The life cycle of a red blood cell
Week 15	white blood cells (leucocytes)

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		
Recommended Texts		

Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Antibiotics		Module Delivery	
Module Type	CORE		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-324			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	6	Semester of Delivery		
Administering Department	PATH	College	SCI	
Module Leader	Dr.Nada Hameed Ajam		e-mail	nada@uowsit.edu.iq
Module Leader's Acad. Title	LECTURER	Module Leader's Qualification	phD	
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025	Version Number	1	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The primary objectives of an educational or training module on antibiotics typically focus on safe prescribing, understanding mechanisms of action, addressing antibiotic resistance, and applying principles of antibiotic stewardship to improve patient care.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	A standard educational module on antibiotics aims to equip learners with the fundamental knowledge of pharmacology, bacterial classification, mechanisms of action, and the clinical stewardship required to safely treat infections and combat resistance.
Indicative Contents المحتويات الإرشادية	Distinguishing between bacterial and viral infections, as viruses are not treated with antibiotics. Selecting the Appropriate Medication: Relying on laboratory culture results and accurately identifying the type of bacteria before initiating treatment.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures presented using modern methods of presentation, such as video lectures or electronic lectures for training purposes

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Concept of Antibiotics
Week 2	Characteristics of Antibiotics
Week 3	Mechanisms of Antibiotics Action
Week 4	Mechanisms of Resistance to Antibiotics
Week 5	Antibiotic Pharmacokinetics
Week 6	Monthly Exam.
Week 7	Antibiotic Pharmacodynamics
Week 8	Classification of Antibiotics
Week 9	Beta-Lactam Antibiotics
Week 10	Other Beta-Lactam Antibiotics
Week 11	Beta-lactamases
Week 12	Monthly Exam.
Week 13	Macrolide Antibiotics Quinolone Antibiotics
Week 14	Tetracycline Antibiotics

	Aminoglycosides Antibiotics
Week 15	final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Antibiotics, Chemotherapeutic agents, a Semisynthetic antibiotic, Synthetic antibiotics
Week 2	Selective toxicity of antibiotics The differ Antibiotics from each other
Week 3	Inhibition of cell wall synthesis Inhibition of cytoplasmic membrane function Inhibition of protein synthesis: Competitive inhibition
Week 4	Bactericidal antibiotics Bacteriostatic antibiotic
Week 5	Absorption Distribution metabolism/excretion
Week 6	EXAM
Week 7	Susceptibility Testing Consequences of Antibiotic Use
Week 8	Antibiotics, Chemotherapeutic agents, a Semisynthetic antibiotic, Synthetic antibiotics
Week 9	- Cephalosporins - Ceftriaxone and Cefotaxime
Week 10	Carbapenems Imipenem, Meropenem, Ertapenem
Week 11	Beta-lactamase inhibitors clavulanic acid Tazobactam Sulbactam

Week 12	EXAM
Week 14	Types divided according to pharmacokinetic and source Side effects
Week 15	Divided according to pharmacokinetic and source -Glycylcycline antibiotics -Side effects of tetracycline

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1-Clinical Drug Data, 11th Edition by Ke Smith, Daniel M. Riche, et al. Apr 15, 2010 2-Drug Information Handbook 2012-2013 A Comprehensive Resource for All Clinicians and Healthcare Professionals. Lexi-Comp Inc. 2052 pages, Paperback First published April 1, 2012 5-Basic and Clinical Pharmacology, 15e Bertram G. Katzung; Anthony J. Trevor ISBN: 9781260452310 Publication Date: 2021 AccessMedicine	
Recommended Texts	3-Basic and Clinical Pharmacology Bertram G. Katzung; Susan B. Master Anthony J. Trevor Call Number: PRI BOOK--ASK AT LIBRARY ISBN: 9780071764018 Publication Date: 2012-01-03 4-Lippincott Illustrated Reviews Pharmacology. ed.7 by Karen Whalen ISBN: 9781496384133 Publication Date: 2019 LWW Health Library	

Websites	5-Basic and Clinical Pharmacology, 15e by Bertram G. Katzung Anthony J. Trevor ISBN: 9781260452310 Publication Date: 2021 AccessMedicine
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Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	medical genetics		Module Delivery	
Module Type	CORE		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar	
Module Code	Path-322			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	6	Semester of Delivery		
Administering Department	PATH	College	SCI	
Module Leader	Dr. Jenan Tumma Sabah		e-mail	jtuma@uowasit.edu.iq
Module Leader's Acad. Title	Assist prof		Module Leader's Qualification	phD
Module Tutor	غير متوفر		e-mail	غير متوفر
Peer Reviewer Name	غير متوفر		e-mail	غير متوفر
Scientific Committee Approval Date	1-9-2025		Version Number	1

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1.To understand the basic concepts of biotechnology and methods used in the development of drugs and food 2. To understand how biotechnology tools are used to modify an organism. 3. To become aware of the numerous benefits of biotechnology and its utilization in basic and applied sciences. 4. To develop an understanding of the regulatory and social issues surrounding biotechnology.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Theoretical lectures presented using modern methods of presentation, such as video lectures or electronic lectures for training purposes.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Fermenters and Bioreactors
Week 3	Type of fermenters
Week 4	Design of fermenter
Week 5	Proteins as Products
Week 6	Extraction and purification of Penicillin
Week 7	Bioseparation
Week 8	Polymerase chain reaction
Week 9	Bioremediation
Week 10	Plant biotechnology
Week 11	Biosensor
Week 12	Nanobiotechnology
Week 13	Gene therapy
Week 14	Forensic Biotechnology
Week 15	Applications of Biotechnology

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction: Historical and modern biotechnology
Week 2	The role of Design and composition
Week 3	Type of fermenters
Week 4	Design of fermenter
Week 5	Production and purification of protein
Week 6	Methods of penicillin production
Week 7	Type of Bioseparation : chromatography
Week 8	Principles, requirements and programming
Week 9	Mechanism of bioremediation and organism
Week 10	The important of plant biotechnology
Week 11	Type and application of biosensor
Week 12	Definition ,importance and application
Week 14	Definition ,importance and application
Week 15	Tools of Biotechnology that used in Forensic Biotechnology

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Glick, B.R. and Pasternak, J.J. 1998. Molecular Biotechnology: Principles and Applications of Recombinant DNA (second edition)	
Recommended Texts	Textbook of Biotechnology , Kara and Ghosh Dalai British biotechnology journal	
Websites	www.journals.elsevier.com/journal-of-biotechnology/	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Serology and vaccines		Module Delivery
Module Type	C		☒ Theory Lecture × Lab ☐ Practical ☐ Seminar
Module Code	Path-321		
ECTS Credits	5.00		
SWL (hr/sem)	125		
Module Level	3	Semester of Delivery	
Administering Department	Pathological analysis	College	College of Science, Wasit University
Module Leader	Leena Moussa Kadhium	e-mail	lalkhafajy@uowasit.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	Mohammed Razzaq Ehab Majeed	e-mail	غير متوفر
Peer Reviewer Name	غير متوفر	e-mail	غير متوفر
Scientific Committee Approval Date		Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	NONE	Semester	
Co-requisites module	NONE	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- Study of serum, its components and its role in immunity 2- Identify vaccines, their components, types, and how they work. 3- Identify the most important methods used in immunological tests
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1 . Explain the principles of innate and adaptive immunity related to sera and vaccines. 2. Differentiate between various types of sera and vaccines based on their composition and mechanism of action. 3. Describe the preparation, storage, administration, and safety of vaccines and antisera. 4. Explain the indications, contraindications, and adverse effects of commonly used vaccines.
Indicative Contents المحتويات الإرشادية	* Introduction to Immunology * Serum: Definition, Composition, and Functions * Types and Uses of Therapeutic Sera * Vaccines: Definition and Classification * Types of Vaccines (Live attenuated, Inactivated, Toxoid, Subunit, Recombinant, mRNA, Viral Vector) * Mechanism of Immune Response to Vaccines * Vaccine Storage and Cold Chain * National Immunization Programs * Vaccine Safety, Contraindications, and Adverse Reactions * Basic Immunological Laboratory Techniques (Agglutination, ELISA, Rapid Tests) * Applications of Sera and Vaccines in Disease Prevention and Control

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	* Interactive lectures * Laboratory practical sessions * Group discussions * Student presentations

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, 2, and 10, 11
	Assignments	2	10% (10)	2 and 12	LO , 3, 4 and 6 ,7
	Lap	1	10% (10)	6	all
	Report	1	10% (10)	13	LO #5, 8, and 10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO # 1-7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction in serology and vaccination

Week 2	SEROLOGIC DIAGNOSTIC METHODS
Week 3	Herd Immunity
Week 4	TYPES OF IMMUNITY
Week 5	Types of Vaccines
Week 6	First exam
Week 7	Vaccine composition and production
Week 8	Bacilli calmette-guerin (BCG) vaccine and Polio vaccines
Week 9	DPT vaccine and MMR vaccine
Week 10	Hepatitis B vaccine, Rotavirus vaccine and Haemophilus influenza type b vaccine
Week 11	Rabies vaccine and Chickenpox (Varicella zoster) vaccine
Week 12	Second exam
Week 13	Typhoid vaccine, Cholera vaccine and Influenza vaccine
Week 14	DNA Vaccination
Week 15	Alternative approaches for vaccine production

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to the Immunology Laboratory and Laboratory Safety
Week 2	Blood Collection and Serum Separation

Week 3	Antigen–Antibody Reactions (Precipitation and Agglutination)
Week 4	Slide Agglutination Test
Week 5	Tube Agglutination Test
Week 6	Latex Agglutination Test
Week 7	First exam
Week 8	C-Reactive Protein (CRP) Test
Week 9	ELISA Technique: Principle
Week 10	ELISA Technique: Practical Application
Week 11	Rapid Immunochromatographic Tests
Week 12	Vaccine Handling, Storage, and Cold Chain
Week 14	Second exam
Week 15	Practical Review

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Immunology and Serology (Fifth edition) Mary L.Turgeon Clinical Immunology & Serology (Fifth edition)Linda E.Miller	no
Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group	A - Excellent	امتياز	90 - 100	Outstanding Performance

(50 - 100)	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Module Description Form

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Preparation and Tissue Culture		Module Delivery	
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	Path-326			
ECTS Credits	5.00			
SWL (hr/sem)	125			
Module Level		UGIII		
Administering Department		Pathological Analysis	College	Science
Module Leader	Asawer Abdul Jabbar Ibraheem		e-mail	asawirabi@uowasit.edu.iq
Module Leader's Acad. Title		Lecture	Module Leader's Qualification	
			PhD.	
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name		Name	e-mail	E-mail
Scientific Committee Approval Date			Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None		Semester
Co-requisites module	None		Semester

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- Introducing the student to the methods of collecting various biological and tissue samples and how to preserve and stabilize them. 2- Understand the steps of routine and special tissue preparation and prepare them for microscopic examination. 3- Distinguishing the normal histological structure of the body's organs and systems (functional histology). 4- Acquiring practical skills in dealing with laboratory equipment (such as the embedding device, microtome cutting device)
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The graduate must be able to know and understand all of the following: 1-: Understanding the basics of obtaining samples, handling them, and distinguishing the normal state of tissues from pathological ones. 2- The ability to prepare high-quality tissue sections suitable for microscopic examination. 3- Qualification to work in anatomy and histology laboratories or to work in a specialized laboratory. • Education: theoretical lectures + interactive presentations/educational films + practical applications in the laboratory. • Evaluation: oral and written tests + practical exams (COZs) + activity reports.
Indicative Contents المحتويات الإرشادية	1- Comprehension 2- Creativity and scientific thinking 3- Analyzing accurate scientific data and conclusions from tests presented to the student as a result of study, correctly understanding the scientific material, and applying it practically, such as laboratory experiments. 4- Identifying obstacles and problems in applications and finding appropriate solutions.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Lecture method 2- PowerPoint system 3- Homework and study groups system Learning methods: 1- Weekly quick exams 2- Discussion, questions, and answers 3- Encouraging teamwork by dividing students into groups 4- Encouraging academic reports to enhance students' knowledge and mastery of the subject 5- Organizing field trips 6- Organizing classroom and extracurricular activities
Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا	

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Samples collection
Week 2	Tissue fixation, types of fixators, and the purpose of fixation
Week 3	Sample washing, dehydration, and its types
Week 4	Clearing, and its types
Week 5	Impregnation and types of wax
Week 6	Embedding and trimming
Week 7	First exam
Week 8	Microtomes and types of cutting devices
Week 9	Animal tissue culture and its purpose
Week 10	How to culture animal tissues, culture media and their contents
Week 11	Contaminants affecting agricultural dishes and their danger

Week 12	Advantages and disadvantages of tissue culture and its uses
Week 13	Cancer cells and uncontrolled growth in tissue cultures
Week 14	How to freeze tissue cultures and use them later
Week 15	Second exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	Material Covered
Week 1	Collection of tissue samples
Week 2	Tissue fixation
Week 3	Sample washing, and dehydration
Week 4	Clearing of samples
Week 5	Impregnation and types of wax
Week 6	Embedding and trimming
Week 7	First exam
Week 8	Cutting tissue slices with a microtome
Week 9	How to culture animal tissues, culture media and their contents
Week 10	Growing dishes in the laboratory
Week 11	Steps to avoid contamination that infects cultured cells
Week 12	Advantages and disadvantages of tissue culture and its uses
Week 13	Cancer cells and uncontrolled growth in tissue cultures
Week 14	How to freeze tissue cultures and use them later
Week 15	Second exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Microtechnique\Gray 1977 2- Atext and atlas / Ross and Pawlina /2006	
Recommended Texts	Solid scientific journals and Faculty lectures	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
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Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
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