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

Academic Program and Course Description Guide 2026-2025

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: **Samarra**
Faculty/ Institute: **Education**
Scientific Department: **Life Sciences**
Academic or Professional Program Name: **Bachelor of education in Life Sciences**
Final Certificate Name: **Bachelor of education in Life Sciences**
Academic System: **annual**
Description preparation Date: **/ / 2026**
File Completion Date: **/ / 2026**

Signature:
Head of Department Name:
Lecturer Dr.: Aqeel Majid Ahmed
Date: 9 / 7 / **2026**

Signature:
Scientific Associate Name:
Lecturer Dr.: Mohamed Mahmood Abdullah
Date: 12 / 7 / **2026**

The File is checked by:
Department of Quality Assurance and University performance
Director of the Quality Assurance and University performance:
Mohammed daham hameedi
Date: 9 / 7 / **2026**
Signature:

أ.د
عمر ثائر

2/ **Approval of the Dean**
Professor doctor: Sabah Allawi Khalaf
Date: 12 / 7 / **2026**

1. Program Vision

Distinguished educational programs that conform to quality standards and meet the requirements of the labor market

2. Program Mission

Providing scientifically and professionally qualified human competencies to meet the needs of development plans in the country and qualifying scientifically and professionally specialized cadres in the fields of life sciences

3. Program Objectives

1- Preparing teaching staff to supply educational and educational institutions

2- Providing scientifically qualified expertise and competencies to meet the needs of development plans

3- Developing students' skills in logical analysis and conclusion

4- Developing and encouraging scientific research and employing it in the service of society

4. Program Accreditation

Does the program have program accreditation? And from which agency?

5. Other external influences

The presidency of the university

Deanship of the Faculty of Education

Head of the Department of Life Sciences

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	6/ Human rights	1 2		Essential

	Arabic language English language Computwrs Method research Research project	2 4 2 2		
College Requirements	The Educational psychology Basics ofEducation Counseling and psychological health Growth psychology Viewing and Application	4 4 4 4 4		
Department Requirements	Biology Plant Anatomy Cytology General Chemistry Safety laboratories Invertbratos Histology Embryology Plant Classification Biochemistry Statistics	6 6 6 4 1 6 6 6 6 4 4		
	Environment and pollution Insects Chordates Algae Fungi Genetics	6 6 6 6 6 6		
	Parasites The animal physiology The plant physiology Immunity The Optional subjest	6 6 6 6 4 4		

Summer Training				
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	**Practical**
2025-2026(The first stage)		Biology	2	2
		Plant anatomy	2	2
		Cytology	2	2
		General chemistry	2	2
		The Educational psychology	2	
		Computers	2	2
		Basics of Education	2	
		English Language	2	
		Arabic Language	2	
		Geology	2	
		Human Rights	2	
		Safety laboratories	2	
2025-2026(The Second stage)		Invertbratos	2	2
		Histology	2	2
		Embryology	2	2
		Plant Classification	2	2
		Computers	2	2
		Biochemistry	2	2
		English Language	1	
		Growth psychology	2	
		Statistics	2	
2025-2026(The third leval)		Environment and pollution	2	2
		Insects	2	2
		Chordates	2	2
		Algae	2	2
		Fungi	2	2
		Genetics	2	2
		Method of Research	2	
		English Language	1	
		Method of Teaching	2	
		Counseling and	2	

		psychological Health		
2025-2026(The fourth leval)		Parasites The animal physiology The plant physiology Immunity The Optional subject Measurement and Evaluation English Language Viewing and Application Research project	2 2 2 2 2 1 2 2	2 2 2 2 2

8. Expected learning outcomes of the program

Knowledge	
Knowledge of certain facts Knowledge of specific concepts, foundations and councils Knowledge of specific procedures	Have a comprehensive, complete and systematic knowledge of the basic principles and theories related to the field of study, knowledge and theories and the latest developments in the disciplines to include his field of study
Skills	
• Conducting surveys and evaluating information, concepts and evidence • Apply results to a wide range of issues and problems with a small amount of	Application of conceptual perception of concepts, principles and theories Applying systematic methods of critical thinking and creative solution to problems

guidance	
• Propose innovative solutions taking into account theoretical knowledge and practical experiences and apply them in academic contexts • • Skills to deal with others and take responsibility	Study subjects and problems in a field of study using a variety of sources and draw valid conclusions. . Acting ethically and adhering to high ethical values on a personal and social scale and taking responsibility
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Using strategies adapted to specialized academic standards and labour market requirements, teaching staff apply diverse and effective teaching and learning methods suited to learning outcomes and achieving learning outcomes through the use of diverse means that are used to continuously improve the learning process and include a range of classroom and classroom skills such as

1. Curriculum lectures
2. In-class reports and discussions
3. Giving tasks that encourage teamwork
4. Seminars, scientific and awareness-raising courses

10. Evaluation methods

1. Daily examinations
2. Quarterly examinations
3. Reports

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof.Dr.Hisham Naji Hameed	Biology	Insects			*	

Prof.Dr. Omar Raheem Khalh	Biology	Genetic			*	
Prof. Dr. Fouad Ahmad Abdullah Najem	Biology	Insects			*	
Prof.Dr. Rana Ibraheem Khalil	Engineering and Agricultural Sciences	Ecological Technologies			*	
Prof.Assistant.Dr.Mustafa Ali Abdulrahman	Biology	physiology			*	
Prof.Assistant.Dr Ghassan Faris Attiyah	Biology	Plant physiology			*	
Prof.Assistant.Dr Wijdan Ibrahim abbas	Biology	physiology			*	
Prof.Assistant.Dr Harith Ahmed Mustafa	Biology	Microbiology			*	
Prof.Assistant.Dr Asmaa Hassan Guma	Biology	physiology			*	
Prof.Assistant. Athraa Hamed Jassem	Biology	Insects			*	
Prof.Assistant.Dr Afrah Toma Khalf	Biology	Microbiology Environment			*	
Prof.Assistant.Dr Shaima Hasan Ali	Biology	Mycology			*	
Prof.Assistant. Yawooz Hameed Mahmood	Biology	Environment			*	
Prof.Assistant. Baraa Muhammad	Biology	Plant Environment			*	
Prof.Assistant.Rash Abdul Azem	Biology	Mycology			*	
Prof.Assistant.Dr Makarim Mustafa Kamal	Biology	Tissue and Embryos			*	
Prof.Assistant.Dr Rasha Hamed Ayoub	Biology	Animal tissues			*	
Prof.Assistant. Sondos Hussin Alwan	Biology	Plant taxonomy			*	
Prof.Assistant.Dr Marwa Shaker Mahmoud	Biology	parasitic			*	
Prof.Assistant.Dr Ahmed Abdul Hakeem	Biology	Microbiology			*	
Prof.Assistant.Dr. Khalida Khalil Abdullah	Biology	physiology			*	
Prof.Assistant.Dr.Hisham Fadel Shaker	Agronomy	Livestock			*	
Prof.Assistant.Dr.Raghad Hazem Hamad	Biology	Animal tissues			*	
Lecturer Dr. Barada Anwar Jassim	Biology	physiology			*	
Lecturer Dr. Roaa jaffer Jassim	Biology	Microbiology			*	
Lecturer Dr. Nisreen Yassin Taha	Biology	Microbiology			*	
Lecturer Dr. Asraa Abdal Majeed	Biology	Plant			*	

Abdl Karrim		Anatomy				
Lecturer Dr. Omar Naji Ali	Biology	Plant physiology			*	
Lecturer Dr. Rand shaker Mahmoud	Biology	Insects			*	
Lecturer Dr.Haqqi Ismail Jassim	Biology	Microbiology			*	
Lecturer Dr.Mairib Ahmed Shawkat	Biology	Insects			*	
Lecturer Dr. Nibras Abdul Aziz Hamoud	Biology	parasitic			*	
Lecturer Dr. Warqaa Fayez Tawfeeq	Biology	Plant physiology			*	
Lecturer Dr. Heba Muhammad Taha	Biology	Plant			*	
Lecturer Dr.Abdulla Najim Abdulla	Biology	Ecology			*	
Assistant . Lecturer Rafah Mahmoud Abdullah	Biology	plant			*	
Assistant . Lecturer Kholod Walid Saleh	Biology	Mycology			*	
Assistant . Lecturer Mardin Ali Abass	Biology	Ecology			*	
Assistant . Lecturer Maysaa Tarik Hanoon	Biology	parasitic			*	
Assistant . Lecturer Ayat Muwafaq majeed	Biology	Microbiology			*	
Assistant . Lecturer Maysam Ibrahim Mahdi	Biology	physiology			*	
Assistant . Lecturer Athraa Hamid Jassim	Chemistry	Organic chemistry			*	
Assistant . Lecturer Harith Sameer Dawood	Agronomy	Plant physiology			*	
Assistant . Lecturer Warqa Latif	Biology				*	
Assistant . Lecturer Wasan Karim Ahmed	Chemistry	Biochemistry			*	
Assistant . Lecturer Bassam Abdul Hakeem Waheeb	Biology	Tissue			*	
Assistant . Lecturer Maad Assad Abd	Biology	Immunology			*	
Assistant . Lecturer Halah Amer Abdul jabar	Biology	Plant Anatomy			*	
Assistant . Lecturer Wasan Abdel Hamid	Biology	parasitic			*	
Assistant . Lecturer Jwaish Ekrayyem Mhmood	Biology	physiology			*	
Assistant . Lecturer Ghufran Abbas Muhammad	Biology	Ecology			*	
Assistant . Lecturer Hussein Sahir Hasan	Agronomy	Plant physiology			*	
Assistant . Lecturer Asmaa Ismael Hussein	Biology	physiology			*	
Assistant . Lecturer. Mustafa Ali Saeid	Biology	Ecology			*	
Assistant . Lecturer. Ahmad Abdul-	Biology	Micobiolog			*	

Bary Abdul-Wahid		y				
Assistant . Lecturer. Shaimaa Raad Hamid	Chemistry	Biochemistr y			*	
Assistant . Lecturer.Wadiyan Mohi Ali	Biology	Barasites			*	
Assistant . Lecturer.Abeer Waleed Ameen	Biology	Microbiolog y			*	
Assistant . Lecturer.Ahmad Yunis Hamaadi	Biology	Plant			*	
Assistant . Lecturer.Duea Abdulla Ali	Biology	plant			*	
Assistant . Lecturer. mohammad Majeed Hasan	Biology	Barasites			*	
Assistant . Lecturer. Layla Rifaat Khalil	Biology	Ecology			*	
Assistant . Lecturer Yusuf Eawaad Khalaf	Biology	Microbiolog y			*	

Professional Development

Mentoring new faculty members

1. Mam is a new faculty member with the vision of both the university, the college and the department with its objectives and development plans
2. Familiarize them with the university's scientific research programmes and contribute to them to acquire sufficient skill in preparing future research plans
3. Familiarize them with available electronic and non-electronic sources of information and acquire search skills

Familiarize them with the University's development services to its affiliates
Developing their learning and learning skills and managing the learning process

Professional development of faculty members

The professional development of faculty members is achieved through the following scientific activities

1 . Workshops
2 . Symposiums
3 . Scientific research
4 . Lectures
5 . Summer sessions
6 . Community activities
7 .Conferences

12. Acceptance Criterion

The Department of Life Sciences is subject to the working mechanism of the

Ministry of Higher Education and Scientific Research - Central Admission Department where graduates of preparatory study (scientific branch) are nominated for admission to the department based on graduation rates

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

Free Education
Internet Sources
Research
Letters and dissertations

14. Program Development Plan

There are a series of steps taken annually to develop the program plan, which includes
Development of faculty members through seminars and training workshops at the university, college and department levels as well as inside and outside the country
Continuous updating of the way in which scientific sources are obtained to keep pace with ongoing scientific progress
Providing and encouraging all molecules that contribute to teachers' achievement of the highest scientific ranks through promotions
4. To give importance to extracurricular activities and their continuous existence such as personal creations and scientific conferences

Program Skills Outline														
				Required program Learning outcomes										
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics		
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2025-2026 The first stage		Biology Cytology Plant anatomy	Basic	*				*				*			
		General chemistry	Basic	*				*				*			
		Laboratory safe	Basic	*				*				*			
		The Educational psychology	Basic	*				*				*			
		Geology	Basic		*				*			*			
		Human Rights	Basic	*				*				*			
		Arabic Language	Basic	*					*			*			

Program Skills Outline

Year/Level	Course Code	Course Name	Basic or optional	Required program Learning outcomes											
		Language													
				Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2025-2026 The second stage		Invertbratos Histology Embryology	Basic	*				*				*			
		Biochemistry	Basic	*				*				*			
		Plant classification	Basic	*				*				*			

Program Skills Outline

Year/Level	Course Code	Course Name	Basic or optional	Required program Learning outcomes											
				Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
		Growth	Basic	*				*				*			
2025-2026 The third year		Statistics	Basic												
		English Language	Basic	*				*				*			
		Lung pollution													
		Insects													
		chordates													

		Genetics	Basic	*				*				*			
		Methods of Research	Basic	*				*				*			
		English Language	Basic	*					*				*		

Program Skills Outline

				Required program Learning outcomes											
Year/Level	**Course Code**	**Course Name**	**Basic or optional**	**Knowledge**				**Skills**				**Ethics**			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**
2025-2026 The Fourth Year		Parasites	Basic	*				*				*			
		Microbiology	Basic	*				*				*			
		Animal physiology	Basic	*				*				*			
		Plant	Basic	*				*				*			

		physiology													
		Measurement and Evalation	Basic	*				*				*			
		Research Projech	Basic		*				*			*			
		Hematologist	optional												
		English Language	Basic	*					*			*			
		Viewing and Application	Basic	*					*				*		

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

Course Description Form

1. Course Name:

2. Course Code:

3. Semester / Year:

4. Description Preparation Date:

5. Available Attendance Forms:

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

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

Name:
Email:

8. Course Objectives

Course Objectives	• ..... • ..... • .....

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

The study system is annual
Chapter I: Theoretical 17
Practical 7
Reports 1

Chapter II: Theoretical 17 Practical 7 Daily exam 1 Final: Theoretical 35 Practical 15 Final score: 100

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Free Department Education
Main references (sources)	External sources of scientific books
Recommended books and references (scientific journals, reports...)	Scientific journals, research, previous letters a dissertations
Electronic References, Websites	Google scholar, Iraqi Academic Journal

The decisions of the first stage

2026 – 2025

Course Description Form

13.Course Name: General biology
14.Course Code:

15.Semester / Year: 2025-2026

16.Description Preparation Date: 2026

17.Available Attendance Forms:

18.Number of Credit Hours (Total) / Number of Units (Total):60

Number of units:6

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

Name: Prof.Dr Fouad Ahmed Abdullah
Ass. Lecturer Maysam Ibrahim Mahdi
Assistant Lecturer Ahmed Abdulbari Abdulwahid
Email: Ahmed.abdulbari@uosamarra.edu.iq
Email: fouad.ahmed@uosamarra.edu.iq
maysam@uosamarra.edu.iq
doaa.abdulla@uosamarra.edu.iq abeer.waleed@uosamarra.edu.iq

20.Course Objectives

Course Objectives	**1- Providing students with effective cognitive and professional skills in the fields of biology** **2- Preparing students for different professional paths such as scientific research** **3- Stimulating social responsibility among students within an ethical and professional framework** **4- We learned about heredity and inheritance and how they are transmitted between generations** **5- Identify beneficial and harmful microorganisms and methods of treating them**

21.Teaching and Learning Strategies

Strategy	- Daily exams 2- Reports 3- Semester exams 4- Attendance 5- Extracurricular activities

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2	4	**Introducing the student to biol and its history and stages development** **Providing the student with knowledge of the**	**Introduction to biology** **The importance**	**Screen and whiteboard**	**Daily and monthly exams**

		Biology branches	**biology**		
3		**Learn about the characteristics of living organisms**	**The purity of life**		
4		**the Importance of of molecu and the method of building complexes**	**Main construct method For the material**		
5		**Introducing the student to importance of of carbohydrates Proteins, fats and acids Nuclear**	**Main materials of cell building**		
6		**Learn about the classification of living organisms, the importance of classification, a how to group them**	**Taxonomy**		
7		**Learn about classification syste and its stages Classification of vertebrate invertebrate organisms**	**Fields of classificat science**		
8		**Identify the methods of plant reproduction their importance and advantag**	**Reproduction and growth in plants**		
9		**Learn about the importance hormones and glands In animals and plants**	**Hormonal coordinatio**		
10		**Identify the environment system components Ecology and the relationship between living organisms**	**Ecology**		
Practical					
1	4	**Identify the parts of a microscope And its importance**	**Microscope**	**Display Screen White board**	**Asking questions at the end of lecture**
2		**Learn about the concept of the cell and its shapes**	**cell**	**Display Screen Slides**	**Daily exam**
		Learn about cell	**Cell stracture**	**Experiment process**	**Daily exam**

3		structure and the difference between plant and animal cells			
4		Identify the structure of the nucleus and its importan	Nucleus	Display Screen Slides	=
5		Identify the types of cell division	Cellular division	Slides	=
6		Identify the types of epithelial tissues and their presence	Epithelial tissue	Slides Display Screen	=
7		Identify the components of connective tissue Its types and presence	Connective tissue	Slids Display Screen	=
8		Identify the components of blood and its function	the blood	an experience	Reports
9		Steps for staining with Leishman stain and making a blood smear	Blood smear	an experience	a report oral exam
10		Method of drawing blood, separation methods, the difference between tubes	Blood Drawing	an experience	a report
11		Identify the different blood groups	blood types	an experience	oral exam
12		Identify the types of muscles	Muscles	slids	oral exam
13		Learn the difference between vertebrate invertebrate animals	The difference between vertebrates And invertebrate	experience	

23.Course Evaluation

Chapter One: Theoretical 17
Practical 7
Reports 1
Chapter Two: Theoretical 17
Practical 7
Daily exam 1
Final: Theoretical 35
Practical 15

Final grade: 100	
24.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	General Biology (2005) Prof. Dr. Hussein Ali Saadi Prof. Dr. Talib Awaid Al-Khazraji Prof. Dr. Najm Shlemon Korkis Prof. Dr. Hussein Abdel Moneim Dawou
Main references (sources)	External sources
Recommended books and references (scientific journals, reports...)	Scientific journals, research
Electronic References, Websites	The Iraqi academic journal **Google scholar**

Course Description Form

25. Course Name: Plant anatomy
26.Course Code:
27.Semester / Year:
28.Description Preparation Date:
29.Available Attendance Forms:

30.Number of Credit Hours (Total) / Number of Units (Total):60

6 Units

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

Name:. Israa Abdul Majeed

Lecturer Doctor Warqa Fayez Tawfeeq
Ass. Lecturer Rafaha Mahmood

Email: esraa.abd@uosamarra.edu.iq

32.Course Objectives

Course Objectives	**1- Knowing the parts of the root and Comparing between monocotyledons and dicotyledons.** **2- The difference between the internal structure of the stem monocotyledons and dicotyledons** **3- The difference between the internal structure of the leaf in the monocotyledons and dicotyledons** **4- Identifying the surface covering of leaf, stomata, and epidermis** **5- Knowledge of plant tissues and their types** **6- The relationship of the plant to the environment and internal structure**

33.Teaching and Learning Strategies

Strategy	1- Projector 2- Soft models of plants to learn about internal anatomy 3- The whiteboard for drawing tissue 4- Optical microscope 5- Slides

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4		**Introduction to plant anatomy** **Plant Cell**	**Diction, and use of explanatory methods , Slides and pictures**	Oral exams Reports Daily exam

			pites **Non-living content in Plant Cell** **The living contents of the planet cells** **Plant tissue** **Basic fabric** **Connective tissue** **Vascular tissue\xylem** **Vascular tissue/phloem** **Internal structure of the r** **Internal structure of stem** **Internal structure of leaves**		

35.Course Evaluation

Chapter One: Theoretical 17
Practical 7
Reports 1
Chapter Two: Theoretical 17
Practical 7
Daily exam 1
Final: Theoretical 35
Practical 15
Final grade: 100

36.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Free department library
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Scientific journals, research
Electronic References, Websites	**Google scholar**

Course Description Form

1. Course Name: cytology
2. Course Code:
3. Semester / Year:2025-2026
4. Description Preparation Date:
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total):60
6 Units
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Rasha Hamed Ayoub Ass. Lecturer Joshin Karim Ass. Lecturer. Bassam Hakim Email: rashahamid@uosamarra.edu.iq
8. Course Objectives

Course Objectives	**1-Learning about the organelles that make up the animal cell and identifying the functi of each organelle and its role in the cell.** **2-Learn about isolation methods and studying cells in the laboratory** **3-Learn about the difference between animal and plant cells** **4-Learn about modern cellular technologies and learn about the relationship of Cytology to other sciences**

9. Teaching and Learning Strategies

Strategy	**Use the display screen** **Short questions** **Use the whiteboard** **Preparing forms for examination** **Microscop**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	8	Learn about microscopes and their types	Optical and electron microscopes	Data show	Oral questions
		How to use a microsco	Optical and electron microscopes	using a microscop	Oral questions
		study the plant cell under the microscope	Plant Cell	Preparing slides	Reports
		study the animal cell Under the microscope	Animal cell preparation	Prepare slides From mouth linging	Daily exam
		study the structure a functions of the cell membrane	Cell membrane specializations	Slides and microscope	Oral questions
		learning about soluti that effect on the cell	Inferring the presence of a membrar	Preparing slides	Oral questions
		learn about the sizes, a shapes of cells according to the type of organism	Cell sizes and shapes	Examination slides for different cells	Oral questions
		Identification			

		mitochondria using optical microsco Identify plastids , Using microscope Study the general appearance of the nucleus Study of the general appearance of the chromosome Preparing microscopic Slides to study divisio stages Study its structure a location Study its structure a location	Study of the shape mitochondria Chloroplasts Nucleus The chromosomes Cell divisions Cytoplasmic filaments Ribosomes	slides to identify mitochon slides to identify plastids Data show And microscop Data show a microscopic Data show a microscopic Data show a microscopic	Reports Oral questions Reports Reports Daily exam Oral questions Reports

11.Course Evaluation

Chapter One: Theoretical 17
Practical 7
Reports 1
Chapter Two: Theoretical 17
Practical 5
Daily exam 2
Final: Theoretical 35
Practical 15
Final grade: 100

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	**The department's free education library** **Cell life / author Diya Makarem Shakara**
Main references (sources)	**https://www.amazon.com/Best-Sellers-Ce Biology/zgbs/books/13524**
Recommended books and references (scientific journals, reports...)	**Scientific journals, research, master's and docto theses**
Electronic References, Websites	**Google scholar**

Course Description Form

1. Course Name:					
General Chemistry					
2. Course Code:					
Bio 1.4					
3. Semester / Year:					
Year					
4. Description Preparation Date:					
2026					
5. Available Attendance Forms:					
Regularity					
6. Number of Credit Hours (Total) / Number of Units (Total)					
48 hours / 4 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Hassan faisal mohammed Email: hassan.fis.mu@uosamarra.edu.iq					
8. Course Objectives					
1. Develop academic education at universities and colleges in accordance with higher education quality standards, enabling universities to produce graduates capable of delivering value to the labor market. 2. Clarify the basic concepts of general chemistry, explain theories, their development, laws, equations, and how they are derived.			3. Develop students' skills in using computers to process results and draw graphs to obtain accurate and precise results. 4. Explain the importance of general chemistry in analytical chemistry, inorganic chemistry, and organic chemistry. 5. Explain the most important applications general chemistry and its importance in practical field.		
9. Teaching and Learning Strategies					
Strategy	1- Explanation and clarification. 2- Lecture method. 3- Discussion method.				
10- The course structure					
Evaluation method	Teaching method	outcomes Name of	Required learning	hours	**week**

		unit/or subject			
Oral and exams	Explanation and clarification	Analytical chemistry	Introduction	1th+1p	1
Oral and exams	Explanation and clarification	Analytical chemistry	Foundations of Analytical Chemistry	1th+1p	2
Oral and exams	Explanation and clarification	Analytical chemistry	Characteristics of a chemical analyst	1th+1p	3
Oral and exams	Explanation and clarification	Analytical chemistry	Analytical Chemistry Classification	1th+1p	4
Oral and exams	Explanation and clarification	Analytical chemistry	Volumetric analysis	1th+1p	5
Oral and exams	Explanation and clarification	Analytical chemistry	Correction error	1th+1p	6
Oral and exams	Explanation and clarification	Analytical chemistry	Examples and questions	1th+1p	7
Oral and exams	Explanation and clarification	Analytical chemistry	Solutions	1th+1p	8
Oral and exams	Explanation and clarification	Analytical chemistry	standard solution	1th+1p	9
Oral and exams	Explanation and clarification	Analytical chemistry	equivalence	1th+1p	10
Oral and exams	Explanation and clarification	Analytical chemistry	Examples and questions	1th+1p	11
Oral and exams	Explanation and clarification	Analytical chemistry	Insulation method	1th+1p	12
Oral and exams	Explanation and clarification	Analytical chemistry	molarity	1th+1p	13
Oral and exams	Explanation and clarification	Analytical chemistry	Dilution equation	1th+1p	14
		Analytical chemistry	First semester exam	1th+1p	15
Oral and exams	Explanation and clarification	inorganic chemistry	introduction	1th+1p	16
Oral and exams	Explanation and clarification	inorganic chemistry	Electronic structure of the atom	1th+1p	17
Oral and exams	Explanation and clarification	inorganic chemistry	The four quantum numbers	1th+1p	18
Oral and exams	Explanation and clarification	inorganic chemistry	Examples and questions	1th+1p	19

Oral and exams	Explanation and clarification	Organic Chemistry	introduction	1th+1p	20
Oral and exams	Explanation and clarification	Organic Chemistry	Alkanes	1th+1p	21
Oral and exams	Explanation and clarification	Organic Chemistry	Alkenes	1th+1p	22
Oral and exams	Explanation and clarification	Organic Chemistry	Alkynes	1th+1p	23
		Organic Chemistry	Second semester exam	1th+1p	24

11.Course Evaluation

1. Semester exam (theory 35 + practical 15) = 50%
2. Final exam (theoretical 35 + practical 15) = 50%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fundamentals of Analytical Chemistry: Dr. Mu'ayyad Qasim Al-Abayji, Dr. Thabet Saeed Al-Ghabsha.
Main references (sources)	1- Theoretical basics of inorganic analytical chemistry: Dr. Hoda Kazem Awad.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

37. Course Name: general chemistry

38. Course Code:

39. Semester / Year: 2026-2025

40. Description Preparation Date:

41. Available Attendance Forms:

42. Number of Credit Hours (Total) / Number of Units (Total):60

4 Units

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

Name: D. Rana Raad Zanzel

Ass.lecturer Wasan Karim Ahmed

Ass.lecturer adhraa hamid

Email:

44. Course Objectives

Course Objectives	**What are the methods of chemical analysis?** **Types of solutions** **carbohydrates Identify** **Distinguish between materials**

45. Teaching and Learning Strategies

Strategy	**Daily exams** **Semester exams** **Extracurricular activities** **Reports** **Lectures** **Experiences**

46. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	**What are the methods of chemical analysis?** **2-What are the conditions?** **3-Types of solutions**	**general chemistry**	Daily homework whiteboard	Exams

		4-How does the solutio become saturated, unsaturated, or supersaturated?			
2		**1- Calculations used in quantitative analysis, Number of moles and molarity normalization and dilution reactions**	**Analytical chemistry**		
3		**1-Accounts used in Al-Tahseh 2-Types of denaturatio reactions 3-ETA accounts 4-Calculate the equivale mass for each reaction**	**Analytical chemistry**		
4		**1-What does Electromagnetic Radiation mean Frequency and wavelength 2- Definition of wave number And his conclusion 3-What are the propert of light?**	**Analytical chemistry**		
5		**1- Definition of spectrum regions 2-Knowing the transfer regions Theelectromagnetic spectrum**	**Analytical chemistry**		
6		**Know how to classify Elements in the periodi table 2-Knowledge of transitional elements and represented eleme 3-The elements of actin and anthenes**	**Analytical chemistry**		
7		**1-Knowing what the levels are Secondary energy 2-Knowing the description Physics of atomic orbitals For elements 3-What is Lewis's**	**Inorganic chemistry**		

		symbol and how? The items are arranged			
8		1-What are the four quantum numbers? 2-How can levels be sequenced? Secondary energy 3-Knowing the Zeeman effect 4- Electron spin effect 5-Heisenberg rule	Inorganic chemistry		
9		1 - Know the Pauli exclusion principle 2-Hound blocking rule 3-How do we find radius of the atom?	Inorganic chemistry		
Practical 1			Laboratory safety Laboratory tools and their uses	whiteboard And experiments	Daily exam And reports
2		Preparing standard solutions	Preparing solutions fron liquid substances And solid		
3		Learn about volumetric analysis and the process of straightening	Volumetric analysis and clarification and neutralization reactions		
4		Find out the hydroxide concentration Sodium	Determine the hydroxid concentration Sodium titrated with Standard solution Of hydrochloric acid		
5		Find out the acid concentration Hydrochloric acid	Determine acid concentration Calibrated hydrochloric acid With sodium carbonate		
6		Know the concentration of acetic acid	Determine the concentration of acetic a		
		Identify sedimentation	Precipitation reactions		

7		**facies**			
8		**Know the concentration of sodium chloride**	**Moore's method**		
9		**Silver appreciation**	**Volhard method**		
10		**Chloride determination**	**Fagan method**		
11		**Knowing the purity of liquids**	**boiling point**		
12		**Know the melting point of an acid Benzoic**	**Melting point**		
13		**Purification of solid organic compounds**	**Crystallization**		

47.Course Evaluation

Chapter One: Theoretical 17
Practical 7
Reports 1
Chapter Two: Theoretical 17
Practical 7
Daily exam 1
Final: Theoretical 35
Practical 15
Final grade: 100

48.Learning and Teaching Resources

Required textbooks (curricular books, if any)	**The department's free education library**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	**Google scholar**

Course Description Form

49.Course Name:
Computer 1
50.Semester / Year:
annually for the year 2025/2026

51.Description Preparation Date:
2026
52.Available Attendance Forms:
Daily
53.Number of Credit Hours (Total) /
60
54. Course administrator's name (mention all, if more than one name)
Name: Instructor. Ahmed Dahham Rajab
55.Course Objectives

Course Objectives	**Enabling the student to become familiar with computer parts and ready-made programs addition to enabling him to use the Windows 10 operating system.**

9. Learning outcomes and methods of teaching, learning and evaluation

A- Knowledge and understanding:

1- **How to employ the theoretical or practical side of (computer) concepts in the educational process.**

2- **That the student understands the basic concepts in (computer), especially the recent developments occurring in these sciences.**

3- **Identify the parts of the computer.**

4- **Use basic computer operating systems.**

B- Teaching and learning methods

Developing learning outcomes in the various areas of learning shown below:

1- It provides a quick summary of the knowledge or skills that the course seeks to develop.

2- A description of the teaching strategies used in the course in order to develop that knowledge or skills.

3- The methods used to evaluate the student in the course to evaluate the learning outcomes in this field of study.

C - The skills objectives of the course

1- **The student applies educational and scientific concepts within the classroom.**
2- **Using strategies and means of explanation when teaching.**
3- **Perfect classroom management.**
4- **Understanding the developmental and developmental aspect of the student.**

Evaluation methods:

Daily exams and assignments
- Monthly exams
- Annual exams.
- Daily participation during the lecture.

10- Course Structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Hours	The week
Weekly and monthly exams	Lecture with dialogue and discussion	Computer	The students understanding of the vocabulary presented in the lecture	2	**1**
Weekly and monthly exams	Lecture with dialogue and discussion	Physical parts	The students understanding of the vocabulary presented in the lecture	2	**2**
Weekly and monthly exams	Lecture with dialogue and discussion	Computer memories	The students understanding of the vocabulary presented in the lecture	2	**3**
Weekly and monthly exams	Lecture with dialogue and discussion	Main memories	The students understanding of the vocabulary presented in the lecture	2	**4**
Weekly and monthly exams	Lecture with dialogue and discussion	Secondary memories	The students understanding of the vocabulary presented in the lecture	2	**5**
Weekly and monthly exams	Lecture with dialogue and discussion	Representing data in a computer	The students understanding of the vocabulary presented in the lecture	2	**6**
Weekly and monthly exams	Lecture with dialogue and discussion	Mother Board unit	The students understanding of the vocabulary presented in the lecture	2	**7**
Weekly and monthly	Lecture with dialogue	Ports on the motherboard	The students understanding of the vocabulary presented in	2	**8**

exams	and discussion		the lecture		
Weekly and monthly exams	Lecture with dialogue and discussion	INPUT UNITS	The students understanding of the vocabulary presented in the lecture1	2	**9**
Weekly and monthly exams	Lecture with dialogue and discussion	OUTPUT UNITS	The students understanding of the vocabulary presented in the lecture	2	**10**
Weekly and monthly exams	Lecture with dialogue and discussion	OUTPUT UNITS	The students understanding of the vocabulary presented in the lecture	2	**11**
Weekly and monthly exams	Lecture with dialogue and discussion	Types of printers	The students understanding of the vocabulary presented in the lecture	2	**12**
Weekly and monthly exams	Lecture with dialogue and discussion	Types of screens	The students understanding of the vocabulary presented in the lecture	2	**13**
Weekly and monthly exams	Lecture with dialogue and discussion	Monthly exam	The students understanding of the vocabulary presented in the lecture	2	**14**
	Lecture with dialogue and discussion	POWER UNIT	The students understanding of the vocabulary presented in the lecture	2	**15**
	Lecture with dialogue and	Cards added to the computer HARD WARE CARDS	The students understanding of the vocabulary presented in	2	**16**

	discussion		the lecture		
Weekly and monthly exams	Lecture with dialogue and discussion	Factors affecting computer performance speed	The students understanding of the vocabulary presented in the lecture	2	**17**
Weekly and monthly exams	Lecture with dialogue and discussion	Software	The students understanding of the vocabulary presented in the lecture	2	**18**
Weekly and monthly exams	Lecture with dialogue and discussion	Operating System	The students understanding of the vocabulary presented in the lecture	2	**19**
Weekly and monthly exams	Lecture with dialogue and discussion	Application programs	The students understanding of the vocabulary presented in the lecture	2	**20**
Weekly and monthly exams	Lecture with dialogue and discussion	Desktop icons	The students understanding of the vocabulary presented in the lecture	2	**21**
Weekly and monthly exams	Lecture with dialogue and discussion	Daily exam	The students understanding of the vocabulary presented in the lecture	2	**22**
	Lecture with dialogue and discussion	Stop running unresponsive programs	The students understanding of the vocabulary presented in the lecture	2	**23**
Weekly and monthly exams	Lecture with dialogue and discussion	Learn about the contents of the control panel	The students understanding of the vocabulary presented in the lecture	2	**24**

Weekly and monthly exams	Lecture with dialogue and discussion	How to arrange and control interfaces (windows).	The students understanding of the vocabulary presented in the lecture	2	**25**
	Lecture with dialogue and discussion	Learn about the effectiveness of screen saver	The students understanding of the vocabulary presented in the lecture	2	**26**
Weekly and monthly exams	Lecture with dialogue and discussion	Practical exam	The students understanding of the vocabulary presented in the lecture	2	**27**
Weekly and monthly exams	Lecture with dialogue and discussion	Identify the contents of the programs file	The students understanding of the vocabulary presented in the lecture	2	**28**
Weekly and monthly exams	Lecture with dialogue and discussion	Learn about programming languages	The students understanding of the vocabulary presented in the lecture	2	**29**
Weekly and monthly exams	Lecture with dialogue and discussion	Monthly exam	The students understanding of the vocabulary presented in the lecture	2	**30**

11- Learning and Teaching Resources

Required textbooks (curricular boo if any)	Basics of using a computer/Part One
Main references:	
Recommended books and references (scientific journals, reports...)	https://www.scopus.com/sourceid/11100153313#tabs=2
Electronic References, Websites	**https://www.uobabylon.edu.iq/eprints/publication_3_1454_6032.pdf**

Course Description Form

1. Course Name: Geology
2. Course Code:
3. Semester / Year: 2025-2026
4. Description Preparation Date: **2026**
5. Available Attendance Forms:
weekly
6. Number of Credit Hours (Total) / Number of Units (Total) 24
7. Course administrator's name (mention all, if more than one name)
Name: Narjis Ali Zeadin Email: narjis.a.zaidan@uosamarra.edu.iq

8. Course Objectives

Course Objectives	**-Understand the composition of the Earth, its internal a external structure, and interpret geological phenomena. -Predict natural disasters and reduce their risks -Appreciate the role of geological processes such as eros and weathering in shaping the Earth's surface.**

9. Teaching and Learning Strategies

Strategy	- Inquiry-based learning (such as asking scientific questions, exploring geological phenomena, and encouraging students to think critically and analytically). - Active learning (such as discussions, stimulating thinking, and increasing classroom participation). - Model- and simulation-based learning (such as using 3D model such as volcanoes). - Use of technological techniques (such as displaying images rocks, minerals, and earthquakes).

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2	2	Geology Branches Geology	Geology its branches and divisions	Method elocution, discussion and	Written tests Midterm
3	2	natural resources	natural resources	presentatic such	Theoretical :Exam Quizzes
4	2	Earth's Spheres	Atmosphere	displaying pictures	Reports
5	2		Lithosphere (or Geosphere)		
6	2		Hydrosphere and Biosphere		
7	2	Weathering	Weathering		
8	2	Erosion and Minerals	Erosion and Minerals -		

			Properties of Minerals		
9	2	Rocks and Its types	Rocks (Igneous, Sedimentary, Metamorphic)		
10	2	Factors of Rock Formation, Its characteristics, And its classification	Organic Sedimentary Rocks, Chemical, Mechanical		
11	2	natural cycles	Carbon cycle		
12	2		Water cycle		
13	2		Nitrogen cycle		
14	2		Phosphorus cycle		
15	2	Volcanoes	Volcanoes		
16	2	Parts of a volcano	Volcanic cone, Crater, Volcanic conduit, Volcanic gases		
17	2	Folds	Parts- Importance of Folds		
18	2	Faults	Faults- Types of faults		
19	2	fault	fault		
20	2	Earthquakes	Earthquakes- Causes of Earthquakes		
21	2	Formation of earthquakes	How Formation of earthquakes		
22	2	Causes of	Causes of		

23	2	Earthquakes and monitoring Star	Earthquakes and monitoring Star- How a star forms		
24	2	Star measurement units- Its characteristics	Star measurement Units- Its characteristic		

11.Course Evaluation

Distributing the score out of 50 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Khalid Issa, Mustafa. Earth Sciences. Safaa Publishing House, Oman, 2011.
Main references (sources)	An Introduction to Physical Geology Tarbuck, E. J., Lutgens, F. K., & Tasa, D. G. (2016)**.**
Recommended books and references (scientific journals, reports...)	Physical geology-Laboratory manuals 2015
Electronic References, Websites	**An Introduction to Geologyby Chris Johnson; Matthew D. Affolter; Paul Inkenbrandt; and Cam Mosher (2017)**.

Course Description Form

1. Course Name:	
Educational Psychology	
2. Course Code:	
3. Semester / Year:	
2025-2026	
4. Description Preparation Date:	
5. Available Attendance Forms:	
In-person (theoretical only)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
32 hours / 2 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Dr. Adnan Tulfah Mohammed Email: adnantmk4@gmail.com	
8. Course Objectives	
Course Objectives:	The student will be able to identify: 1. How to engage learners in learning. 2. Methods for stimulating learner motivation. 3. Using learning theories to help

	learners acquire knowledge and experience. 4. Understanding learners' cognitive processes. 5. Preparing educational cadres capable of interacting with learners.

9. Teaching and Learning Strategies

Strategy	1- Presentation method. 2- Discussion and interrogation method. 3- Video presentation method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student will be introduced to (psycholog in the initial stage of reflection).	Introduction to Psychology	Presentation+ Discussion	Tests
2	2	The student will be introduced to the initial phase of studying psychology.	Psychology withi the Framework o Philosophy	Presentation+ Discussion+ Screen	Tests
3	2	The student will be introduced to psycholog in the light of Arab-Islam culture (Ibn Sina/Al-Mawardi).	Psychology in the Context of Arab-Islamic Culture	Presentation+ Discussion+ Screen	Tests
4	2	The student will be introduced to psycholog in the light of Arab-Islam culture (Al-Ghazali/Ibn Jama'ah).	Psychology in the Context of Arab-Islamic Culture	DiscussionInterrogat + Screen	Tests
5	2	The student will be introduced to the branch of psychology (theoretical/applied).	Branches of Psychology	Discussion Interrogation + Scree	Tests

6	2	The student will learn about (heredity and its impact on individual behavior and personality/and the imp of abnormalities in fertilization).	Factors Influenci Behavior	Discussion Interrogation + Scree	Tests
7	2	The student will learn about (glands and their impact on individual behavior and personality	Factors Influenci Behavior	Discussion Interrogation + Scree Screen, Pens, and Boa	Tests
8	2	The student will learn about (the postnatal environment and its effe on human behavior and personality).	Factors Influenci Behavior	Discussion Interrogation + Scree	Tests
9	2	The student will learn about the most importan schools of psychology an the views of these schoo on human behavior.	Schools of Psychology	Discussion Interrogation + Scree	Tests
10	2	The student will learn about the goals of psychology.	Goals of Psycholog	Discussion Interrogation + Scree	Tests
11	2	The student should become familiar with t scientific method and research methods in educational psychology (the method of introspection).	Research Methods Psychology	Presentation Discussion	Tests
12	2	The student will be introduced to the scientific method and research methods in educational psychology (projective method/experimental method).	Research Methods Psychology	Discussion +Discussio	Tests

13	2	The student will be introduced to the scientific method and research methods in educational psychology (case study method/sequential method).	Research Method in Psychology	Discussion	Tests
14	2	The student will be required to respond to the test items and applications.	First Semester Exa	Questions	Tests
15	2	The student will be introduced to data collection methods (samples/random, systematic) and observation.	Information Gathering Tools	Discussion+ Questioning+ Screenshot	Tests
16	2	The student will learn about the types of attention, the role of th student and perceptior in the learning and teaching process, and t difference between attention, perception, and sensation.	Attention, Perception, and Sensation	Discussion+ Questioning+ Screenshot	Tests
17	2	The student will learn about the types of motivation and the rol of motivation in learni	Motivation in Learning	Discussion+ Questioning+ Screenshot	Tests
18	2	The student will learn about the forms of memory, the factors th influence and facilitate recall, and ways to improve learner memc and the role of memory in learning.	Memory	Questions+ Applicatic	Tests
				Discussion+	Tests

19	2	The student will understand the meanir of forgetting, its causes and the theories that attempt to explain it.	Forgetting	Questioning+ Screenshot	
20	2	The student will understand the meanir of learning transfer, its types, and the methods for positive transfer among learners.	Transfer of Learning Effects: Training	Discussion+ Questioning+ Screenshot	Tests
21	2	The student will understand the meaning of feedback and its dimensions.	Feedback	Discussion+ Interrogation+Displa Screen	Tests
22	2	The student will understand the meaning of thinking, types, and how to stimulate thinking.	Thinking	Discussion+ Interrogation+Displa Screen	Tests
23	2	The student will understand Pavlov's classical conditioning theory and its educational applications.	Learning Theories	Discussion+ Interrogation+Displa Screen	Tests
24	2	The student will understand Skinner's operant conditioning theory and its educational applications.	Learning Theories	Discussion+ Interrogation+Displa Screen	Tests
25	2	The student will understand Kohler's insight learning theo and its educational applications.	Learning Theories	Discussion+ Interrogation+Displa Screen	Tests

26	2	The student will understand the importance of learnir the concept (learning the concept, its natur	The Concept	Discussion+ Interrogation+Displa Screen	Tests
27	2	The student will understand the meaning of individua differences (factors influencing individua differences, leveragir individual difference in the learning process).	Individual Differences	Discussion+ Interrogation+Displa Screen	Tests
28	2	The student will subr a set of questions to b answered.	Comprehensive review	Discussion+ Interrogation+Displa Screen	Tests
29	2	The student will respond to the test items and applicatior	Second Semester Exam		

11.Course Evaluation

Study System: Annual
First Semester: 25
Second Semester: 25
Final: 50
Competitive Grade: 100

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Free tuition for the department Educational Psychology / Raouf Mahmoud Al-Q / 2008 Fundamentals of Educational Psychology / Fa Mohsen Al-Azirjawi / 1991
Main references (sources)	External sources
Recommended books and references (scientific journals, reports...)	Scientific journals, research, previous theses a dissertations

Electronic References, Websites	Iraqi Academic Journal, Google Scholar

Course Description Form

56.Course Name: Human rights and democracy
57.Course Code:
58.Semester / Year:2025-2026
59.Description Preparation Date: 2026
60.Available Attendance Forms: In-person lectures, oral and written exams
61.Number of Credit Hours (Total) / Number of Units (Total)30hours
62. Course administrator's name (mention all, if more than one name)
Name: *Ibrahim Radam Ibrahim* Email: Ibrahim.radam88@uosamarra.edu.iq Email: Ibrahim.radam88@gmail.com
63.Teaching and Learning Strategies Teaching the basic principles of physiology

Strategy	Theoretical lectures Reports scientific articles

.9Course structure					
week	**watches**	**Required learning outcomes**	**Unit name/topic**	**Teaching method**	**Evaluation method**
1	**2 hours of theory per week**	The student understands the principles of human rights, their definition, and their objectives. Human rights in	Human rights. Definition. Objectives. Human rights in ancient civilizations, especially the	**(Live in-person lecture)**	**(Oral and written tests in the department's**

		ancient civilizations	civilization of Mesopotamia		**private halls , semester exams, and final exams .**
2-3	**2 hours of theory per week**	The student understands Human rights in divine laws with a focus on human rights in Islam Human Rights in Contemporary and Modern History	Human rights in divine laws with a focus on human rights in Islam Human Rights in Contemporary and Modern History: International Recognition of Human Rights since World War I and the League of Nations		
4	**2 hours of theory per week**	The student understands the regional recognition of human rights: the European Convention on Human Rights of 1950, the American Convention on Human Rights of 1969, the African Charter on Human Rights of 1981, and the Arab Charter on Human Rights of 1994.	Regional recognition of human rights: European Convention on Human Rights 1950, American Convention on Human Rights 1969, African Charter on Human Rights 1981, Arab Charter on Human Rights 1994		
5-6	**2 hours of theory per week**	The student understands non-governmental organizations and human rights (International Committee of the Red Cross, Amnesty International, Human Rights Watch,	Non-governmental organizations and human rights (International Committee of the Red Cross, Amnesty International, Human Rights		

		national human rights organizations). Human rights in Iraqi constitutions	Watch, national human rights organizations) Human rights in Iraqi constitutions		
7-9	**2 hours of theory per week**	The student learns about the relationship between human rights and public freedoms in the Universal Declaration of Human Rights . Economic, social and cultural human rights and civil and political human rights Modern human rights: the right to development, the right to a clean environment, the right to solidarity, and the right to religion.	The relationship between human rights and public freedoms in the Universal Declaration of Human Rights, regional charters, and national constitutions Economic, social and cultural human rights and civil and political human rights Modern human rights: the right to development, the right to a clean environment, the right to solidarity, and the right to religion.		
10-11	**2 hours of theory per week**	The student will understand the guarantees of respect and protection of human rights at the national level. Guarantees in constitutional oversight, guarantees in freedom of the press and public opinion, and the role of non-governmental organizations in respecting and	Guarantees of respect for and protection of human rights at the national level. Guarantees in the constitution and laws. Guarantees in the principle of the rule of law. Guarantees in constitutional		

		protecting human rights.	oversight, guarantees in freedom of the press and public opinion, the role of non-governmental organizations in respecting and protecting human rights Guarantees, respect and protection of human rights at the international level - the role of the United Nations and its specialized agencies in providing guarantees		
12-13	**2 hours of theory per week**	The student learns about the general theory of freedoms, the origin of rights, the project's position on declared rights and freedoms, and the use of the term "public freedoms ." The legal basis of the rule of law	The general theory of freedoms, the origin of rights, the project's position on declared rights and freedoms, and the use of the term "public freedoms ." The legal basis of the rule of law		
14-16	**2 hours of theory per week**	The student understands the regulation of public freedoms by public authorities . Equality: The historical	Regulation of public freedoms by public authorities . Equality: The historical development of		

		development of the concept of equality The modern development of the idea of equality and gender equality is equality between individuals, their beliefs and their race . Democracy: definition and types	the concept of equality The modern development of the idea of equality and gender equality is equality between individuals, their beliefs and their race . Democracy: definition and types		
17-18	**2 hours of theory per week**	The student understands the concepts of democracy . Democracy in the Third World.	Concepts of democracy . Democracy in the Third World		
19-20	**2 hours of theory per week**	The student understands the democratic systems in the world . The concept of freedoms, classification of public freedoms .	Democratic systems in the world . The concept of freedoms, classification of public freedoms .		
21	**2 hours of theory per week**	The student understands the types	Fundamental freedoms, intellectual freedoms, economic and social freedoms		
22-23	**2 hours of theory per week**	The student understands the freedom of security and the feeling of reassurance, the freedom to go and	Freedom of security and feeling safe, freedom to come and go . Freedom of education,		

		come back . Freedom of education, freedom of the press, freedom of assembly or consensus	freedom of the press, freedom of assembly or consensus .		
24-25	**2 hours of theory per week**	The student understands freedom of association and freedom of work . freedom of ownership .	Freedom of association, freedom of work . freedom of ownership .		
26-27	**2 hours of theory per week**	The student understands the principles of freedom of trade and industry . **'s** freedom	Freedom of trade and industry . **'s** freedom		
28	**2 hours of theory per week**	The student learns about political parties and public freedoms.	Political parties and public freedoms		
29	**2 hours of theory per week**	The student understands scientific and technological progress and public freedoms.	Scientific and technological progress and public freedoms		
30	**2 hours of theory per week**	The student understands the future of public freedoms.	The future of public freedoms		

infrastructure.10

Required textbooks1.	Mapping technology

Main references (sources)2.	**Prof. Dr. Riyadh Aziz Hadi (Its development,1-content, and protection) Human Rights book.** **Dr. Maher Sabry Kazim. Human Rights and2. Democracy.**

Course Description Form

64. Course Name: Foundation of Education

65. Course Code:

66. Semester / Year: 2025-2026

67. Description Preparation Date: 2026

68. Available Attendance Forms: weekly

69. Number of Credit Hours (Total) / Number of Units (Total) 24

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

Name: Israa Abdul Monem Yassen
Email: israa .a.yassen @ uosamarra.edu.iq

71. Course Objectives

Course Objectives	• **Study the history of ancint education .....** • **Benefit.from past educational system and develop them by intergrat modern technique....** • **Address learning differences through tailored focused instrucation.....**

72. Teaching and Learning Strategies

Strategy	Teaching through Iecturing Discussion questions and answers Student-teacher debat

73. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The etymological meaning of education	Unit one	The leari method include lecturing .d ussion through question a answers.	Daily examinations Monthly examinations semester examinations

2	2	Goals of education Education theories	The most important education Goals	include lecturing . discussion through question and answers	
3	2	The Historical Basis of edcation	Behaviorism. Constuctivism.humanism		
4	2	Education in Early human societies	Unit Two		
5	2		Lnformation simple Education		
6	2	Mesopotamation EducationalSystem	The sumerians and Akkadins.		
7	2	Chinese Education	Education philosophy of Confuius		
8	2	Ancient Greek Education	Education in Athens		
9	2	Greek Education	Education in Sparta		
10	2	Medieval Education	Medieval Teaching Methods		
11	2	Arabic –IsIamic Education	The Ries of IsIam		
12	2	The Abbasid	The Islamic Golden Age		

		period			
13	2	IsIamic Education Institutions	Mosques –and School		
14	2	Method of Education	Women s Education		
15	2	Leading Figures in Educational philosophy	Ibn Khaldun-Ibn Sina-AlGhazali		
16	2	Modern Education	Contemporary Educationl Theory		
17	2	Leading Figures in Western Educational philosophy	Pestalozzi-Jean-Jacques Rousseau		
18	2	The Social Foundation of Education	Unit three		
19	2	The Relationship between Education and society	The family and school		
20	2	The Relationship between Education and the Environment	The Impact of the Environment on Education		
21	2	Ethical and Moral Education	Moral Education		
22	2	Health Education	Unit four		
23	2	Family Education	Family-Based Education		
24	2	Education planning	Strategic Educational planning		

74.Course Evaluationn	
Distribu ting the score out of 50 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
75.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Foundations of Education by: Dr. Abbas AbduI-Mahdi Saad Majid Suhail Dr. Maher Fadel Al -Qaisi
Main references (sources)	**Philosophical foundation of Education –by :Gerald Gutek**
Recommended books and references (scientific journals, reports...)	ERIC(EducationResources Informati Center)
Electronic References, Websites	Google Scholar

Course Description Form

10.Course Name:
English
11.Course Code:
Eng. 4
12.Semester / Year:
Year

13.Description Preparation Date:					
2026					
14.Available Attendance Forms:					
Regularity					
15.Number of Credit Hours (Total) / Number of Units (Total)					
24hours / 3 units					
16. Course administrator's name (mention all, if more than one name)					
Name: Harith Abdullah MAhmood Email: Harith.edu.iq@uosamarra.edu.iq					
17.Course Objectives					
1. Develop academic education at universities and colleges in accordance with higher education quality standards, enabling universities to produce graduates capable of entering the labor market. 2. Clarify basic English language concepts. 3. Develop students' English language skills, such as listening, speaking, and writing. 4. Explain the importance of the English language.	.				
18.Teaching and Learning Strategies					
Strategy	1- Explanation and clarification. 2- Lecture method. 3- Discussion method.				
10- The course structure					
Evaluation method	Teaching method	outcomes Name of unit/or subject	Required learning	hours	**week**
Oral and exams	Explanation and clarification	English	Introduction	1th	25
Oral and exams	Explanation and clarification	English	Present simple tense	1th	26
Oral and exams	Explanation and clarification	English	Simple present tense exercises	1th	27
Oral and exams	Explanation and clarification	English	Wh-questions	1th	28
Oral and exams	Explanation and clarification	English	Exercises about wh-questions	1th	29
Oral and exams	Explanation and clarification	English	Numbers	1th	30
Oral and exams	Explanation and clarification	English	Writing numbers	1th	31
Oral and exams	Explanation and	English	Colors	1th	32

	clarification				
Oral and exams	Explanation and clarification	English	Reading passage	1th	33
Oral and exams	Explanation and clarification	English	Exercises about reading passage	1th	34
Oral and exams	Explanation and clarification	English	General info	1th	35
Oral and exams	Explanation and clarification	English	English letters	1th	36
Oral and exams	Explanation and clarification	English	Examples about English letters	1th	37
Oral and exams	Explanation and clarification	English	Reading passage	1th	38
		English	First semester exam	1th	39
Oral and exams	Explanation and clarification	English	introduction	1th	40
Oral and exams	Explanation and clarification	English	Past simple tense	1th	41
Oral and exams	Explanation and clarification	inorganic chemistry	Exercises about past simple tense	1th+1p	42
Oral and exams	Explanation and clarification	inorganic chemistry	A\An\the	1th+1p	43
Oral and exams	Explanation and clarification	Organic Chemistry	Exercises about a\an\ the	1th+1p	44
Oral and exams	Explanation and clarification	Organic Chemistry	Reading passage	1th+1p	45
Oral and exams	Explanation and clarification	Organic Chemistry	Exercise about reading passage	1th+1p	46
Oral and exams	Explanation and clarification	Organic Chemistry	General information	1th+1p	47
		Organic Chemistry	Second semester exam	1th+1p	48

13.Course Evaluation

1. Semester exam (theory 25 +25) = 50%
2. Final exam (practical 50) = 50%

14.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Headway beginner student's book. OXFORD.

Main references (sources)	Headway beginner student's book. OXFORD
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

19.Course Name:
Arabic language
20.Course Code:
21.Semester / Year:
Year
22.Description Preparation Date:
27/7/2025
23.Available Attendance Forms:
Regularity
24.Number of Credit Hours (Total) / Number of Units (Total)
hours / 3 units24
25. Course administrator's name (mention all, if more than one name)
Name: faris fadhil mahmood

Email: faris.fadhel@uosamarra.edu.iq	
26.Course Objectives	
.1 Develop academic education at universities and colleges in accordance with higher education quality standards, enabling universities to produce graduates capable of entering the labor market. .2 Clarify basic English Arabic concepts. .3 Develop students' Arabic language skills, such as listening, speaking, and writing. .4 Explain the importance of the Arabic language.	.
27.Teaching and Learning Strategies	
Strategy	.1 Explanation and clarification .2 Lecture method .3 Discussion method

The course structure -10

Evaluation method	Teaching method	outcomes Name of unit/or subject	Required learning	hours	week
Oral and exams	Explanation and clarification	Arabic language	Parts of Speech Noun - Verb - Particle -	th2	49
Oral and exams	Explanation and clarification	Arabic language	Declinable and Indeclinable Words	th2	50
Oral and exams	Explanation and clarification	Arabic language	The Singular Noun and Its Grammatical	th2	51

			Inflection		
Oral and exams	Explanation and clarification	Arabic language	The Dual Noun and Its Grammatical Inflection	th2	52
Oral and exams	Explanation and clarification	Arabic language	The Sound Masculine Plural and Its Grammatical Inflecti	th2	53
Oral and exams	Explanation and clarification	Arabic language	The Sound Feminine Plural and Its Grammatical Inflectio	th2	54
Oral and exams	Explanation and clarification	Arabic language	The Broken . Plural and Its Grammatical Inflection	th2	55
Oral and exams	Explanation and clarification	L Arabic language	The Five Nouns	th2	56
Oral and exams	Explanation and clarification	Arabic language	The Five . Verbs	th2	57
Oral and exams	Explanation and clarification	Arabic language	The Subject (Fāʿil)	th2	58

Oral and exams	Explanation and clarification	Arabic language	The Direct Object (Mafʿūl (Bih	th2	59
Oral and exams	Explanation and clarification	Arabic language	The Subject (Mubtadaʾ) and Predicate (Khabar)	th2	60
Oral and exams	Explanation and clarification	Arabic language	Arabic Literature	th2	61
Oral and exams	Explanation and clarification	Arabic language	Poetry and . Prose: Their Differences	th2	62
		Arabic language	Types of Poetry and Poetic Themes	th2	63
Oral and exams	Explanation and clarification	Arabic language	The Muʿallaqāt The) Suspended (Odes	th2	64
Oral and exams	Explanation and clarification	Arabic language	Selected Poems from the Muʿallaqāt	th2	65
Oral and exams	Explanation and clarification		Memorization from the Holy Qurʾan	th2	66

Oral and exams	Explanation and clarification		Fifteen Verses -from Sūrat al Kahf	th2	67
Oral and exams	Explanation and clarification	Arabic language	Punctuation Marks	th2	68
Oral and exams	Explanation and clarification	Arabic language	Writing the Hamzah	th2	69
Oral and exams	Explanation and clarification	Arabic language	The Subject (Fāʿil)	th2	70
Oral and exams	Explanation and clarification	Arabic language	-Hamzat al Waṣl and Hamzat al-Qaṭ	th2	71
		Arabic language	The Importance and Spread of the Arabic Language	th2	72
15.Course Evaluation					
			%50 = (25+ 25 Semester exam (theory .1 %50 = (50 Final exam (practical .2		
16.Learning and Teaching Resources					
(Required textbooks (curricular books, if any			Anis Ibrahim, From the Secrets of - 1 -Language, 3rd ed., Cairo, Anglo		

	1978 ,Egyptian Library
(Main references (sources	Anis Ibrahim, From the Secrets of - 1 -Language, 3rd ed., Cairo, Anglo 1978 ,Egyptian Library
Recommended books and references (scientific (...journals, reports	
Electronic References, Websites	

The decisions of the second stage

2026 – 2025

Course Description Form

1. Course Name: **Invertebrate**
2. Course Code:
3. Semester / Year: 2025 -2026

4. Description Preparation Date: 2026

5. Available Attendance Forms:

6. Number of Credit Hours (Total) / Number of Units (Total) ; 60

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

Name: **: Prof.Ass :Athraa hamid Jasim & Ass.Wasan Adulhamed Hussein & . Ass Maw Marii Jibori**

Email: **I: biology.insect@uosamarra.edu.iq . Wasan.Abdulhamed@uosamarra.edu.iq mawaheb.m@uosamarra.edu.iq**

8. Course Objectives

Course Objectives	**1- Introducing the student to the nature of invertebrates and the benefits and harms of these organisms** **2- 2_Classification of invertebrates, the general characteristics of each phylum, their life cycles, methods of reproduction, the harm they cause, and their benefits and vital activities.** **3- aboratory study of invertebrate organisms in a way that complements and supports theoretical information.**

9. Teaching and Learning Strategies

Strategy	**1- Interactive lecture, dialogue and discussion, simulation and scientific presentations.** 2- **homeworks, oral exam, discussion, semester exam, surprise exam, final exam**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	8	**Reviews basic scientific concepts and knowledge in invertebrate science**	**Protozoa**	**Using the electronic whiteboard, and slides**	**1- Conducting daily and monthly examinations**
2		**It explains the relationship between the structure of an invertebrate animal and the characteristics of the surrounding**	**Protozoa**	**Activating visits to practical laboratories by academic staff and students**	**2- Semester and final exams** **3- Grades for homework** **4 Scientific**

		environment in which it lives			**and extracurricular activities**
3		**Learn about the morphological and taxonomic characteristics of invertebrate animals in the laboratory**	**Porifera**	**The Application on practical level**	**4- Individual and group participation**
4		**Utilizing the scientific knowledge he acquired in positive interaction with the surrounding environment.**	**Porifera**	**Integrated education**	
5		**It uses modern technologies and programs that develop the concepts of this science**	**Cnidaria**	**Use a data show to attract students' attention to interact with the lecture**	
6		**Using the skills and knowledge he acquired through studying this science in positive interaction with the surrounding environment**	**Cnidaria**	**Using the microscope and laboratory tools when teaching the practical aspect of the lecturer**	
7					
8			**Platyhelminthes**		
9			**Oligocheta**		
10			**Aschelminthes**		
11			**Arthropoda**		
12			**Mollusca**		
			Echinodermata		

11.Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Murad, Baba Karkar. (1975). Invertebrates. p. 1_435. 2_Al-Sharouk, Zuhair Muhammad Abdullah Gorkis, Najm Shalmoun. (1989). Invertebrate Science**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	**Google scholar**

Course Description Form

1.	Course name :
Theoretical tissues / second stage	
2.	Course code :
3.	Semester/Year:
2025/2026	
4.	Date of preparation of this description:
/ /2026	
5.	Available attendance forms:
weekly	
6.	Number of study hours (total) / Number of units (total):
1 hour / 2 units	
7.	Course Supervisor Name (if more than one name is mentioned)

Name: Asst. Prof. Dr. Makarim Mustafa Kamal

8. Course objectives

Course objectives	1. Introducing the student to the concept of histolo and the relationship of this science to other scienc such as gross anatomy and cell biology. 2. Study of tissue interconnection 3. Identify the primary tissues, starting with epithe tissue and ending with nervous tissue, and their orig from the three embryonic layers: ectoderm, endoder and mesoderm. 4. Understand the histological description epithelial tissues of various types, connective tiss and its classification, muscles, their locations a types, and finally nervous tissue . Thus, the student becomes qualified to study the tissues organs and various body systems, such as the circulat system, the integumentary system, the lymphatic tissue, a the digestive and excretory systems.

9. Teaching and learning strategies

Strategy	1. Scientific lectures 2. Use educational images and videos related to the subject's vocabulary. 3. Daily exams 4. Extracurricular activities 5. Preparing a report for each topic by the students and the subject teacher

10. Course structure

11.

week	Hours	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
1	4	simple overlying and lining epithelial tissues	Histology and Epithelial Tissues	theoretical ar applied	Oral and written tests
2	4	lining epithelial tissues	Histology and Epithelial Tissues	theoretical ar applied	Oral and

					written tests
3	4	Describe the tissue componer that connect the different tissues and organs of the bod	connective tissue	theoretical ar applied	Oral and written tests
4	4	Types of webbed and dense connective tissues	connective tissue	theoretical ar applied	Oral and written tests
5	4	Study of bone tissue composition and identificatio of the gross and microscopic structure of solid bone	connective tissue bone tiss	theoretical ar applied	Oral and written tests
6	4	Study of the composition of spongy bone tissue, the stage of bone formation, the occurrence of bone fractures, and the stages of their healing	connective tissue bone tiss	theoretical ar applied	Oral and written tests
7	4	Explaining the structure of th body's muscles	muscle tissue	theoretical ar applied	Oral and written tests
8	4	study Skeletal muscle structu and explanation of contractio mechanism	muscle tissue	theoretical ar applied	Oral and written tests

9	4	Study of the structure of smooth muscles , cardiac muscles, and Purkinje fibers	muscle tissue	theoretical ar applied	Oral and written tests
10	4	Study of nervous tissue and identification of its compone	nervous tissue	theoretical ar applied	Oral and written tests
11	4	Knowing the structure of the brain, spinal cord, nerves and ganglia	nervous tissue	theoretical ar applied	Oral and written tests
12	4	Characterization of blood components: cells, fibers, and plasma	Blood and the hematopoie system	theoretical ar applied	Oral and written tests
13	4	How blood components are made in the bone marrow	Blood and the hematopoie system	theoretical ar applied	Oral and written tests
14	4	Knowing the structure of arteries and veins	cardiovascular system	theoretical ar applied	Oral and written tests
15	4	Knowing the structure of capillaries and lymphatic vessels	cardiovascular system	theoretical ar applied	Oral and

					written tests
16	4	Knowing the structure of the heart	cardiovascular system	theoretical ar applied	Oral and written tests
17	4	Explain the components of th lymph nodes, spleen, and thymus gland.	lymphoid organs	theoretical ar applied	Oral and written tests
18	4	Illustration of the component of lymphoid tissue and tonsil	lymphoid organs	theoretical ar applied	Oral and written tests
19	4	Description of the oral cavity and esophagus	digestive system	theoretical ar applied	Oral and written tests
20	4	Description of the stomach ar small intestine	digestive system	theoretical ar applied	Oral and written tests
21	4	Description of the large intestine, rectum, and anus	digestive system	theoretical ar applied	Oral and written tests

22	4	Knowing the components of the skin, the epidermis and th dermis and accessory glands	The integumentary appara (skin) and its accessories	theoretical ar applied	Oral and written tests
23	4	Knowing the components of hair and nails	The integumentary appara (skin) and its accessories	theoretical ar applied	Oral and written tests
24	4	Study of the structure Tissue layers of the kidneys: cortex, pulp	urinary system	theoretical and applied	Oral and written tests
25	4	Study of the histological structure of the ureter	urinary system	theoretical and applied	Oral and written tests
26	4	Study of the histological structure of the urinary bladd and urethra	urinary system	theoretical and applied	Oral and written tests
27	4	Knowledge of the nasal cavit and pharynx	respiratory system	theoretical ar applied	Oral and written tests
28	4	Knowing the histological structure of the larynx, trache and lungs	respiratory system	theoretical ar applied	Oral and

					written tests
29	4	Knowing the endocrine glanc of the body such as the pituitary gland and the thyroi gland Thyroid and adrenal glands pine tree	endocrine glands	theoretical ar applied	Oral and written tests
30	4	Accurate description of the retina and cornea Eye, lens, and eyelids eyelashes and te glands Knowledge of the external ear Central and internal	sensory system	theoretical ar applied	Oral and written tests

12. Course evaluation

Daily exam + first month exam 25 points
Daily exam + second month exam 25 points
Final exam 50 marks

13. Learning and teaching resources

Required textbooks (methodology if available)	Textile Science 1 and 2, by Kawakib Abdul Qader Al-Mukhtar and Abdul Hakim Al-Rawi
Main References (Sources)	Histology Translated by Dr. Muhammad Amin Abdul Karim
Recommended supporting books and references (scientific journals, reports, etc.)	The Book of Tissues, translated by Professor Dr. Muhammad Abdul Hadi Ghali, authored by Lee S. N., Lisson, and Babru. Fundamentals of Animal Histology, edited by Mohamed Abdel Hadi Ghaly and Joan Khaled
Electronic references, websites	Bloom and Fawcett histology Human Tissue Atlas A Guide to the Microscopic Structure of Cells and Organ

Course Description Form

1. Course Name:
Histology – practical
2. Course Code:
3. Semester / Year:
2025 - 2026
4. Description Preparation Date:
2026
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
72 Hours / 10 unites
7. Course administrator's name (mention all, if more than one name)
Name: Bassam Abdulhakeem Waheeb – Warqa'a Lateef Salman

Email: basam.abdulhakeem@uosamarra.edu.iq

8. Course Objectives

Course Objectives	• **Students will learn to distinguish between main types of tissue.** • **Students should see different types of sli for different body tissues.** • **Students should learn the types of tissues fou in different body systems.**

9. Teaching and Learning Strategies

Strategy	Learning by watching and practical and applied methods

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
the first	4	Identify the types of epithelial tissue	Simple and stratified epithelial tissue	Microscopic slide show	Daily exam
the second	4	Identify the tissue of the glands and their classifications	Glandular epithelial tissue	Display microscopic slides and draw on the board	Daily exam
the third	4	Identify proper connective tissue	connective tissue proper	Microscopic slide show	Practical reports
the fourth	4	Learn about the specializations of connective tissues and types of cartilage and bones	Specialized connective tissue (cartilage and bone)	Showing microscopic slides, drawing on the blackboard, and showing educational videos	Reports and Quiz
Fifth	4	Identify the components of blood	Specialized connective tissue (blood)	Experience drawing blood, separating it,	Questions about experience through observations

				and examining it under a microscope	
Sixth	4	Identify muscle tissue and the three types of muscles	Muscle tissue	Microscopic slide show	Reports
Seventh	4	Identify nerve cells, neurons, and their classifications	Nervous tissue (nerve cells, nerve fibers)	Presentation of microscopic slides and educational videos	Quiz
Eighth	4	Identifying the divisions of the spinal cord, its functions, and the structure of the cerebellum from histological aspects)	Nervous tissue (spinal cord, cerebellum)	Presentation of microscopic slides and educational videos	Free discussion technique
Ninth	4	Identify the structure of capillary vessels	Circulatory system (capillaries)	Drawing on the blackboard, showing educational videos	Oral exam
The tenth	4	Identify the tissues that build arteries and veins	Circulatory system (arteries and veins)	Presentation of microscopic slides and educational videos	Oral exam
eleventh	4	Identifying the building tissues of the main Integumentary system (skin)	Integumentary system (thin and thick skin)	Conducting a laboratory experiment to examine the cells of the lining of the mouth and examining microscopic slides	Questions about experience through observations
twelveth	4	Identify the accessories of the	Integumentary	Presentation of microscopic	Daily exam

		Integumentary system	system (nail and hair)	slides and educational videos	
Thirteenth	4	Identify the structure of the lymphatic system	Lymphatic system (lymphatic organs)	Presentation of microscopic slides and explanation on the board	weekly report
fourteenth	4	Identify the structural tissues of the digestive system	Digestive system (tongue - stomach)	Presentation of microscopic slides and explanation on the board	weekly report
Fifteenth	4	Identify the structural tissues of the digestive system	Digestive system (small and large intestine)	Presentation of microscopic slides and explanation on the board	Homework
Sixteen	4	Identify the structural tissues of the digestive system	Digestive system (appendix, liver and pancreas)	Display educational videos	Quiz
seventeenth	4	Identifying the structural tissues of the respiratory system (trachea and lungs)	Respiratory system	Presentation of microscopic slides and explanation on the board	Report based on scientific sources
Eighteen	4	Identifying the structural tissues of the urinary system (kidney and ureter)	Urinary tract	Presentation of microscopic slides and explanation on the board	Quiz

1. Course Evaluation

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

2. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Histology - Part 1 and 2 - Dr. Kawakib Abdul Qadir Al-Mukhtar
Main references (sources)	Junqueira's Basic Histology
Recommended books and references (scientific journals, reports...)	Principles of Histology: Hamid Ahmed Al-Hajj

Electronic References, Websites	https://histologyguide.com/

Course Description Form

76.Course Name:	
Embryology (theoretical)\Second stage	
77.Course Code:	
78.Semester / Year:	
2025-2026	
79.Description Preparation Date:	
2026	
80.Available Attendance Forms:	
Weekly	
81.Number of Credit Hours (Total) / Number of Units (Total)	
48 hours \ 6 Units	
82. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Wijdan Ibrahim Abbas Email: wijdan80@uosamarra.edu.iq	
83.Course Objectives	
Course Objectives	• **The aim is to introduce the student to embryology and its branches, and to provide insight into its applied fields of specialization.** • **It aims to study embryonic development in lancelet, chickens, frogs, and humans.** • **Studying the stages of embryonic**

	development of different animals and comparing them

84. Teaching and Learning Strategies

Strategy	**Problem solving, discussion, additional assignments, questions and answers, and adopting video lectures, pictures, shapes and diagrams to increase knowledge.**

85. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Memorizing and understanding the subject and its applications	History of embryology and theories of genetic formation	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
2	2	Memorizing and understanding the subject and its applications	Gametes formation	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
3	2	Memorizing and understanding the subject and its applications	Fertilization	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
4	2	Memorizing and understanding the subject and its applications	Cleavage - its characteristics, levels,types/formation of the morula/ formation of the blastula/formation of the gastrula/ embryonic maps	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
5	2	Memorizing and understanding the subject and its applications	The movements that make up the fetus	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written

					tests
6	2	Memorizing and understanding the subject and its applications	Organogenesis	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
7	2	Memorizing and understanding the subject and its applications	Embryonic formation of the Lancelet	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
8	2	Memorizing and understanding the subject and its applications	Formation of the nervous system	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
9	2	Memorizing and understanding the subject and its applications	Formation of the vascular system	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
10	2	Memorizing and understanding the subject and its applications	Formation of the digestive system	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
11	2	Memorizing and understanding the subject and its applications	Artificial insemination and artificial fertilization in humans	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests

12	2	Memorizing and understanding the subject and its applications	Multiple Births and twins	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
13	2	Memorizing and understanding the subject and its applications	malformation	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
14	2	Memorizing and understanding the subject and its applications	Lancelet-Cleavage - its characteristics, levels, types/formation of the morula/formation of the blastula/formation of the gastrula/embryonic maps	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
15	2	Memorizing and understanding the subject and its applications	The movements that make up the fetus in Lancelet	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
16	2	Memorizing and understanding the subject and its applications	Organogenesis in Lancelet	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
17	2	Memorizing and understanding the subject and its applications	Embryonic formation of the Lancelet	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
18	2	Memorizing and	Formation of the	Lecture, use	Daily,

		understanding the subject and its applications	nervous system in Lancelet	of the blackboard, projector, and discussion	quarterly and annual oral questions and written tests
19	2	Memorizing and understanding the subject and its applications	Formation of the vascular system in Lancelet	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests
20	2	Memorizing and understanding the subject and its applications	Formation of the digestive system in Lancelet	Lecture, use of the blackboard, projector, and discussion	Daily, quarterly and annual oral questions and written tests

86.Course Evaluation

The theoretical grade of the first semester is 17 and the practical grade is 8, the theoretical grade of the second semester is 18 and the practical grade is 7, and the theoretical final exam grade is 35 and the practical grade is 15. Thus, the total grade for the first and second semesters becomes 50, the final exam is 50, and the sum of the final grade is 100.

87.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Embryology / written by Dr. Kawakib Al-Mukhtar, Dr. Amal Ali Al-Khatib, Ministry of Higher Education and Scientific Research, 2000, University of Baghdad
Main references (sources)	1- Descriptive Comparative Embryology, written by Professor Dr. Saleh bin Abdul Aziz Al-Karim, Dr. Fatima Muhammad Saad Al-Quddusi 2- Practical comparative descriptive embryology - written by Dr. Saleh bin Abdul Aziz Karim and Dr. Fatima Mohammad
Recommended books and references (scientific journals, reports...)	Nelsen,O.E. 1953 comparative embryology of the vertebrate.NY. RughmR. Development of veretebrate anatomy .Nw.
Electronic References, Websites	Practical Embryology of Vertebrates, written by Dr. Saleh bin Abdul Aziz and Dr. Ibrahim Hussein Abdul Ghani

Course Description Form

1. Course Name: Practical embryology
2. Course Code:
3. Semester / Year: The second stage
4. Description Preparation Date: 2025-2026
5. Available Attendance Forms: Practical lectures
6. Number of Credit Hours (Total) 48 / Number of Units (Total)
7. Course administrator's name (mention all, if more than one name)
Name: Brada Anwer Jassim Email: **brada.an.ja@uosamarra.edu. iq**

8. Course Objectives

Course Objectives	**• Gain a general concept about practical embryology** **• Identifying the embryonic formation of humans...** **• Identifying cleavages and the formation of organs....** **• Identify the embryonic formation of vertebrate taxa Including birds and amphibians.....**

9. Teaching and Learning Strategies

Strategy	• Explaining and detailing the topics, then conducting scientific experiments and assigning students to conduct research. • About the experiments that were conducted in the laboratory to demonstrate the extent of their understanding. • Conducting daily examinations of the material that was explained. • Make models of dissected organisms and explain them live.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	**Definition of body levels in vertebrates as well as anatomical lines.**	**Body levels vertebrates.**	**The blackboa Data show Lecture illustrations.**	**Discuss the topic of daily tests.**
2&3	12	**Identify divisions, Differentiate between mitosis and meiosis, and learn about the embryonic formation sperm.**	**Divisions And embryogenesis sperm.**	**The method presenting t lecture and using live models illustrate t embryonic formation sperm.**	**Discussion of the topic and daily exam.**
4	4	**Identify the Embryonic formation of eggs.**	**Embryonic formation of Eggs.**	**The method presenting t lecture and using live models illustrate t embryonic formation of eggs.**	**Topic discussion and reports.**

5	**4**	**Identify the types of eggs, fertilization ,and cleavage.**	**Types of eggs.**	**Schemes.**	**Topic discussio and reports.**
6&7	8	**Identifying the spear larvae, its embryonic formation, and its alimentary canal**	**Embryonic formation of the spear.**	**Presentation and delivery the lecture.**	**Topic discussion.**
8	4	**Identify the embryonic formation the gastrula**	**Gastrulation formation.**	**Presentation the lecture**	**Discuss the topic Work and reports**
9	6	**Identify the embryonic formation the frog.**	**Embryonic formation of the frog.**	**Presentation the Lecture and dissection frogs to clarify their embryonic formation.**	**Discuss the topic Work and reports**
10	8	**Identify the Embryonic formation of birds**	**Embryonic formation birds.**	**Presentation the Lecture and anato of birds to clarify their embryonic formation.**	**Discussion the topic and daily exam.**

11.Course Evaluation

The study system is annual
Chapter One: Theoretical 17
Practical 6
Reports 2
Chapter Two: Theoretical 18
Practical 6
Daily exam 1
Final: Theoretical 35
Practical 15
Final grade: 100

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Free education for the department
Main references (sources)	Systematic book of embryology

Recommended books and references (scientific journals, reports...)	Published research
Electronic References, Websites	Google scholar, Iraqi academic journal

Course Description Form

88. Course Name: Plant Taxonomy
89. Course Code:
90. Semester / Year: Year
91. Description Preparation Date: 2025 – 2026
92. Available Attendance Forms: Attendance is Theoretical and practical
93. Number of Credit Hours (Total) / Number of Units (Total) 150/ 6
94. Course administrator's name (mention all, if more than one name)
1. Name: Name: Prof .Ass :Sundus Hussein Alwan Email: sundus.h@uosamarra.edu.iq 2. Name : Lecturer .Ass : Halah amer abduljabbar Email : Hala.Amer@uosamarra.edu.iq 3. Name : Lecturer .Ass : Warqaa Fayez Tawfeeq Email : warkaa.faiz@uosamarra.edu.iq

95.Course Objectives

Course Objectives	**Learn about plant taxonomy and its relationship to other scientific fields** **Identify the morphological characteristics of all parts of the plant and their importance in diagnosing plant groups into taxa** **Learn about plant classification systems** **Learn about the rules of botanical nomenclature**

96.Teaching and Learning Strategies

Strategy	1- Using illustrative methods to determine the morphological characteristics in all parts of the plant from root to pollen grains and these methods are illustrations on the whiteboard and presentation PowerPoint. 2- Preparing fresh samples for the purpose of demonstrating the antiseptic properties of important plant parts in the field of taxonomic study among plant groups. 3- Identify the method of preparing herbarium samples for the purpose of using th to compare plants in terms of morphological characteristics

97. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	Recognizing the importance of plant taxonomy in the academic and applied fields	Taxonomy of flowering plant s	Whiteboard ar powerpoint presentation	Questions to evaluate the level of understanding of the lecture – monthly exams
2	6	General morphological description of ro	Identify of morphological aracteristics of t t that are import taxonomic stud	Whiteboard an powerrpoint presentation And use of fre and dried plar samples	=
3	6	General morphological description of stem	Identify of morphological aracteristics of t stem that are important in taxonomic study	=	=

4	6	General morphological description of buds	Identify of morphological aracteristics of t buds that are important in taxonomic study	=	=
	6	General morphological description of lea	Identify of morphological characteristics of the leaf that are important n taxonomic stud	=	=
6	6	General morphological description of flower	Identify of morphological characteristics of the flower that are important in taxonomic study	=	=
7	6	General morphological description of flower	Identify of morphological characteristics of the flower that are important in taxonomic study	=	=
8	6	General morphological description of inflorescences	Identify of morphological characteristics of the inflorescences that are important in taxonomic study	=	=

9	6	General morphological description of inflorescences	Identify of morphological characteristics of the inflorescences that are important in taxonomic study	=	=
10	6	General morphological description of fruits	Identify of morphological characteristics of the fruits that are important in taxonomic study	General morphological description of fruits	Identify of morphological characteristics of the fruits that are important in taxonomic study
11	6	General morphological description of see	Identify of morphological characteristics of the seeds that are important in taxonomic study	Whiteboard an powerpoint presentation And use of fresh and dried plant samples and recognized its morphological characteristics Under anatomical microscope	Questions to evaluate the level of understanding of the lecture – monthly exams

12	6	General morphological description of poll grains	Identify of morphological characteristics of the pollen grains that are important in taxonomic study study of pollen grains characteristics under a microscope to Identify their importance morphological characteristics	=	=
13	6	Botanical herbarium	Definition of Botanical herbarium and its importance in comparing plants And identify the steps for preparing neural plant samples	Whiteboard a powerpoint presentation st for preparing neural plant samples	=
14	2	Plant taxonomy systems	Identify of the type of approved plant taxonomy systems	Whiteboard an powerpoint presentation	=
15	2	Plant nomenclature	Learn about the methods used in establishing botanical nomenclature	Whiteboard an powerpoint presentation	=

16	2	Sciences related t classification the plant	Identifying the most important relevant sciences teaches plant classification	=	=
17	2	Species concept	Identify the importance of the taxon in taxonomic study	=	=
18	6	Taxonomic keys	Identify of the type of these keys and the mechanism of their use in taxonomic studies Identify of the plants families through their most prominent morphological characteristics mentioned in the taxonomic keys as one of the sources of comparison between plants	Whiteboard an powerrpoint presentation an use fresh plants and taxonomic keys	=
19	2	Botanical garden and their importan	The botanical gardens and its importance in the field of classification	Whiteboard an powerpoint presentation	=

1. Course Evaluation
Charter One : Theoretical 17 Practical :7 Report : 1

Charter Two : Theoretical 17 Practical :7 Daily exam : 1 Final exam : Theoretical 35 Practical 15	
2. Learning and Teaching Resources	
Required textbooks (curricular boc if any)	Akateb,Youssef Mansour(1988) .classificati of spermatophyte ,university Press of Canada
Main references (sources)	AL-Musawi , Ali Hussein (1978).Plant taxonor Baghdad University . AL- A tabi , Jabbar Suleiman andKhalaf Muhamm Kamel(2002). Floweing plants for univers students , altahadi university / Libya
Recommended books and references (scientific journals, reports...)	Plant morphology Morphology of flowering plants
Electronic References, Websites	

Course Description Form

98. Course Name:	
plant taxonomy	
99. Course Code:	
Practical	
100. Semester / Year:	
2025-2026	
101. Description Preparation Date:	
2026	
102. Available Attendance Forms:	
Weekly	
103. Number of Credit Hours (Total) / Number of Units (Total)	
48 / 6	
104. Course administrator's name (mention all, if more than one name)	
Name: Lecturer Dr.Warqaa Fayez Tawfeeq Lecturer .Ass Hala Amer Abd-al Jabbar Email:	
105. Course Objectives	
Course Objectives	• **Explaing the similarities and differences between flowering plants.** • **Knowing something about evolution and its causes** • **Knowing some rare properties of some plants.** • **Studying a number of plant families with examples.**
106. Teaching and Learning Strategies	
Strategy	Daily exams Semester exams Reports Extracurricular activities The presence
107. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	8	Identify the herbarium and its contents.	herbarium	Display screen	a report
2	8	Identify the types of roots	Root	Models, pen and board	Oral questions
3	8	Identify the types of stems	Stem	Models, pen and board	Oral questions
4	8	Identify the types of buds	Buds	Models, pena board	Daily exam
5	8	Identify the parts of a leaf, venation, leaf types	Leaf	Models, p and board	Daily exam
6	8	Simple leaf and compound leaf	Leaf	Models, p and board	Daily exam
7	8	Identify: Blade shapes, Base of blade, Blade margin, Blade apex	Leaf	Models, p and board	Daily exam
8	8	Definition of indumentum and its types in plants	indumentum	Models, p and board	Daily exam
9	8	Identify the parts of a flower, classify flowers	Flower	Models, p and board	Oral questions
10	8	Shapes of the calyx, shapes of the corolla,	Flower	Models, p and board	Oral questions
11	8	Stamens and their various classifications	Flower	Models, p and board	Daily exam
12	8	Pistil and their various classifications	Flower	Models, p and board	Daily exam
13	8	Placentation, bracts	Flower	Models, p and board	Daily exam
14	8	Inflorescences, indeterminate floral system and its types, and determinate floral system	Inflorescences	Models, p and board	Daily exam
15	8	Identifying fruits, identifying simple fruits.	Fruits	Models, p and board	a report
16	8	identifying aggregate fruits, and identifying compound fruits and false fruits	Fruits	Models, p and board	a report
17	8	Learn about seed structure and seed	Seed	Models, p and board	Daily exam

		shapes			
18	8	Learn about the shapes of seed coats and types of seed germination.	Seed	Models, p and board	Daily exam

108. Course Evaluation

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

109. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book: Plant taxonomy , Hussein Al-Moussawi, 1987.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Some websites.

Course Description Form

28.Course Name:
Bio Chemistry
29.Course Code:
Bio 2.5
30.Semester / Year:
Year
31.Description Preparation Date:
2026
32.Available Attendance Forms:
Regularity
33.Number of Credit Hours (Total) / Number of Units (Total)
120 hours / 6 units
34. Course administrator's name (mention all, if more than one name)
Name: Dr. Ayman Sadiq Ja'far Email: ayman.sa.j@uosamarra.edu.iq
35.Course Objectives

1. **Course Objectives:**

1. To develop academic commitment at the university level and to align with the requirements of higher education and scientific research, by enabling students to integrate into the job market based on their acquired knowledge.
2. To explain the basic principles of biochemistry, including the fundamental chemical reactions involved in the construction of biological molecules, and to understand how these reactions occur and interact, ultimately contributing to the formation of the structures that make up living cells.
3. To enable students to understand the chemical structure of biologically important compounds (such as carbohydrates, fats, and proteins), their characteristics and biological functions.
4. To describe the biological importance of biochemistry in interpreting physiological phenomena in the human body, such as energy production for cellular functions, nerve impulse transmission, and other phenomena.

36.Teaching and Learning Strategies	
Strategy	1- Explanation and clarification. 2- Lecture method. 3- Discussion method.

10- The course structure					
Evaluation	Teaching	outcomes	Required	hour	**Week**

method	method	Name of unit/or subject	learning	s	
Oral and exams	Explanation and clarification	Bio chemistry	Introduction	2th+2 p	73
Oral and exams	Explanation and clarification	Carbohydrates	Importance of Carbohydrates	2th+2 p	74
Oral and exams	Explanation and clarification	Carbohydrates	Classification of Carbohydrates	2th+2 p	75
Oral and exams	Explanation and clarification	Carbohydrates	Optical activity of Carbohydrates	2th+2 p	76
Oral and exams	Explanation and clarification	Carbohydrates	Conjugated Carbohydrates	2th+2 p	77
Oral and exams	Explanation and clarification	Lipids	Introduction	2th+2 p	78
Oral and exams	Explanation and clarification	Lipids	Functions of lipids	2th+2 p	79
Oral and exams	Explanation and clarification	Lipids	Fatty acids	2th+2 p	80
Oral and exams	Explanation and clarification	Lipids	Fats and Oils	2th+2 p	81
Oral and exams	Explanation and clarification	Lipids	Classification of Lipids	2th+2 p	82
Oral and exams	Explanation and clarification	Proteins	Introduction	2th+2 p	83
Oral and exams	Explanation and clarification	Proteins	Functions of proteins	2th+2 p	84
Oral and exams	Explanation and clarification	Proteins	Classification of Proteins	2th+2 p	85
Oral and exams	Explanation and clarification	Proteins	Protein Structure	2th+2 p	86
			First semester exam	2th+2 p	87
Oral and exams	Explanation and clarification	Proteins	Amino acids and Peptides	2th+2 p	88
Oral and exams	Explanation and clarification	Proteins	Classification of Amino acids	2th+2 p	89
Oral and exams	Explanation and clarification	Proteins	Rare amino acids	2th+2 p	90
Oral and exams	Explanation and	Proteins	Compounds of amino acids	2th+2 p	91

	clarification				
Oral and exams	Explanation and clarification	Nucleic Acids	Introduction	2th+2 p	92
Oral and exams	Explanation and clarification	Nucleic Acids	Functions of Nucleic Acids	2th+2 p	93
Oral and exams	Explanation and clarification	Nucleic Acids	DNA and RNA	2th+2 p	94
Oral and exams	Explanation and clarification	Viruses and Bacteria	Viruses	2th+2 p	95
Oral and exams	Explanation and clarification	Viruses and Bacteria	Bacteria	2th+2 p	96
Oral and exams	Explanation and clarification	Enzymes	Introduction	2th+2 p	25
Oral and exams	Explanation and clarification	Enzymes	Classification of Enzymes	2th+2 p	26
Oral and exams	Explanation and clarification	Enzymes	Hypotheses of Enzyme-Substrate Binding	2th+2 p	27
Oral and exams	Explanation and clarification	Enzymes	Factors Affecting the Rate of Enzyme Activity	2th+2 p	28
Oral and exams	Explanation and clarification	Enzymes	Specificity of Enzymes	2th+2 p	29
			Second semester exam	2th+2 p	30

17.Course Evaluation

1. Semester exam (theory 35 + practical 15) = 50%
2. Final exam (theoretical 35 + practical 15) = 50%

18.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Bio Chemistry: Dr. Tariq Younes Ahmed, Dr. Luay Ali Al-helaly.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Practical Biochemistry

2. Course Code:

3. Semester / Year:2025-2026

4. Description Preparation Date: 2026

5. Available Attendance Forms: Weekly theoretical and practical

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

48hours\6 Units

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

Name: Wassan Kareem Ahmad
Email: wassan.ka.ah@uosamarra.edu.iq

8. Course Objectives

Course Objectives	**Acquire a reasonable level of chemical knowledge commensurat with what is commonly accepted among various universities around the world, especially prestigious ones.** **- Have a grasp of the basic topics of chemistry and their laborat applications, with appropriate knowledge of the various aspects chemistry.** **- Have a good understanding of the areas of application of chemical methods in various fields of knowledge and the ability diagnose and address problems encountered, thus qualifying the to work in community institutions.** **-Outstanding students are qualified to complete their postgradu studies both inside and outside the country**

9. Teaching and Learning Strategies

Strategy	**1- Daily Exams** **2- Reports** **3- Termly Exams** **4- Attendance** **5- Extracurricular Activities**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	- **- Carbohydrates: Definition of carbohydrates Importance of carbohydrates Classification of carbohydrates Monosaccharides (pentoses a hexoses) - Disaccharides Polysaccharides**	**Carbohydrates**	**Presentation + discussion + displa screen** **Use the board a**	Exams

2	4	**Distinguishing between carbohydrates and non-carbohydrates**	**Mollch's test**	**conduct experiment**	
3	4	**-Distinguishing between aldehy and ketones**	**Salvanov's test**	**Use the board and conduct the experimen**	
4	4	**Distinguishing between pentoses a hexoses**	**Biel's test**		
5	4	**Distinguishing between reducing a non-reducing sugars**	**Benedict's and Fehling's test**		
6	4	**Decomposition of disaccharides i polysaccharides**	**Hydrolysis of disaccharides Iodine test**		
7	4	**Detecting polysaccharides Decomposition of polysacchari into monosaccharides**	**Hydrolysis of polysaccharides**	**Use the board and conduct the experimen**	
8	4	**To identify unknown sugars**	**Detection of unknown sugars**		
9	4	**Identifying amino acids**	**Amino acids**		
10	4	**Detecting amino acids**	**Ninhydrine test**		
11	4	**Anaerobic and aromatic amino ac ids**	**Xanthoprotic test**		
12	4	**Detecting the amino acid tryptoph and the amino acid arginin**	**Rosenheim and Hopkins-Cole tes Zakogyi's test ? -**		

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if an	Biochemistry-Kawla Ahmed Fleih
Main references (sources)	Biochemistry-lehninger

	VOET-Fundamentals of Biochemistry
Recommended books and references (scientific journals, reports...)	-Harper's Illustrated Biochemistry [31 ed.] -Atlas of biochemistry -color_atlas_of_biochemistry_2nd_ed.pdf -MCQs in Biochemistry
Electronic References, Websites	PubMed. ... Web of Science. ... SciFinder-n. ... .

Course Description Form

1. Course Name:
2. Course Code:
3. Semester / Year:
4. Description Preparation Date:
5. Available Attendance Forms:

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

2 hours / 4 units

48 hours theory / 48 hours practical

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

Name: Khalida Khalil Abdullah,

Email: Khaleda.kh@uosamarra.edu.iq

8. Course Objectives

Course Objectives	**1- Learn about statistics.** **2- Explain differences in populations and samples through statistical analysis.** **3- Explain the importance of frequency distributions i presenting results.** **4- Reach conclusions that can help management solve problems in a mathematically correct and scientific manner.**

9. Teaching and Learning Strategies

Str Ate gy	The subject of statistics explains the importance of being familiar with all the mathematical issues related to the study community, from knowing the types of data and samples, the suitabilit of the sample taken from the community, and how to fill out questionnaires suitable for analysis to reach the best results and recommendations.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8			Freque Clu Clus		

9 10 11 12 13 14 15 16 17 18 19 20 21 22			= 		

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if any	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Biostatistics Principles of Statistics and Biostatistics
Electronic References, Websites	

Course Description Form

110.	Course Name:
	Computer 2
111.	Semester / Year:
	annually for the year 2025/2026
112.	Description Preparation Date:
	2026
113.	Available Attendance Forms:
	Daily
114.	Number of Credit Hours (Total) /
	60
115.	Course administrator's name (mention all, if more than one name)
	Name: Instructor. Harith Sameer Dawood
116.	Course Objectives

Course Objectives	

9. Learning outcomes and methods of teaching, learning and evaluation

C- Knowledge and understanding:

1- How to employ the theoretical or practical side of (computers) concepts in the educational process.

2- That the student understands the basic concepts in (computers), especially the recent developments occurring in

these sciences.

3- Enabling students to deal with computers smoothly to serve the labor market

4- Enabling the student to know the applied programs to benefit from them in printing, making advertisements,

accounts, etc.

D- Teaching and learning methods

Developing learning outcomes in the various areas of learning shown below:
1- It provides a quick summary of the knowledge or skills that the course seeks to develop.
2- A description of the teaching strategies used in the course in order to develop that knowledge or skills.
3- The methods used to evaluate the student in the course to evaluate the learning outcomes in this field of study.

C - The skills objectives of the course
1- The student applies educational and scientific concepts within the classroom.
2- Using strategies and means of explanation when teaching.
3- Perfect classroom management.
4- Understanding the developmental and developmental aspect of the student.

Evaluation methods:
Daily exams and assignments
- Monthly exams
- Annual exams.
- Daily participation during the lecture.

12- Course Structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	Hours	The week
Weekly and monthly exams	Lecture with dialogue and discussion	Introduction to Microsoft Excel 2019	The students understanding of the vocabulary presented in the lecture	2	**1**
Weekly and monthly exams	Lecture with dialogue and discussion	The basic elements that make up the Microsoft Excel window (Excel 2019):	The students understanding of the vocabulary presented in the lecture	2	**2**
Weekly and monthly exams	Lecture with dialogue and discussion	Customize the Quick Access Toolbar	The students understanding of the vocabulary presented in the lecture	2	**3**

Weekly and monthly exams	Lecture with dialogue and discussion	Work sheet	The students understanding of the vocabulary presented in the lecture	2	**4**
Weekly and monthly exams	Lecture with dialogue and discussion	cells range	The students understanding of the vocabulary presented in the lecture	2	**5**
Weekly and monthly exams	Lecture with dialogue and discussion	Enter data into excel 2019 workbook	The students understanding of the vocabulary presented in the lecture	2	**6**
Weekly and monthly exams	Lecture with dialogue and discussion	cells selection	The students understanding of the vocabulary presented in the lecture	2	**7**
Weekly and monthly exams	Lecture with dialogue and discussion	Find and replace	The students understanding of the vocabulary presented in the lecture	2	**8**
Weekly and monthly exams	Lecture with dialogue and discussion	Function equations	The students understanding of the vocabulary presented in the lecture1	2	**9**
Weekly and monthly exams	Lecture with dialogue and discussion	Insert a new worksheet	The students understanding of the vocabulary presented in the lecture	2	**10**
Weekly and monthly exams	Lecture with dialogue and	Delete the worksheet	The students understanding of the vocabulary presented in the lecture	2	**11**

	discussion				
Weekly and monthly exams	Lecture with dialogue and discussion	Renaming worksheet	The students understanding of the vocabulary presented in the lecture	2	**12**
Weekly and monthly exams	Lecture with dialogue and discussion	hiding worksheet	The students understanding of the vocabulary presented in the lecture	2	**13**
Weekly and monthly exams	Lecture with dialogue and discussion	copying or moving worksheet	The students understanding of the vocabulary presented in the lecture	2	**14**
Weekly and monthly exams	Lecture with dialogue and discussion	Changing the colors of worksheets name	The students understanding of the vocabulary presented in the lecture	2	**15**
Weekly and monthly exams	Lecture with dialogue and discussion	A practical example of student grades	The students understanding of the vocabulary presented in the lecture	2	**16**
Weekly and monthly exams	Lecture with dialogue and discussion	A practical example of student grades to find the GPA equation	The students understanding of the vocabulary presented in the lecture	2	**17**
Weekly and monthly exams	Lecture with dialogue and discussion	A practical example of student grades to find the average equation and its graph	The students understanding of the vocabulary presented in the lecture	2	**18**
Weekly and monthly	Lecture with dialogue	Create large charts using excel	The students understanding of the vocabulary presented in	2	**19**

exams	and discussion		the lecture		
Weekly and monthly exams	Lecture with dialogue and discussion	Use conditional formatting	The students understanding of the vocabulary presented in the lecture	2	**20**
Weekly and monthly exams	Lecture with dialogue and discussion	Help identify trends	The students understanding of the vocabulary presented in the lecture	2	**21**
Weekly and monthly exams	Lecture with dialogue and discussion	Bring data together	The students understanding of the vocabulary presented in the lecture	2	**22**
	Lecture with dialogue and discussion	Internet connection	The students understanding of the vocabulary presented in the lecture	2	**23**
Weekly and monthly exams	Lecture with dialogue and discussion	Human resources planning	The students understanding of the vocabulary presented in the lecture	2	**24**
Weekly and monthly exams	Lecture with dialogue and discussion	The importance of Excel in accounting applications	The students understanding of the vocabulary presented in the lecture	2	**25**
Weekly and monthly exams	Lecture with dialogue and discussion	The importance of Excel in education	The students understanding of the vocabulary presented in the lecture	2	**26**

Weekly and monthly exams	Lecture with dialogue and discussion	My work on subjunctive tools	The students understanding of the vocabulary presented in the lecture	2	**27**
Weekly and monthly exams	Lecture with dialogue and discussion	My work on the important Excel equation	The students understanding of the vocabulary presented in the lecture	2	**28**
Weekly and monthly exams	Lecture with dialogue and discussion	Review basic vocabulary	The students understanding of the vocabulary presented in the lecture	2	**29**
Weekly and monthly exams	Lecture with dialogue and discussion	My work in general	The students understanding of the vocabulary presented in the lecture	2	**30**

13- Learning and Teaching Resources

Required textbooks (curricu books, if any)	Principles of computer use, part two
Main references: https://www.uobabylon.edu.iq/eprints/publication_3_1454_6032.pdf	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Developmental Psychology (Childhood and Adolescence)
2. Course Code:
3. Semester / Year:
2025 – 2026
4. Description Preparation Date:
5. Available Attendance Forms:
In-person (theoretical only)
6. Number of Credit Hours (Total) / Number of Units (Total)
32 hours / 4 units
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Professor Adnan Talfah Mohammed Email: adnantmk4@gmail.com
8. Course Objectives

Course Objectives	**1. Providing students with information and knowledge related to individual psychological development and its manifestations through the successive stages of development from fertilization to adolescence.** **2. Providing students with knowledge related to the various characteristics of development at each stage (fetus, childhood, adolescence).** **3. Providing students with various knowledge about the division of developmental stages, while emphasizing the Islamic perspective.** **4- Developing the level of academic achievement and scientific skills among students in the subject of developmental psychology.**

9. Teaching and Learning Strategies

Strategy	1- Lectures

	2- Daily written and oral tests 3- Online studies 4- Field notes 5- Reports 6- Visual aids

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student will be introduced to the concepts of growth, maturity, and development and the relationship between them.	The term (growth/maturity/development)	Presentation+ Discussion+ Screen	Tests
2	2	The student will understand the principles and general foundations of growth and apply them in his or her practical life.	Principles of growth and its general foundations.	Presentation+ Discussion+ Screen	Tests
3	2	The student will be introduced to childhood and its demands, and will be able to utilize them to stimulate learners' motivation.	Life stages and growth requirements	Presentation+ Discussion+ Screen	Tests
4	2	The student will be introduced to adolescence and its demands, and will be able to utilize them to stimulate learners' motivation.	Life stages and growth requirements	Presentation+ Discussion+ Screen	Tests
5	2	The student will be introduced to the stages of adulthood and old age, and their demands.	Life stages and growth requirements	Presentation+ Discussion+ Screen	Tests
6	2	The student will learn about (genetics and its impact on the growth, maturation,	Factors affecting growth	Presentation+ Discussion+ Screen	Tests

		and personality of the individual/and the impact of abnormalities in fertilization).			
7	2	The student will learn about (types of glands and their secretions and their impact on the growth, maturation, and personality of the individual).	Factors affecting growth	Presentation+ Discussion+ Screen	Tests
8	2	The student will learn about (factors occurring in the fetal or prenatal environment and their impact on the growth, maturation, and personality of the individual).	Factors affecting growth	Presentation+ Discussion+ Screen	Tests
9	2	The student will learn about the postnatal environment and its impact on human growth, maturation, and personality	Factors affecting growth	Presentation+ Discussion+ Screen	Tests
10	2	The student will learn about observation, its advantages, and types as a scientific research tool.	Research Methods in Developmental Psychology	Presentation+ Discussion+ Screen	Tests
11	2	The student will learn about case history studies/experiment al methods as scientific research tools.	Research Methods in Developmental Psychology	Presentation+ Discussion+ Screen	Tests
12	2	The student will learn about the longitudinal and cross-sectional methods as scientific research	Research Methods in Developmental Psychology	Presentation+ Discussion+ Screen	Tests

		tools.			
13	2	The student will understand the importance of studying developmental psychology for parents, educators, politicians, community leaders, and for individuals, both adolescents and adults.	The importance of studying developmental psychology	Presentation+ Discussion+ Screen	Tests
14	2	The student will understand the meaning of the critical period and which stages of a person's life it is.	Critical periods in development	Presentation+ Discussion+ Screen	Tests
15	2	The student will understand the types of deprivation (maternal, sensory, and cultural) and the impact of each type of deprivation on psychological, social, and cultural development	Deprivation	Presentation+ Discussion+ Screen	Tests
16	2	The student will respond to the test items and applications.	First semester exam	Questions + Daily Activities	Tests
17	2	The student should understand the meaning of kindergarten.	Kindergarten	Presentation+ Discussion+ Screen	Tests
18	2	The student should understand the approved kindergarten curricula and the age of admission.	The effect of softness or harshness on socialization	Presentation+ discussion	Tests
19	2	The student should understand the impact of leniency or harshness on socialization.	Socialization and its impact sexual stereotyping	Presentation+ discussion	Tests
20	2	The student should	Anxiety about losing care and	Presentation+	Tests

		understand socialization and its impact on gender stereotyping.	learning to forbid and refrain	discussion	
21	2	The student will learn about anxiety over loss of care and learn to stop and abstain.	Sexual stereotyping and the emergence of new motivations	Presentation+ discussion	Tests
22	2	The student will learn about gender stereotyping and the emergence of new motivations.	Dependent behavior.	Presentation+ discussion	Tests
23	2	The student will learn about the causes of dependent behavior and ways to overcome this problem.	Aggressive behavior.	Presentation+ discussion	Tests
24	2	The student will learn about the causes of aggressive behavior and ways to overcome this problem.	Adolescents and society.	Presentation+ discussion	Tests
25	2	The student will learn about the relationship between adolescents and society.	Adolescents' relationship with their family.	Presentation+ discussion	Tests
26	2	The student will learn about the relationship between adolescents and their families.	Adolescents' opposition to their parents.	Presentation+ discussion	Tests
27	2	The student will learn about the opposition of adolescents toward their parents.	Adolescents' attachment to other families.	Presentation+ discussion	Tests
28	2	The student will learn about the attachment of adolescents to other families.	Adolescents and peers.	Presentation+ discussion	Tests

29	2	The student will learn about the adolescent and their peers, and about the strong attachment to one peer.	Socialization and its impact on gender stereotyping.	Presentation+ discussion	Tests
30	2	The student will understand the meaning of socialization and its impact on gender stereotyping.	Child socialization within the family.	Presentation+ discussion	Tests
31	2	The student will understand the manifestations and methods of socializing children within the family.	Adolescence	Presentation+ discussion	Tests
32	2	The student will understand the meaning of adolescence, puberty, its nature, and the importance of studying them.	Second Semester Exam	Questions + Daily Activities	Tests

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	The distribution is as follows: 25 points for monthly and daily exams for first semester. 25 points for monthly and daily exams for second semester. 50 points for final exams.
Main references (sources)	Child and Adolescent Psychology / Dr. Jamal Hussein Al-Alusi / and Dr. Umaima Ali Khan / University of Baghdad / 1983
Recommended books and references (scientific journals, reports...)	All sources, scientific journals and reports related to the subject of developmental psychology.
Electronic References, Websites	Wikipedia, the free encyclopedia

Course Description Form

1. Course Name:
Educational administration and secondary education
2. Course Code:

3. Semester / Year:
Year
4. Description Preparation Date:
2026
5. Available Attendance Forms:
Attendance in the classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
60 / 4
7. Course administrator's name (mention all, if more than one name)
Name: Sahib Asaad Waies Email: Saheb.asaad@uosamarra.edu.iq
8. Course Objectives

Course Objectives	**"1- Defining some basic concepts communication and communication process 2- Identify the most important conditions effective communication and its basic skills. 3- Identify the most prominent obstacles communication in different educational styl 4- Identify the most important skills targe behind the communication process in vari educational institutions. 5- Identify the most prominent features of secondary education system in Iraq. 6- Identify the most distinguished models secondary education in the world. 7- Identify the concept of pu administration and its historical developme 8- Identifying the most prominent schools management and their intellectual trends. 9- Learn about educational administration its philosophy. 10- Identify educational administration and characteristics. 11- Getting to know school administration, nature of its work and its importance. 12- Comparing the different styles used management. 13- Learn about classroom management. 14- Identify the most common problems in classroom and how to deal with them.**

9. Teaching and Learning Strategies	
Strategy	1- Theoretical lectures. 2- Open discussion. 3- Cooperative learning.

	4-Brainstorming. 5- Presentations.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 +2	4	Learn about the concept of communication an communication	communicatior and communicatior	1- Theoretic lectures. 2- Open discussion. 3- Cooperati	Class discussions and daily tes Class
3+4	4		Conditions and skills for effective	learning. 4- Brainstormi	discussions and daily tes
5+6	4		communicatior	5- Presentatior	Class discussions and daily tes
7+8			Some knowled related to effective communicatior		
9+10	4		Types of communicatior and its obstacle		
11+12	4		The secondary education syste in the United States of Ameri		
13+14	4		Secondary education syste in Japan		
15	2		Evaluative test		
16+17	4		The secondary education syste in Sweden		
18+19	4		The concept of		

20+21	4		administration and its historic development Schools of administration		
22+23	4		Educational administration and the factors affecting it		
24+25	4		Management styles and their impact on educational administration		
26+27	4		Some students' problems inside the classroom		
28+29	4		Some students' problems inside the classroom		
30	2		Evaluative test		

11.Course Evaluation

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

.....

12 marks for daily activities throughout the year, 38 marks for written tests, 50 marks for the final exam

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Education: Youssef Yacoub Shehad and Ali Katab Kazem
Main references (sources)	Secondary education - Youssef Qaht // Class management a organization - Muhammad Khamis
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

37.Course Name:	
English	
38.Course Code:	
Eng. 4	
39.Semester / Year:	
Year	
40.Description Preparation Date:	
2026	
41.Available Attendance Forms:	
Regularity	
42.Number of Credit Hours (Total) / Number of Units (Total)	
24hours / 3 units	
43. Course administrator's name (mention all, if more than one name)	
Name: Harith Abdullah MAhmood Email: Harith.edu.iq@uosamarra.edu.iq	
44.Course Objectives	
1. Develop academic education at universities and colleges in accordance with higher education quality standards, enabling universities to produce graduates capable of entering the labor market. 2. Clarify basic English language concepts. 3. Develop students' English language skills, such as listening, speaking, and writing.	.

4. Explain the importance of the English language.	

45. Teaching and Learning Strategies	
Strategy	1- Explanation and clarification. 2- Lecture method. 3- Discussion method.

10- The course structure

Evaluation method	Teaching method	outcomes Name of unit/or subject	Required learning	hours	**week**
Oral and exams	Explanation and clarification	English	Introduction	1th	97
Oral and exams	Explanation and clarification	English	Present simple tense	1th	98
Oral and exams	Explanation and clarification	English	Simple present tense exercises	1th	99
Oral and exams	Explanation and clarification	English	Wh-questions	1th	100
Oral and exams	Explanation and clarification	English	Exercises about wh-questions	1th	101
Oral and exams	Explanation and clarification	English	Numbers	1th	102
Oral and exams	Explanation and clarification	English	Writing numbers	1th	103
Oral and exams	Explanation and clarification	English	Colors	1th	104
Oral and exams	Explanation and clarification	English	Reading passage	1th	105
Oral and exams	Explanation and clarification	English	Exercises about reading passage	1th	106
Oral and exams	Explanation and clarification	English	General info	1th	107
Oral and exams	Explanation and clarification	English	English letters	1th	108
Oral and exams	Explanation and clarification	English	Examples about English letters	1th	109
Oral and exams	Explanation and clarification	English	Reading passage	1th	110
		English	First	1th	111

			semester exam		
Oral and exams	Explanation and clarification	English	introduction	1th	112
Oral and exams	Explanation and clarification	English	Past simple tense	1th	113
Oral and exams	Explanation and clarification	inorganic chemistry	Exercises about past simple tense	1th+1p	114
Oral and exams	Explanation and clarification	inorganic chemistry	A\An\the	1th+1p	115
Oral and exams	Explanation and clarification	Organic Chemistry	Exercises about a\an\ the	1th+1p	116
Oral and exams	Explanation and clarification	Organic Chemistry	Reading passage	1th+1p	117
Oral and exams	Explanation and clarification	Organic Chemistry	Exercise about reading passage	1th+1p	118
Oral and exams	Explanation and clarification	Organic Chemistry	General information	1th+1p	119
		Organic Chemistry	Second semester exam	1th+1p	120

19.Course Evaluation

1. Semester exam (theory 25 +25) = 50%
2. Final exam (practical 50) = 50%

20.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Headway beginner student's book. OXFORD.
Main references (sources)	Headway beginner student's book. OXFORD
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name: Crimes of the Ba'ath Regime in Iraq
2. Course Code:
3. Semester / Year:
2025/2026
4. Description Preparation Date:
2026
5. Available Attendance Forms:
weekly
6. Number of Credit Hours (Total) / Number of Units (Total) 28 hours
1 hour / 2 units
7. Course administrator's name (mention all, if more than one name)
Name: M.M. Ibrahim Radam Ibrahim Abdel Email: ibrahim.radam88@uosamarra.edu.iq
8. Course Objectives

Course Objectives	Graduating a cadre capable of working in the field of rights and avoiding criminal behavior, then teaching the lofty principles through knowledge of rights and duties. This will contribute to and prepare the student for peaceful coexistence by knowing his rights and duties.

9. Teaching and Learning Strategies	
Strategy	Theoretical lectures Reports scientific articles

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	**hours 2 heoretical weekly**	The student understands the crimes of the Baath Party according to the Iraqi Criminal Court Law of 2005. The concept of crimes			**Oral and writt en tests in the department's private halls , semester exams, and final exams** **.**
2	**hours 2 heoretical weekly**	The student understands the definition of crime in language and terminology. - Crime sections			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
3	**hours 2 heoretical weekly**	The student understands Types of international crimes -Decisions issued by the Supreme Criminal Court			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
4	**hours 2 heoretical weekly**	The student understands the decisions issued by the Supreme Criminal Court.			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
5	**hours 2 heoretical weekly**	The student understands psychological			**Oral and writt en tests in the department's private halls ,**

		crimes. And social effects			**semester exams, and final exams**
6	**hours 2 heoretical weekly**	The student understands the most prominent violations of the Baath regime in Iraq.			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
7	**hours 2 heoretical weekly**	The student understands the militarization of society. The Baath Party's position on religion			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
8	**hours 2 heoretical weekly**	The student understands Violations of Iraqi laws -Human rights violations and crimes of power			**Oral and writt en tests in the department's private halls , semester exams, and final exams** **.**
9	**hours 2 heoretical weekly**	The student understands Decisions on the political and military violations of the Ba'ath regime			**Oral and writt en tests in the department's private halls , semester exams, and final exams**

10	**hours 2 heoretical weekly**	The student understands Baath regime prisons and detention centers			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
11	**hours 2 heoretical weekly**	The student understands Chapter Three Environmental crimes of the Baath regime in Iraq			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
12	**hours 2 heoretical weekly**	The student understands the destruction of cities and villages (scorched earth policy).			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
13	**hours 2 heoretical weekly**	The student understands the drying of the marshes.			**Oral and writt en tests in the department's private halls , semester exams, and final exams**
14	**hours 2 heoretical weekly**	The student understands graveyard crimes Collective			**Oral and writt en tests in the department's**

15	**hours 2 heoretical weekly**	The student understands Events of the genocidal graves committed by the Ba'ath regime in Iraq			**private halls , semester exams, and final exams**
16	**hours 2 heoretical weekly**	The student understands the chronological classification of genocide graves in Iraq for the period 1963-2003 .			

11.Course Evaluation

Daily exam + first month exam 25 points
Daily exam + second month exam 25 points
Final exam 50 marks

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Study resources: the official curriculum allocated by the Ministry of Higher Education and Scientific Research
Main references (sources)	The Holy Quran, Archives of the Political Prisoners Foundation, Archives of the Martyrs Foundation, Official Website of the United Nations,
Recommended books and references (scientific journals, reports...)	Mukhtar Al-Sihah, Crime and Punishment in Islamic Jurisprudence, Crimes Against State Security, Criminal Encyclopedia, Environmen Crimes of the Ba'ath Regime in Iraq
Electronic References, Websites	

Course Description of Teaching Thinking

1. Course Name:

Teaching Thinking

2. Course Code:

Theory

3. Semester / Year:

2025-2026 Year

4. Description Preparation Date:

25/6/2026

5. Available Attendance Forms:

Weekly

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

30/Compliant

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

Name: Asst. prof. Hind Tariq Hamad

8. Course Objectives

Course Objectives	**eveloping students' critical and creative thinking . .skills** **Enhancing the ability to analyze problems and . .make decisions in a scientific and logical manner** **Developing skills in dialogue and discussion, and . .fostering respect for diverse opinions**

9. Teaching and Learning Strategies

Strategy	Daily exams Semester exams Reports The presence

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Definition of Thinking	roduction to	Display screen	Report

			Thinking		
2	1	e Concept of Thinking and Its Characteristics	roduction to Thinking	plaining the lecture-using ome examples	Daily exam
3	1	e Nature and Levels of Thinking	roduction to Thinking	Display screen	Report
4	1	nking: The Importance of ;Learning and Teaching It Thinking Styles	oduction to Thinking Skills	plaining the lecture-using ome examples	Daily exam
5	1	pes of thinking: convergent nking, divergent thinking, and .scientific thinking	pes of thinking	Display screen	Report
6	1	aching Thinking and Its Concept	e concept of thinking	plaining the lecture-using ome examples	Daily exam
7	1	Basic thinking skills and complex thinking skills	Thinking skills	Display screen	Report
8	1	The Importance and Objectives of Teaching Thinking	nificance and Objectives	plaining the lecture-using ome examples	Daily exam
9	1	thods and techniques of ching thinking; approaches to .teaching thinking	thods and Approaches	Display screen	Report
10	1	The Relationship etween Thinking and Learning	Relationships	plaining the lecture-using ome examples	Daily exam
11	1	tors Influencing the Teaching of Thinking	tors of thinking	Display screen	Report
12	1	Pohl's model, Bennett's	dels of Teaching	plaining the lecture-using	Daily exam

13-		model, inquiry-based .model	Thinking	ɔme examples	
14 15-	1	Discovery learning ,model, Bloom's model .cooperative learning model	dels of Teaching Thinking	Display screen	Report
16	1	e general concept of thinking nking from a psychological spective; thinking from an .educational perspective	nking and its function	Display screen	Daily exam
17	1	Functions of nking: understanding and -comprehension, problem ving, decision-making, and .creativity and innovation	nking and its function	plaining the lecture-using ɔme examples	Report
18	1	aracteristics and types of thinking ,critical ,creative, reflective ical, imaginative, scientific, and ctical thinking; and the .integration of these types	aracteristics of Thinking cess and Its Types	Display screen	Daily exam
19	1	The Importance of aching Thinking: Aspects of Its Significance	e Importance of Thinking	Display screen	Report
20	1	e general importance of thinking skills; the ɔortance of thinking for .students	stacles to Teaching Thinking Skills	plaining the lecture-using ɔme examples	Daily exam
21	1	Critical thinking skills, fundamentals of critical thinking	ɔes of thinking lls: Critical thinking skills	Display screen	Report

22	1	e concept and types of creative thinking skills	ative thinking skills	plaining the lecture-using ome examples	Daily exam
23	1	Principles of Lateral Thinking	eral thinking skills	Display screen	Report
24	1	Reciprocal thinking strategy- Paradoxes strategy- Brainstorming strategy- Questioning strategy- Discussion strategy- Problem-solving strategy-	ategies for Developing Thinking Skills	plaining the lecture-using ome examples	Daily exam

11.Course Evaluation	
Daily quiz + First monthly exam: 25 marks Daily quiz + Second monthly exam: 25 marks Final exam: 50 marks	

12.Learning and Teaching Resources	
(Required textbooks (curricular books, if any	.
(Main references (sources	Thinking and Problem-Solving (2023–2022) Skills Book Teaching Thinking: Theory and Practice
Recommended books and references (scientific (...journals, reports	
Electronic References, Websites	.Some websites

The decisions of the third stage

2026 – 2025

Course Description Form

1. Course Name:
ECOLOGY and pollution
2. Course Code:
3. Semester / Year:
Year:2025-2026
4. Description Preparation Date:

5. Available Attendance Forms:

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

40hours

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

Afrah toma kalaf

8. Teaching and Learning Strategies

Strategy	
	Learn the basics of ecology and its relationship to other living organis Identify living and non-living components and the interactions betwe them. Understand the biological connections between living organisms and surrounding world. Know the physical and chemical factors. Know the water cycle and biochemical cycles. Know the ecosystem and energy flow. Identify the components of an ecosystem, their importance, and their Identify the types of environments. Identify the relationships between living organisms. Study the types of living organisms. Study pollution and its types.

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1,2 .3	3	Introducing students to the term environmental science Learning abo the principles environmental science and t most importa types of polluti	Basic principles of ecology	Lecture or discussion method	Attendance, Reports an dutyHome and daily ex
4.5.6.7	4	Ecosystem Components an Ecosystem	Types of ecosystems and their components	Lecture or discussion method	Attendance, Reports an dutyHome and daily ex

8.9.10	6	Atmospheric gases	Types of gases and gas layers	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
13.14.15	6	Biogeochemical cycles	Basic cycles and their importance	Lecture or discussion meth	Attendance, Reports and dutyHome and daily ex
16.17.18.19	8	Definition of food chains and their types	Types of ecological pyramids and which is better: a food chain or a food web - Ecological pyramids	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
20.21.22.	6	Productivity in Ecosystems Limiting Factors and Tolerance Levels	Productivity Steps and Methods for Measuring It	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex

24.25.26.27	8	Types of ecological succession	Stages of ecological succession	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
29.30.31	6	Definition of environmental pollution and its types.	. Concept of environmental pollution. Elements of pollution. Types of environmental pollution. Main forms of pollution.	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
32.33	4	Air pollutants	their types	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
34.		Water pollution	Types of water pollutants	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
36	2	Definition of soil pollution	Types of soil pollutants	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
37	2	Definition ofradioactive	types. Radioactive pollution - Noise pollution	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
38.40	2	treatments	Types of environmental treatments and pollution reduction	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex

10.Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, d oral, monthly, or written exams, reports .... etc	
11.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Odum, E.B. 1990. Foundations of Environmental S Translated by Dr. Muhammad Ammar A University of Baghdad. Dar Al-Hikma
Main references (sources)	Al-Saadi, Hussein Ali 1986. Environmental Scien Pollution.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Practical environment
2. Course Code:
3. Semester / Year:
2025-2026
4. Description Preparation Date:
2026
5. Available Attendance Forms:
weekly
6. Number of Credit Hours (Total) / Number of Units (Total)

2

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

Name: kulud weald Salah
Email: khulud .w.s@uosamarra.edu.iq

8. Course Objectives

Course Objective	**.....** Focus on practical focus to teach the student how to deal with the devices and tools used in the laboratory and encourage training on the differences in an easy and enjoyable way to work correctively with the environment surrounding us and the environmental phenomena that are increasing around them**.....**

9. Teaching and Learning Strategies

Strategy	Assign students daily reports, learn how to handle equipment and tools properly, and participate in preparing the required samples, preparing solutions according to a well-thought-out plan, and preparing environmental samples.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Familiarization with devices and tools and how to use them	Equipment and Tools Used in the Environmental Laboratory	Blackboard, colored pencils, and models of equipment	Daily Exam +

2	3	Familiarization with devices and tools	Using Equipment	Experiment at sterilizing laboratory equipment	Topic Discussion
3	3	Familiarization with devices and tools	Measuring pH	Models of various water samples	Report
4	3	Familiarization with devices and tools	Measuring pH	Samples of soil samples	
5	3	Familiarization with devices and tools	Measuring Dissolved Salts	Models of various water samples	Reports
6و7	4	Familiarization with devices and tools	Measuring Temperature and Conductivity	Models of various water and soil samples	Daily Exam
8	3	Identify the glassware and materials used in the experiment.		Glassware (flasks + holder + burette +	Daily Exam

				cylinder)	
9	3	Identify the glassware and materials used in the experiment. Identify the types of groups and their purpose.	Determining Acidity in a Water Sample	Glassware (flasks + holder + burette + cylinder)	Daily exam + topic discussion
10	4	Identify the glassware and materials used in the experiment. Identify the types of groups and their purpose.	Lecture on Population	View the lecture	Daily Exam
12	3	Types of productivity	Lecture on Productivity	Lecture Presentation	Daily Exam + Topic Discussion
13	3	Identify the glassware and materials used in the experiment	Measuring Dissolved Oxygen in Water	Glassware (Beakers, Holder, and Burettes, and	Reports

				Cylinder)	
14	3	Identify salinity and the materials used		Glassware (Beakers, Holder, Burettes, and Cylinder)	Daily Exam
15	3	Learn about hardness and the materials used	Measuring Chlorides	Glassware (beakers, holder, burette, and cylinder)	Daily Exam
16	3	Damages caused by pollution	Measuring Hardness	Lecture presentation and tables	Questions and Answers
17	3	Damages caused by pollution	Soil Pollution	Lecture presentation and tables	Daily Exam +
18	3	Damages caused by	Water Pollution	Lecture presentati	Report

		pollution		on	
19	3	Knowing some things related to reducing pollution	Treatment and Pollution Mitigation	Lecture presentation and illustrative tables	Questions and Answers
20	3	Damages caused by pollution	Equipment and Tools Used in the Environmental Laboratory	Blackboard, colored pencils, and models of equipment	Daily Exam +

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books any)	Practical Book by Khalid Al Rajhi
Main references (sources)	Practical Environmental Engineering
Recommended books and references (scientific journals, reports...)	Suad Abd Abbawi
Electronic References, Websites	

Course Description Form

14. Course name :	
Theore tical Insects / Third Stage	
15. Course code :	
16. Semester/Year:	
2026/2025	
17. Date of preparation of this description:	
/ /2026	
18. Available attendance forms:	
weekly	
19. Number of study hours (total) / Number of units (total):	
1 hour / 2 units	
20. Course Supervisor Name (if more than one name is mentioned)	
Name: Prof. Dr. Hesham Naji Hamid	
21. Course objectives	
Course objectives	1- Enabling the student to learn about entomology. 2- Make a comparison between insects and other arthropods. 3- Enabling the student to identify the external appearance of insects. 4- Identifying the internal structure of the insect's organs and their function. 5- Identify insect reproduction and developmental stages in its life. 6- Insect taxonomy, its history, stages and tools. 7- Enabling the student to identify a group of insect orders, especially local ones.
22. Teaching and learning strategies	
Strategy	6. Scientific lectures 7. Use educational images and videos related to the subject's vocabulary. 8. Daily exams 9. Extracurricular activities 10. Preparing a report for each topic by the students and the subject teacher 11. Bring live insect models to study insect structure clearly.

23. Course structure					
week	**hours**	**Required learning outcomes**	**Name of unit or topic**	**Learning method**	**Evaluation method**
1	3	Definition of entomology, its importance, and its relationship to other sciences.	Classification of the phylum Arthropoda	theoretical ar applied	Oral and written tests
2	3	Reasons for the succe and spread of insects, comparing the insect class with other arthropods.	Insect success factor	theoretical ar applied	Oral and written tests
3	3	The importance of the body wall, its regions and benefits. The hea and its types, the position of the head ir relation to the body.	Body wall installatic	theoretical ar applied	Oral and written tests
4	3	Mouth parts, its modifications, tentacl and their types	Typical oral structur and its modifications	theoretical ar applied	Oral and written tests
5	3	Chest, legs and their types, wings, their vei and their types.	Three-piece chest mind set	theoretical ar applied	Oral and written tests
6	3	Abdomen, its regions and appendages, external genitalia.	Composition of the abdominal cavity an its appendages	theoretical ar applied	Oral and written tests
7	3	Digestive system, nutrition and digestio	Structure of the anterior, middle, and posterior digestive tract	theoretical ar applied	Oral and written tests

8	3	Structure of the nervo system	Parts of the central, sympathetic, and peripheral nervous systems	theoretical ar applied	Oral and written tests
9	3	Sense organs, mechanoreceptors, auditory organs, chemoreceptors.	Sensory organ structure	theoretical ar applied	Oral and written tests
10	3	The organs of sight, th physiology of the visu pathways, the organs sensing heat and humidity.	Structure and functio of compound and simple eyes	theoretical and applied	Oral and written tests
11	3	The respiratory syster and its types, the structure of the respiratory ostium and its types.	Bronchial openings	theoretical ar applied	Oral and written tests
12	3	Respiratory methods i terrestrial and aquatic insects.	Types of respiratory systems in terrestrial and aquatic insects	theoretical ar applied	Oral and written tests
13	3	Circulatory system, it components and functions.	heart and blood	theoretical ar applied	Oral and written tests
14	3	Male and female reproductive system, mating and productio of eggs and sperm.	Structure of the male reproductive system, sperm production, female reproductive system, mating and e production.	theoretical ar applied	Oral and written tests
15	3	Developmental stages incomplete metamorphosis (egg, nymph, pupa) comple metamorphosis (egg, larva, pupa, nymph)	Stages of growth, incomplete metamorphosis , complete metamorphosis	theoretical ar applied	Oral and written tests

16	3	Insect communicatior pheromones, sounds, movements.	Understanding between insects	theoretical ar applied	Oral and written tests
17	3	Taxonomy, definition types, binomial nomenclature.	Taxonomy	theoretical ar applied	Oral and written tests
18	3	Species, subspecies, taxonomic ranks, taxonomic characters.	Classification ranks	theoretical ar applied	Oral and written tests
19	3	Types of classificatio keys, methods of usin them.	Taxonomic keys	theoretical ar applied	Oral and written tests
20	3	The most important insect orders are the Orthoptera and Orthoptera orders.	insect orders	theoretical ar applied	Oral and written tests
21	3	Order of cockroaches praying mantis, order leatherwings.	insect orders	theoretical ar applied	Oral and written tests
22	3	Equal-winged, ciliate-winged orders.	insect orders	theoretical ar applied	Oral and written tests
23	3	Hemiptera, Diptera	insect orders	theoretical ar applied	Oral and written tests

24	3	Order Coleoptera, Lepidoptera, Hymenoptera.	insect orders	theoretical ar applied	Oral and written tests
25	3	Honey bees, benefits, diseases, colony.	insect orders	theoretical ar applied	Oral and written tests
26	3	The concept of insect pests, control and thei types. Integrated pest control, pest management.	Insect pests and cont methods	theoretical ar applied	Oral and written tests
27	3	Natural control, appli control, mechanical,	Types of control	theoretical ar applied	Oral and written tests
28	3	Biological, physical, agricultural, legislativ control.	Types of control	theoretical ar applied	Oral and written tests
29	3	Hormones, youth hormones, molting hormone.	Hormones	theoretical ar applied	Oral and written tests
30	3	Mechanism of action hormones, modern us of hormones in pest control.	Mechanism of actior of hormones and Its uses	theoretical ar applied	Oral and written tests

24. Course evaluation

Daily exam + first month exam 25 points
Daily exam + second month exam 25 points
Final exam 50 marks

25. Learning and teaching resources

Required textbooks (methodology if available)	General Entomology Book, by Dr. Ibrahim Qaddouri Qaddo and others

Main References (Sources)	The Structure and Classification of Insects, by Dr. George Nasrallah Rizk
Recommended supporting books and references (scientific journals, reports, etc.)	Fundamentals of Entomology. Written by Dr. Ali Ali Al-Morsi and Dr. Mohamed Mohamed Al-Shazly.
Electronic references, websites	

Course Description Form

1. Course Name:
entomology – practical
2. Course Code:
3. Semester / Year:
2025-2026
4. Description Preparation Date:
2026
5. Available Attendance Forms:
Weekly
6. Number of Credit Hours (Total) / Number of Units (Total)
48 hours \6 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr.Rand Shakir Mahmood Warqaa latef Email: rand.s.mah@uossmarra.edu.iq Warqaa.l.s88@uossmarra.edu.iq
8. Course Objectives

Course Objectives	. Providing students with cognitive and professional skills in the fields of entomology - Students learn to distinguish between different orders of insects. - Providing students with the skill of dissecting insects and identifying the internal organs of the insect. - Students participate in preparing glass slides of different models of different parts of the insect's body

	and how to diagnose them under the microscope.

9. Teaching and Learning Strategies

Strategy	**- lectures using visual aids and multimedia presentations.** **- Laboratory sessions for hands-on experimentation and observation** **-Daily exams** **-Extracurricular activities** **-** Reports

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The first	2	Identify the taxonomic position of insects	Classification of the phylum Arthropoda	DisplayScreen -blackboard	Asking oral questions at the end of the laboratory
the second	2	Learn how to collect insects	Methods of collecting insects	-Display Screen -blackboard Traps	=
the third	2	Recognizing the external appearance	Body wall and exoskeleton	- Display Screen - blackboard - Anatomy of an insect model	=
the fourth	2	Identify and differentiate between types antennae	antennae	- Display Screen - blackboard - Anatomy of an insect model	=
Fifth	2	Identify the parts of the mouth and distinguish between the types of mouth parts	Parts of the mouth and its types	- Display Screen - blackboard - Anatomy of an insect model	=
Sixth	2	dentifying the thorax area of the insect's body and the appendages it contains	The chest and its appendages	Display Screen - blackboard - Anatomy of an insect model	=
Seventh	2	Students learned about wings in insects and	nsect wings	- Display Screen	=

		their different types		- blackboard - Anatomy of an insect model	
The eighth	2	students learned about abdominal region, the numbe its rings, and the reproductive non-reproductive organs contains	Abdomen and abdominal appendages	Display Screen - blackboard - Anatomy of an insect model	=
Ninth	2	Identify the digestive system and its parts	digestive system	l Display Screen - blackboard - Anatomy of an insect model	=
The tenth	2	Identify the nervous system its location in the body	nervous system	Display Screen - blackboard - Anatomy of an insect model	=
eleventh	2	Identify the parts of respiratory system and breathing mechanism in various types of insects	respiratory system	Display Screen - blackboard - Anatomy of an insect model	=
twelveth	2	Identify the circulatory system and blood and its components	circulatory system	Display Screen - blackboard - Insect box	=
Thirteenth	2	The student understands mechanism of organizing arranging insects into taxonomic ranks	Classification of insects	Display Screen - blackboard - Insect box	=
fourteenth	2	The student understands mechanism of organizing arranging insects taxonomic ranks	Classification of insects	Display Screen - blackboard - - Insect box	=
Fifteenth	2	Learn about the Classification sections of Insect and their divisions in terms of the origin of their Wings.	Classification of insects	Display Screen - blackboard - Insect box	=
sixteenth	2	Students learn about the Order odonata	Classification of insects	Display Screen - blackboard - Insect box	=
Seventeenth	2	Students learn about the Order Orthoptera	Classification of insects	Display Screen - blackboard - Insect box	=
Eighteenth	2	Students learn about the Order Dictyoptera	Classification of insects	Display Screen - blackboard - Insect box	=
Nineteenth	2	Students learn about the Order Dermaptera	Classification of insects	Display Screen - blackboard - Insect box	=
Twenty	2	Students learn about the Order Isoptera	Classification of insects	Display Screen - blackboard - Insect box	=

Twenty-first		Students learn about the Order Thysanoptera	Classification of insects	Display Screen - blackboard - Insect box	=
twenty-two	2	Students learn about the Order Hemiptera Homoptera	Classification of insects	Display Screen - blackboard - Insect box	=
twenty-three	2	Students learn about the Order Neuroptera	Classification of insects	Display Screen - blackboard - Insect box	=
twenty-four	2	Students learn about the Order Diptera	Classification of insects	Display Screen - blackboard - Insect box	=

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Practical entomology (synthesis and classification) Dr.. Awad Hanna Saad Dr.. Iyad Youssef Ismail
Main references (sources)	External sources
Recommended books and references (scientific journals, reports...)	Scientific journals, research, theses and previous dissertations
Electronic References, Websites	**Google scholar** https:// Insectologyguide.com/ The Iraqi academic journal

Course Description Form

1. Course Name:
Comparative anatomy of chordates
2. Course Code:
The third stage

3. Semester / Year:
2025/2026
4. Description Preparation Date:
2026
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
48 hours / 6 units
7. Course administrator's name (mention all, if more than one name)
1-Name:Dr. Hisham Fadhil Shaker/ Theoretical and practical teacher Email: hisham.f269@uosamarra.edu.iq 2-Name:Dr. Nibras Abdulaziz Hamoud / Practical Subject Teacher Email:Nibras.abdulaziz@uosamarra.edu.iq
8. Course Objectives

Course Objectives	• Identify animals with a nerve cord and neural tube within the phylum Chordata • Understand the importance and basic principles of comparative anatomy of phyla Chordat • Study the external appearance of the phylum Chordata • Study the internal structure of the phylum Chordata • Study the theories that explain the origin and development of Chordata • Learn the methods of dissection • Classify animals within the phylum Chordata • Learn about the internal systems, including the digestive, respiratory, reproductive, urinar and circulatory systems.

9. Teaching and Learning Strategies	
Strategy	1- Deliver theoretical lectures using a blackboard, screen, and a Power Po presentation. 2- Conduct laboratory experiments by dissecting and isolating internal orga and systems of animals belonging to the Chordata phylum. 3- Prepare scientific reports after completing each laboratory experiment. 4- Display illustrative images and posters to understand the basics classification of the Chordata phylum and its most important features.

10. Course structure

Evaluation method	Learning method	Unit or subject name	Required learning outcomes	hours	Week
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Introduction, origin and evolution of chordates and theories that explain them	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	1
Written tests daily and)	My	Classification and basic	,Presentation	4	2

monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	theoretical and practical presence	principles of protochordates cephalochordates) and their) importance, with a study of ,the external appearance systems and organs, as well as the general and special characteristics of the .lancelet	use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments		
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Classification and basic principles of protochordates caudal notochord) and their) importance, with a study of ,the external appearance systems and organs, as well as the general and special characteristics of the ascidian .animal	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	3
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Classification and basic principles of protochordates hemichordates) and their) importance, with a study of ,the external appearance systems and organs, as well as the general and special characteristics of the acorn .worm	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	4
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Classification and basic (principles of jawless (orbital ,fish and their importance with a study of the external appearance, systems and organs, as well as the general and special characteristics of .the lamprey	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	5
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Jaws or Vertebrates (General Characteristics) The shapes ,and types of jaw chordates their importance, and a study ,of the external appearance systems, and organs, as well as the general and specific ,characteristics of bony fish .including the bergfish	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	6

Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of cartilaginous fish, including ,elasmobranchs, camera fish .and dogfish	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	7
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of reptiles, their types and forms, including turtles and .crocodiles	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	8
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of ,birds, including the pigeon ,its shapes, classification types of feathers, their location, and the benefit of .each type	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	9
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general characteristics and properties of birds, the digestive system and its components, the benefit and location of each part, and methods of .dissection	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	10
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general characteristics and properties of birds, the respiratory ,system and its components the benefit and location of each part, and methods of .dissection	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	11

Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of birds, the urinary system, the circulatory system and its components, the benefit and location of each part, and .methods of dissection	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	12
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of birds, the reproductive system, methods of reproduction, its components, the benefit and location of each part, and .methods of dissection	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	13
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of amphibians, systems and organs, their components, the benefit and location of each part, and methods of dissecting it, including the .frog	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	14
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of specimens using the dry embalming method or the wet formalin (method	My theoretical and practical presence	Study of the external appearance, systems and organs, as well as the general and special characteristics of mammals, systems and organs, their components, the benefit and location of each part, and methods of dissecting it, including the .rabbit	,Presentation use of PowerPoint ,presentations identification of preserved and preserved models and images, and laboratory .experiments	4	15
Written tests daily and) monthly exams and scientific (reports Practical tests dissection of) specimens and preservation of	My theoretical and practical presence	Study of the skin system, its components, the benefits and location of each part, its importance, and methods of	,Presentation use of PowerPoint ,presentations identification of	4	16

specimens using the dry embalming method or the wet formalin (method		.dissection	preserved and preserved models and images, and laboratory .experiments		

Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc Daily exam + first month exam: 25 points Daily exam + second month exam: 25 points Final exam: 50 points	
Learning and Teaching Resources	
Free Departmental Education/Textbooks, Comparative Anatomy of Chordates	Required textbooks (curricular books, if (any
.Comparative Anatomy, by Dr. Ali Abdul Wahab Jassim - .King Abdulaziz University Journal: Multiple Sciences - Comparative Anatomy of Plagues, by Anbar University -	(Main references (sources
Comparative Anatomy of Chordates, by Dr. Ali Abdul - .Wahab Jassim .King Abdulaziz University Journal: Marine Sciences - Comparative Anatomy of Chordates, by Anbar University -	Recommended books and references (...scientific journals, reports)
https://www.dfaj.net/index.php?r=journals/Journal&i=286 https://www.scribd.com/document/466304591 https://www.uoanbar.edu.iq/ScienceCollege/catalog -	Electronic References, Websites

Headquarter Description Form

26. Course name:theoretical genetics
stage/ Third
27. Course code :
28. Semester/Year: annual
2025/2026
29. Date of preparation of this description
2026
30. Available attendance forms:
Weekly
31. Number of study hours (total) / Number of units (total):60 hours/4 units

1 hour / 2 units	
32. Course Supervisor Name (if more than one name is mentioned)	
the name : Prof. Dr. Omar Rahim Khalaf	
33. Course objectives	
Course objectives	**A. Enabling the student to learn the basics of genetics.** **B. Enabling the student to conduct crosses between organisms to obtain hybrid animals or plants.** **C. Introducing the student to how genetics is used in conducting applied analyses and detecting and diagnosing diseases genetically.** **Dr. Developing students' skills in conducting genetic laboratory analyses and tests, whether at the experimental or clinical level.**
34. Teaching and learning strategies	
Strategy	**A.Theoretical lectures.** **B.Practical application in the laboratory.** **C.Teamwork within the laboratory to solve problems and interpret the results obtained.** **D.theMProjects and assignments that the student is assigned to do after the end of the lecture, whether theoretical or practical.**

35. Course structure

week	watches	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
1	2	**A brief history of genetics** **Mendel's first and second laws**	**1- Identify the components of genetics.** **2- Learn how to conduct genetic tests using modern technologies.** **3- Identifying methods for measuring genetic traits, whether qualitative or quantitative.** **4-Ability to conduct Hybrids between organisms.**	**Theoretical and applied, using scientific methods and modern devices to understand the material's vocabulary.**	**Oral and written tests**
2	2	**Types of genetic interference vaccinations**		**Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.**	

3	2	Connection and crossing Multiple alleles		Theoretical and applied, using scientific methods and modern devices to understand the material.	
4	2	Multiple alleles in rabbits, Blood groups in humans and animals Al-RaisiRh		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
5	2	The nature of the synthetic gene material Her chemistry, chromosome dissection		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
6	2	Chromosome classification and identification On the core edition		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
7	2	Genetic mutations, their types, and their physical and chemical causes		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
8	2	Genetic abnormalities classificat study Numerical and structural anomalies		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
9	2	Genetic material duplication an the experiments of Meselson and Stahl		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
10	2	Types of DNA		Theoretical and applied, using scientific methods and modern devices to understand the material.	
11	2	Proteins combined with DNA		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
12	2	DNA cloning		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
13	2	Types of RNA		Theoretical and applied wi the use of scientific method and devices Modern to understand	

				the vocabulary of the material.	
14	2	Translation		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
15	2	Sex inheritance and sex assignm systems, sex-linked, sex-determined and sex-influenced genes		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
16	2	Cytoplasmic inheritance		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
17	2	Family history and transmission Genetic diseases through identification On the family tree		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
18	2	genetic diseases Hereditary bleeding disorders and thalassemia		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
19	2	The genes of the Blanchards The presence of the intron of the subordinate DNA		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
20	2	Methylation enzymes, modifying enzymes, and restrict enzymes		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
21	2	Okazaki Parts, Repair Systems		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
22	2	Topomerase and helicase enzym		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
23	2	Genetic engineering and genetic libraries		Theoretical and applied wi the use of scientific method and devices Modern to understand	

				the vocabulary of the material.	
24	2	quantitative genetics		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
25	2	Control gene calculation Traits have variation and inheritance.		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
26	2	clan inheritance		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
27	2	normal distribution		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
28	2	Selection and mutation Migration and genetic variation		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
29	2	Evolution		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	
30	2	Genetic frequency and how to calculate it		Theoretical and applied wi the use of scientific method and devices Modern to understand the vocabulary of the material.	

36. Course evaluation

Daily exam + first month exam 25 points
Daily exam + second month exam 25 points
Final exam 50 marks

37. Learning and teaching resources

Required textbooks (methodology available)	**Genetics book by Saad Taj El-Din and others**
Main References (Sources)	***The book of Genetics. Written by Diaa Makram Shakara** ***Principles of Molecular Genetics book. Writt by Muhammad Baqir Al-Shaheeb and others.**

Recommended supporting books and references (scientific journals, reports, etc.)	***Molecular Biology Book. Written by Nashat Alab Mustafa.** ***Genes and Biology of Genetic Diseases. Written by Mounir El-Ganzouri.** ***Molecular Biology (Introduction to Gene Engineering). Authored by Fathi Muhammad Abd al-Tawab**
Electronic references, websites	**Scientific research sites on scientific resear platforms**

Course Description Form

10. Course Name:
Practical genetics
11. Course Code:
12. Semester / Year:
Year
13. Description Preparation Date:
14. Available Attendance Forms:
15. Number of Credit Hours (Total) / Number of Units (Total)
30 Hours / 15 Units
16. Course administrator's name (mention all, if more than one name)
Name: MSC.Dhiaa S Ibrahim

Email: dyia.sabah@uosamarra.edu.iq

17. Course Objectives

Course Objectives	• **Introducing genetics, its importance, and its relati branches of biological sciences.** • **General application forms for Mendelian inheritance ar population inheritance. Mendelian relativity, the proce laws, gene variation and the factors affecting it, te genetic forms in a number of organisms.** • **Practical application through conducting laboratory curriculum vocabulary**

18. Teaching and Learning Strategies

Strategy	The active learning strategy is applied through exchanging ideas and among students and developing the spirit of responsibility, as well as coop learners using the discussion strategy, which contributes to buildi relationships with learners. The strategy of reciprocal teaching, projects, a through discovery to solve problems or learning based on those proble applied. Which helps in building the student's cognitive abilities.

19. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation met
1	2	Mendel's first law and the relationship between alleles	Explaining Mendel's first law and explaining the concept of the relationship between alleles for one trait and how they are isolated during gamete formation and after fertilization.	Practical application of Mendel's First Law and the concept of the relationship between alleles by solving exercises related to Mendel's First Law and the relationship between alleles, while calculating the ratios and number of genotypes and phenotypes for each example.	

2	2	Types of mating (retrograde, experimental, and reverse)	The importance of these matings in hybridization and testing the purity of genetic traits.	Practical application of the types of backcross, test and reverse mating) and their importance in hybridization and testing the purity of traits by solving examples for each individual.	
3	2	lethal and semi lethal gene	Explaining the mechanism of transmission of these genes and the extent of their impact on individuals who carry them.	Practical application by solving examples and exercises related to lethal and semi-lethal genes, using examples that illustrate the effect of these genes on the organisms that carry them at each stage of development.	
4	2	Mendel's second law, mating between parents that differ in two or three traits, using the square method and the fork method to	Explaining Mendel's second law and explaining how to freely distribute alleles during gamete formation using the square and fork methods	Practical application of Mendel's Second Law by giving examples that illustrate mating between parents that differ in two and three traits, solving examples related to	

		determine the ratios of genotypes and phenotypes.		Mendel's Second Law, and performing multiplication using the square and fork methods, while calculating the ratios and number of genotypes and phenotypes for each example.	
5	2	Dominance and its types (incomplete and accompanying)	Identify the concept of sovereignty and its types and explain the differences between them.	A practical application of the types of dominance by giving illustrative examples of each type, explaining the differences between them, and solving their examples, while indicating the differences in the proportions and number of genotypes and phenotypes for each type.	
6	2	Overlapping genetic action and modification of Mendelian ratios	Identifying the effect of overlapping genetic action and cases in which the proportions of external manifestations differ from the Mendelian proportions	Practical application by giving illustrative examples of the effect of overlapping genetic action and cases in which the ratios of external manifestations differ from the Mendelian ratios.	
7	2	Multiple	Identifying the	A practical	

		alleles , inheritance of rabbit fur color , inheritance of blood groups in humans, and the Rh factor.	genetic expression of multiple alleles in the manifestation of fur color in rabbits, the inheritance of blood group characteristics in humans and the Rh factor , and their importance in blood testing for newlyweds and blood transfusions for patients.	application by giving illustrative examples of the effect of multiple alleles on the inheritance of fur color in rabbits, the inheritance of the characteristics of blood groups in humans and the Rh factor , in addition to a practical laboratory application by conducting experiments to distinguish blood groups and the Rh factor .	
8	2	Genetic mutations (types and causative factors)	Identify the concept of genetic mutations, the factors affecting them, and the changes these factors cause in the genetic material	A practical application that explains the types of mutations that cause a change in the total number of chromosomes as well as in the structure of chromosomes (chromosomal structure), mutations that cause a change in gene regions, the factors that cause them, and the damage resulting from the mutation, giving examples for each case.	
9	2	Sex	Identify sex	A practical	

		determination systems	determination systems in living organisms	application that explains the types of sex determination systems in a number of organisms (humans, mammals, birds, insects, and fish), giving examples related to each system.	
10	2	Traits influenced and linked to sex	Identify the traits affected and linked to sex and the difference between them	A practical application that explains the types of traits affected and linked to sex, giving examples of each trait	
11	2	Genetic Disease	Identify genetic diseases, their types, the factors that cause them, how they are transmitted, and the damage resulting from them	A practical application that explains the types of genetic diseases, the factors that cause them, how they are transmitted, and the damage resulting from them Giving examples for each case	
12	2	Pedigree records and family trees	Identifying lineage records and their importance in drawing a family tree	A practical application that explains the importance of the lineage record in the genetic family history and identifying the genetic codes for drawing the family	

				tree and their importance in diagnosing diseases and their transmission from one generation to another.	
13	2	Drosophila insect, gender distinction in the insect, its life cycle, mutations in this insect	Learn about the importance of this insect in genetics research	Conducting experiments in the laboratory to distinguish the sexes of the Drosophila insect, explaining its life cycle, the mutations that occur in it, and their importance in genetics research.	
14	2	Probabilities and chi-square	Learn about the concept of probability and calculating chi-square values	A practical application that demonstrates the importance Probabilities and calculating chi-square values in estimating the genotypes and phenotypes of a number of traits, along with giving illustrative examples.	
15	2	Examining and analyzing the results of mating between hybrid insects for a pair of traits not related to sex	Identifying some phenotypic characteristics that are not related to sex through mating between hybrid insects	A practical laboratory application through mating between hybrid insects that differ in traits not related to sex (eye color, antennae length, wing shape, body	

				color) and analyzing the results obtained for each trait.	
16	2	Examining and analyzing the results of mating between hybrid insects for a pair of sex-linked traits	Identifying some phenotypic traits linked to sex through mating between hybrid insects	A practical laboratory application through mating between hybrid insects that differ in sex-related traits (body size, shape of legs, shape of the back of the abdomen, shape of the rings at the back of the abdomen) and conducting an analysis of the results obtained for each trait.	
17	2	Linkage and crossing (determining the proportions of gametes and genetic and phenotypic structures resulting from test fertilization between two parents that differ in two genetic locations and assuming that a single crossing occurred	Identify the concept of genetic linkage and crossing over, and determine the proportions of gametes and the genetic and phenotypic structures resulting from test fertilization between two parents who differ in two genetic locations.	A practical application that aims to demonstrate the determination of the proportions of gametes and the genetic and phenotypic structures resulting from test fertilization between two parents that differ in two genetic locations , and single crossing, giving examples for each case.	
18	2	Cases of	Explaining the	A practical	

		crossover suppression and resulting ratios	conditions that cause transit suppression and their effect on the rates of transit outcomes	application that aims to explain the cases that cause transit suppression and their effect on the rates of transit outcomes, giving examples for each case	
19	2	Determining the proportions of gametes, genotypes, and phenotypic classes resulting from test fertilization between two parents that differ in three locations, and assuming the occurrence of single crossing and double crossing.	Recognizing the importance of determining the proportions of gametes, genotypes, and phenotypic classes resulting from test cross-pollination between two parents that differ in three locations, and how single crossing and double crossing occur.	A practical application that aims to demonstrate the determination of the proportions of gametes, genotypes, and phenotypic categories resulting from test cross-pollination between two parents that differ in three locations, and assuming the occurrence of single crossing and double crossing, giving examples for each case.	
20	2	Estimating distances, concordance coefficients, overlap, and drawing a chromosomal map	Explaining the importance of estimating crossing distances, concordance coefficients, and overlap, and their importance in drawing a chromosomal map	A practical application that aims to demonstrate the importance of estimating crossing distances, the coefficient of compatibility and overlap, and how	

				to draw a chromosomal map, while giving practical examples in drawing a chromosomal map.	
21	2	Using chromosomal maps to predict the results of dihybrid hybrids	Explaining the importance of using chromosomal maps in predicting the results of dioecious hybrids	A practical application that aims to demonstrate the importance of using chromosomal maps in predicting the results of dioecious hybrids, while giving practical examples showing the use of chromosomal maps in predicting the results of dioecious hybrids.	
22	2	Using chromosomal maps to predict the results of experimental triple hybrids	Explaining the importance of using chromosomal maps in predicting the results of experimental triple hybrids	A practical application that aims to demonstrate the importance of using chromosomal maps in predicting the results of a test triple hybrid, while giving practical examples showing the use of chromosomal maps in predicting the results of a test triple hybrid.	
23	2	Population inheritance	Identifying the concept of	A practical application aimed	

		(Hardy - Weinberg equilibrium, equilibrium conditions, calculation of the frequency of dominant and recessive alleles)	population inheritance and the law of Hardy-Weinberg equilibrium, conditions for equilibrium, calculating the frequency of dominant and recessive alleles, and the importance of calculating the frequency of alleles in population equilibrium.	at explaining the concept of population inheritance and the Hardy-Weinberg equilibrium law, equilibrium conditions, calculating the frequency of dominant and recessive alleles, and giving applied examples in calculating the frequency of alleles and interpreting the resulting values in the direction of population equilibrium .	
24	2	Calculating the frequency of alleles in the absence of dominance and in the case of multiple alleles	Explain how to calculate the frequency of alleles in the absence of dominance and in the case of multiple alleles	A practical application aimed at making a statement Alleles in the case of absence of dominance and the case of multiple alleles , giving examples for each case.	
25	2	Calculate the frequency of sex-linked alleles and test predictions of equilibrium	Explain how to calculate the frequency of sex-linked alleles and test predictions of equilibrium	A practical application aimed at identifying sex-linked alleles and testing equilibrium predictions Giving practical examples in calculating the frequency of	

				alleles and interpreting the resulting values in predictions of the direction of equilibrium.	
26	2	A practical application to calculate the frequency of some genes in a group of students, the characteristic of connected and separate earlobes, taste testing, blood groups.	Identifying the effect of the frequency of some genes responsible for the characteristics of connected and separate earlobes, taste, and blood groups.	A practical laboratory application to detect the effect of the frequency of some genes responsible for the characteristics of connected and separate earlobes and to conduct an examination of taste tests and blood groups .	
27	2	Quantitative genetics, variance calculations, gene action forms, degree of heritability	Learn about the concept of quantitative inheritance and how to calculate variance, forms of gene action, and degree of heritability	A practical application aimed at identifying the concept of quantitative inheritance, how to calculate variation, forms of gene action, and the degree of heritability Giving practical examples for each word.	
28	2	Classification of chromosomes and identification of the nucleus	Explaining how chromosomes are classified based on their external appearance and some common characteristics, and identifying the importance of the nucleus’s	A practical application aimed at how to classify chromosomes based on their external appearance and some common characteristics , and a practical	

			impression in diagnosing damage to genetic material.	laboratory application in conducting a nucleus impression test and its importance in diagnosing damage to genetic material.	
29	2	The nature of the genetic material, its chemical composition, and the anatomy of the chromosome	Identifying the nature of genetic material, its chemical composition, and chromosome anatomy	A practical application aimed at identifying the nature of genetic material, its chemical composition, and chromosome anatomy Giving practical examples for each word	
30	2	Natural nucleic acids DNA and RNA	Identify the nature of the nucleic acids DNA and RNA and explain the structural differences of each	Practical laboratory application in extracting nucleic acids, DNA and RNA	

20. Course Evaluation

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

21. Learning and Teaching Resources

Required textbooks (curricular books, if ar	Textbook of systematic Genetics science, second by Dr. Saad Jaber Taj Al-Din and Dr. Abdul Nabi I
Main references (sources)	Introduction to Genetics, first edition 2013, wri Abbas Hussein Al-Rubaie, Principles of Molecula first edition 2013, written by Dr. Muhammad Shuhaib, Dr. Ali Hammoud Al-Saadi, and Dr. Ha Zidan , Molecular BIology, Fifth Edition 2011, wri b e r t F. We a v e r
Recommended books and references (scientific journals, reports...)	Molecular Biology and Genomics by Cornel edition 2007 , Techniques in Molecular Biology by David Clark 1st edition 2005 Markers by Wagner 1st edition 2013
Electronic References, Websites	https://learn.genetics.utah.edu/?fbclid=IwAR2iuozKkjpz0IYQO6bT33iutlkA_W 9FQ_JYJyF7SW3K0nsuleDA , https://www.ebi.ac.uk/ and

	https://www.iasj.net/iasj?func=issues&jId=275&uiLanguage=ar

Headquarter Description Form

38.	**Course name**:theoretical fungi
	stage/ Third
39.	**Course code** :
40.	**Semester/Year: annual**

2025/2026	
41. Date of preparation of this description	
2026	
42. Available attendance forms:	
weekly	
43. Number of study hours (total) / Number of units (total):50 hours	
1 hour / 2 units	
44. Course Supervisor Name (if more than one name is mentioned)	
the name:Rasha Abdul Adheem Yaseen	
45. Course objectives	
Course objectives	**Identifying fungi •** **arn about the cellular and chemical •** **ructure, type of reproduction, classification d relationship of fungi to humans and other .organisms** **troducing students to the cellular and •** **emical structure, type of reproduction ssification, and relationship of fungi to .humans and other organisms** **troducing students to fungi in the .10 •** **oratory and fungi in the surrounding vironment through laboratory experiments field visits, and documentary** **ducating students about the medicinal •** **onomic and environmental importance of fungi** **troducing students to how to isolate •** **gnose, and culture fungi in the laboratory and .identify their types using taxonomic keys** **couraging students to inform the •** **mmunity of its importance from both positive d negative aspects and how to prevent and treat it from a medical perspective** **ucating students on proper laboratory •** **work when dealing with fungi**
46. Teaching and learning strategies	
Strategy	A1-Assigning the student to conduct research on fungi, their **.**classification and organization A2-Field visits to identify small and large fungal species in the environment A4-Identifying the types of fungi with effective content and encouraging

	their use in research experiments A5- Knowing the active compounds in fungi and their toxic and .medicinal role

47. Course structure

week	watches	Required learning outcomes	Name of unit or topic	Learning method	Evaluation method
1	2	A-Cognitive objectives A1-Assigning the student to conduct research on fungi, their .classification and organization Field visits to identify small and large fungal species in the environment A4-Identifying the types of fungi with effective content and ncouraging their use in research experiments A5- Knowing the active compounds in fungi and their to and medicinal role	Introduction to Fungi	Daily exams Daily tests monthly tests Reports Scientific activities	blackboard Data show Illustration
2	2		General characteristics of fungi	Dai Daily exams Daily tests monthly tests Reports Scientific activities	
3	2		Methods of fungal reproduction	Daily exams Daily tests monthly tests Reports Scientific activities	
4	2		Fungi classification	Daily exams Daily tests monthly tests Reports Scientific activities	
5	2		Fungi classificatio	Daily exams Daily tests monthly tests Reports Scientific activities	
6	2		Fungal environment	Daily exams Daily tests monthly tests Reports Scientific activities	
7	2		Fungal lifestyles	Daily exams Daily tests monthly tests Reports Scientific activities	
8	2		The importance of fungi	Daily exams Daily tests monthly tests Reports Scientific activities	

9	2		Jellyfish	Daily exams Daily tests monthly tests Reports Scientific activities	
10	2		True fungi	Daily exams Daily tests monthly tests Reports Scientific activities	
11	2		Examples of true flagellate fungi	Daily exams Daily tests monthly tests Reports Scientific activities	
12	2		non-flagellated fungi	Daily exams Daily tests monthly tests Reports Scientific activities	
13	2		conidiophores	Daily exams Daily tests monthly tests Reports Scientific activities	
14	2		Examples of syngam fungi	Daily exams Daily tests monthly tests Reports Scientific activities	
15	2		cyst fungi		
16	2		basidiomycetes		
17	2		Examples of basidiomycetes		
18	2		imperfect fungi		
19	2		Examples of imperfe fungi		
20	2		Lichens		
21	2		Mycorrhizae		
22	2		Rhizosphere		
23	2		parasitic fungi		

24	**2**		**medicinal mushroon**		
25	**2**		**plant-pathogen interactions**		
26	**2**		**Conclusion**		
27	**2**				
28	**2**				
29	**2**				
30	**2**				

48. Course evaluation
Daily exam + first month exam 25 points **Daily exam + second month exam 25 points** **Final exam 50 marks**

49. Learning and teaching resources	
Required textbooks (methodology available)	**Fungi book by Dr.Talib Awad**
Main References (Sources)	***The book of fungi. Written by Talib Awad *.**
Recommended supporting books and references (scientific journals, reports, etc.)	***Medical fungi . Written by Fayad Mohammed Sharif.** ***Ecology fungi. Written by Fayad Mohammed**
Electronic references, websites	**Scientific research sites on scientific resear platforms**

Course Description Form

1. Course Name:
Assistant Professor Doctor shaima Hassan ali
2. Course Code:
third level
3. Semester / Year
Fungi

4. Description Preparation Date:
2026
5. Available Attendance Forms
Theoretical
6. Number of Credit Hours (Total) / Number of Units (Total)
25 weeks 50 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Professor Doctor shaima Hassan ali Kholod waleed gofran abbas Email: shaimaa.h.ali1986@gmail.com
8. Course Objectives

Course Objectives	. -Taking a general concept about fungi -identifying the fungi identifying the cellular structure and chemical composition , type of reproduction ,classification and relationship with fungal disease affecting humans .
9. Teaching and Learning Strategies	
Strategy	Assigning students to conduct research on fungi judges makes them activ participants in collecting information, classifying it, organizing it, analyzin it, and drawing the necessary recommendations in light of their analyses. Field visits can also be used to link them to conducting scientific research on fungi is And Knowing the fungi species with active chemical content, distinguishing between fungi species , and knowing the chemical compounds in fungi , genera and species

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

first f	2	Mycology and history	Definitio of fungi and its concepts	Daily exam	Discus on to A proje r for t lectur
second and thir	2	Modern classification of fungi	Evolutionary taxonomic	Reports, Questions and Answe	Views, Shap and a mo to illustra the lecture
third	2	Morphological and biological charateristics	General charicteristics fungi	Reports, Questic and Answere	Views Shape and a model to illustr e the lectur
fourth	2	yeasts	The presence and importance	Lecture presentatic and illustrative tables	Repor
Fift	2	plasmodia	Basic courses and their importance	Illustration and diagrams	Daily exam

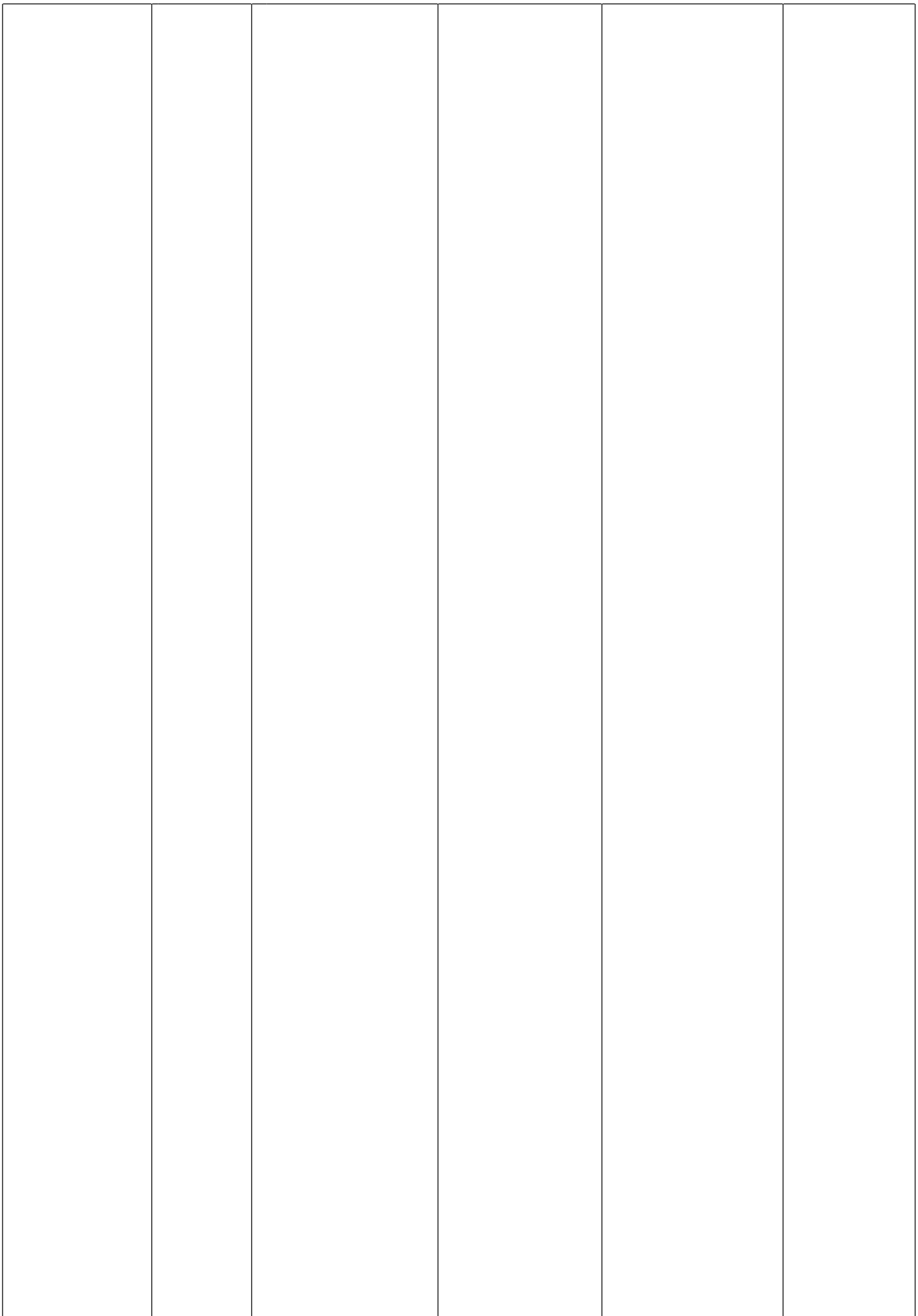
Sixth an seventh	4	Cellular structure and chemical composition	Fungi cell structure	Llustrations and diagram	questions and answers Illustr ons ar diagra
Eighth and nin	4	Nutrition	Type of nutrition	View the lecture	Daily exam

Tenth Eleventh and second And Thirteent	8	Sexual and asexual reproduction	Type of sexual and asexual reproduction	Discuss the to and present t lecture	Daily exam +
Fourteenth fifteenth		Fungi taxonomy			
		Mastigo mycota			
Sixteen	6		questions and answers Illustrations and diagrams	Llustrations and diagrams	questions and answers llustration s and diagrams
		AMASTIGO MYCOTA			
Seventeen			most important		

	4 2 2	ZYGOMYCOTA ASCOMYCOTA BASIDIOMYCOTA DEUTEROMYCOT	fungal diseases affecting humans LICHENS AND	Discuss the topic View the lecture Llustrations and diagrams View the lecture	Reports questions and answers Reports

		A FUNGI ASSOCIATION Molocular methods of fungi taxonomy Relationship of fungi with other organisims	MYCORRHIZA		

Eighteen nineteenth	4	RHIZOSPHER		Lecture presentation a illustrative tables	Daily exam,
Twenty twenty onee	4			Lecture presentation a illustrative tables	Daily exam
twenty tow	2	MEDICAL FUNGI	VETERINARY MYCOLOGY	Lecture presentation a illustrative table S	questions and answers Lecture presentation and illustrative tables
The twenty-third	2	Preparatory week before the final Exam		Discussion of t topic, lectu presentation a illustrative tables	Daily exam +



11.Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	AL-KHESRAJI .T.O (2014) FUNGI .TIKRET UNIVERSITY .
Main references (sources)	HARLEY ,J.L.AND SMITH ,S (1983) MYCORRIZAL SYMBIOS ACADEIC PRESS.NEW YORK ,USA.
Electronic References, Websites	

Course Description Form

22. Course Name:
Phycology (Algae)
23. Course Code:
Third Level
24. Semester / Year:
2025-2026
25. Description Preparation Date:
2026
26. Available Attendance Forms:
Theoretical
27. Number of Credit Hours (Total) / Number of Units (Total)
96hours 6 credit
28. Course administrator's name (mention all, if more than one name)
Name: Assis Prof. Dr. Yawooz Hameed Mahmood Harath Sameer Email: **yavuz.h86@uosamarra.edu.iq**

29. Course Objectives	
Course Objectiv	The aim of studying this course is to introduce the student to the structure of the algae cell, the general characteristics of algae, the types of algae, to know the economic and biological importance of algae, and to study the factors affecting the growth of algae.

30. Teaching and Learning Strategies	
Strategy	1- Lectures. 2- Conduct a scientific trip to where the algae samples are located. 3- Collecting samples of some algae species and studying them.

31. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2	The student Learns about concept of algae science	Algae Basics of studying algae, the position of algae among living organisms Its definition - characteristics	Theoretical lectures with pictures presented via datashow	Discussion And Exam
Second	2	The student Learns about the types of Algae and their Presence and distribution	Presence and distribution – types of algae Basics of division of algae	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam

Third	2	The student Learns about the Forms of algae	Forms of algae	Theoretical lectures with pictures presented via datashow	Questions and Answers
Fourth	2	The student Learns about basic Information of Algae cell	Basis of classification algae - wall structure plastids and pigments – food storage - cell structure	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Fifth	2	The student Learns about Methods of Growth	Growth in algae	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Sixth	2	The student Learns about types Of reproduction in algae	Types Of Reproduction In Algae	Theoretical lectures with pictures presented via datashow	Questions and Answers
Seventh	2	The student Learns about Types of Life cycles in algae	Types of Life cycles in algae	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Eighth	2	The student Learns about importance and the harms of algae	The environmental and economic importance of algae The harms of algae	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Ninth	2	The student Learns about classification of algae	General classification algae	Theoretical lectures with pictures presented via	Questions and Answers

				datashow	
Tenth	2	Learn about features of Cyanophyta	Cyanophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Eleventh	2	Learn about features of Chlorophyta	Chlorophyta	Theoretical lectures with pictures presented via datashow	Questions and Answers
Twelfth	2	Learn about Classification of Chlorophyta	Classification of Chlorophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Thirteenth	2	Learn about features of Charophyceae	Charophyceae	Theoretical lectures with pictures presented via datashow	Questions and Answers
Fourteenth	2	Learn about features of Euglenophyta	Euglenophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
fifteenth	2	Learn about Classification of Euglenophyta	Classification of Euglenophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam

Sixteen	2	Learn about features of Chrysophyta	Chrysophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Seventeen	2	Learn about features of Xanthophyceae	Xanthophyceae	Theoretical lectures with pictures presented via datashow	Questions and Answers
Eighteen	2	Learn about features of Chrysophyceae	Chrysophyceae	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
nineteenth	2	Learn about features of Bacillariophyceae	Bacillariophyceae (Diatoms)	Theoretical lectures with pictures presented via datashow	Questions and Answers
Twenty	2	Learn about features of Pyrrophyta	Pyrrophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Twenty one	2	Learn about features of Cryptophyta	Cryptophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam
Twenty tow	2	Learn about features of Phaeophyta	Phaeophyta	Theoretical lectures with pictures presented via datashow	Questions and Answers

Twenty third	2	Learn about features of Rhodophyta	Rhodophyta	Theoretical lectures with pictures presented via datashow	Discussion And Daily Exam

32.Course Evaluation

1 First exam 17%
2 First practical exam 8%
3 Second exam 18%
4 Second practical exam 7%
5 Final practical exam 15%
6 Final theoretical exam 35%
Total 100%

33.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Algology Dr. Abdel Nasser Abdullah Mahdi Al-Tamimi 2019
Main references (sources)	Algae Dr. Buthaina Abdulaziz Hassan Dr. Thaer Muhammad Ibrahim 2019-2020
Recommended books and references (scientific journals, reports...)	An Introduction To The Algae Ian Morris
Electronic References, Websites	

Course Description Form

34. Course Name:
Phycology (Algae)
35. Course Code:
Third Level
36. Semester / Year:
2025-2026
37. Description Preparation Date:
2026
38. Available Attendance Forms:
Theoretical
39. Number of Credit Hours (Total) / Number of Units (Total)
96hours 6 credit
40. Course administrator's name (mention all, if more than one name)
Name: Assis Prof. Dr. Yawooz Hameed Mahmood Harath Sameer Email: **yavuz.h86@uosamarra.edu.iq**
41. Course Objectives

Course Objectiv	The aim of studying this course is to introduce the student to the structure of the algae cell, the general characteristics of algae, the types of algae, to know the economic and biological importance of algae, and to study the factors affecting the growth of algae.

42. Teaching and Learning Strategies	
Strategy	1- Lectures. 2- Conduct a scientific trip to where the algae samples are located. 3- Collecting samples of some algae species and studying them.

43. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	4	**Introduction to algae**	**Know the importance of algae and identify the devices of the algae laboratory**	**isplay screen iew Algae Lab Devices**	**Exams attendance Share**
Second	4	**Sterilization media and methods**	**To know the appropriate media for the growth of algae and how to perform the sterilization process**	**. Display screen . Preparation of media . How to perform sterilization**	**Exams attendance Share**

Third	4	**Insulation methods**	**How to conduct the isolation process in its various ways**	**. Display screen . Algae isolation experiment**	**Exams attendance Share**
Fourth	4	**Algae culture**	**How to grow moss**	**. Display screen . Meal farms experience**	**Exams attendance Share**
Fifth	4	**Algae shapes**	**Identify algae shapes**	**. Display screen . View models visually and microscopically**	**Exams attendance Share**
Sixth	4	**Experiment with sample collection and examination**	**To learn how to collect samples and test them in the laboratory**	**. Laboratory experiment**	**Exams attendance Share**
Seventh	4	**Classification of algae**	**To know the genera of this breed**	**. Display screen**	
Eighth	4	**Genera of the order** Chroococcales	**To know the genera of this rank and their characteristics**	**. Display screen . View models visually and microscopically**	
Ninth	4	Races of the rank Oscillatoriales	**To know the genera of this rank and their characteristics**	**. Display screen . View models visually and microscopically**	**Exams attendance Share**
Tenth	4	**Genera belonging to the order Nostocales**	**To know the genera of this rank and their characteristics**	**. Display screen . View models visually and microscopically**	**Exams attendance Share**
Eleventh	4	**Collecting samples of blue-green algae and examining them in a laboratory under a microscope**	**To know the races of this section and identify their phenotypic characteristics**	**. Laboratory experiment**	**Exams attendance Share**

Twelfth	4	**Department of Green Algae**	**To find out the varieties of ranks of genera; Families; affil iated with this section and identify their qualities**	**. Display screen . View models visually and microscopical ly**	**Exams attendance Share**
Thirteenth	4	**Department of Differentiated Algae**	**To know the genera of this section and to identify its characteristics**	**. Display screen . View models visually and microscopical ly**	**Exams attendance Share**

44.Course Evaluation

1 First exam 17%
2 First practical exam 8%
3 Second exam 18%
4 Second practical exam 7%
5 Final practical exam 15%
6 Final theoretical exam 35%
Total 100%

45.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Algology Dr. Abdel Nasser Abdullah Mahdi Al-Tamimi 2019
Main references (sources)	Algae Dr. Buthaina Abdulaziz Hassan Dr. Thaer Muhammad Ibrahim 2019-2020
Recommended books and references (scientific journals, reports...)	An Introduction To The Algae Ian Morris
Electronic References, Websites	

Course Description Form

46.Course Name: Teaching methods

47. Course Code:

48. Semester / Year: Third stage

49. Description Preparation Date:2026

50. Available Attendance Forms: theoretical

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

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

Name: Dr. Marwa Bassem Saleh
Email: marwa.basim@uosamarra.edu.iq

53. Course Objectives

Course Objectives	• **Preparing a biology teacher** • **Introducing students to the basics of the teaching proc** • **Introducing students to the components of curriculum** • **Providing them with the necessary skills to formul Objectives goals** • **Mastering the efficiency of lesson planning in terms Objectives purposes and teaching procedures** • **Identifying the most common and used methods teaching**

54. Teaching and Learning Strategies

Strategy	Assigning students to conduct reports to provide a practical lesson teach a life sciences subject

55. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The first	2	1- Shows the concept of knowledge 2- Distinguishes between knowledge and	Science	Brainstorming	Daily exam

			science 3- Mentions the fields of science 4- Illustrates the characteristics of science 5- Designs a diagram				
	Second	2	1- Draws a diagram of the components of science 2- Defines scientific facts 3- Clarifies scientific concepts 4- Distinguishes between laws and scientific principles	Components science	Discovery	Daily exam+ Scientific Reports	
	3	2	- Defines the curriculum in its own way 2- Compares between the ancient and modern approach in terms of the features and characteristics of each	Curriculum concept	Interrogation	Daily exam	
	4	2	1- ١ Knows the foundations on which the curriculum is based 2- Analyzes culture into its basic components 3- Explains the basis Cognitive 4- Mentions the two philosophical	Principles of curriculum	Discussion	Daily exam	

			premises in the formation of the curriculum			
	5	2	1- Defines the concept of the curriculum 2- Compares the old curriculum and the modern curriculum	Types of curriculum	Lecture	Daily exam
	6	2	1- Draws a diagram in which he explains the elements and components of the curriculum 2- Classifies the educational goals into their three types 3- Distinguishes between general and private goals and behavioral goals	Realistic and formal approach	Lecture	Daily exam
	7	2	1- Mentions the foundations on which the activity curriculum is based 2- Explains how to plan and build the study unit	Activity Curriculum and Unit Curriculum	Lecture	Daily exam
	8	2	1- Draws a diagram in which he explains the elements and components of the curriculum 2- Classifies the educational goals into their three types 3- Distinguishes between general and private goals	Curriculum elements	Lecture	Scientific Reports

			and behavioral goals			
	9	2	Mentions the conditions for formulating the behavioral goal 2- Shows the levels of the cognitive field of behavioral goals 3- Gives examples of behavioral goals in the cognitive field 4- Applies the rule of formulating behavioral goals.	Instructional objectives	Discussion	Scientific Reports
	10	2	1- Draws a diagram of the levels of the emotional field 2- gives examples of actions representing the levels of the skill field formulates behavioral goals in the emotional field	Affective domine psychomotor+ domine	Discussion Lecture	Scientific Reports
	11	2	1- Explains the steps for selecting educational content 2- Explains the criteria for selecting educational content 3- Explains the benefits of organizing content	Selection of content and learning experiences	Brainstorming	Daily exam
	12	2	1- Defines learning strategies 2- distinguishes between strategy, method and	Learning strategies appropriate to educational objectives and experiences	Brainstorming	Daily exam

	styl				
13	2	1- Explains what is meant by educational activities 2- Explains the functions of educational activities 3- Shows methods of evaluating educational activities	Educational activities	Discussion	Daily exam
14	2	1- Lists the basic principles for achieving effective teaching 2- Defines the classroom environment 3- Extracts the main requirements for classroom environment management	Basic principles to be considered to achieve effective teaching	Lecture	Scientific Reports
15	2	1- Knows educational technologies 2- mentions the types of educational technologies 3- compares between educational means and active	Teaching aids pedagogical) (techniques	Discussion	Daily exam

56.Course Evaluation

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

57.Learning and Teaching Resources

Required textbooks (curricular boo if any)	**Free education for the department**

Main references (sources)	**Methodological book Curricula and Methods of Teaching Science d. Nadia Al-Afoun and Dr. Fatima Fatlawi 2011**
Recommended books and references (scientific journals, reports...)	**Scientific journals, researches, theses and previc theses**
Electronic References, Websites	**Google scholar، Iraqi Academic Journal**

Course Description Form

1. Course Name: Research methodology	
2. Course Code:	
3. Semester / Year: Third stage	
4. Description Preparation Date: 2026	
5. Available Attendance Forms: Theoretical lectures	
6. Number of Credit Hours (Total) 28 hours / Number of Units (Total)	
7. Course administrator's name (mention all, if more than one name)	
Name: Barda Anwer Jassim Email: **brada.an.ja@uosamarra.edu. iq**	
8. Course Objectives	
Course Objectives	**• Get a general concept about the developm of science and scientific research. •Identifying the types of scientific research as well as the**

	types of scientific and intellectual production. **• Learn about scientific research tools.** **• Knowing the research plan and how to formulate the research.** **• Recording research sources and references.**

9. Teaching and Learning Strategies

Strategy	• Explaining and detailing the topics and assigning students to conduct weekly research and reports • Conducting daily examinations of the material that was explained. • Using diagrams that explain the types of scientific production, as well as dissertations, dissertations, and published research.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	**Definition of scientifi research**	**Ahistorical overview of the development science and scientific research**	How to give a lecture	Discuss the topic
2&3	4	**Identify pure research and applied research and distinguish betwee scientific research, reference article,report, short article, and paten**	**Types of Scientific research as well as types scientific and intellectual production.**	**Method presentation and giving examples for each type of research**	**Questions answers**
4	2	**Learn about the interview, questionnaire, types of tests, and**	Scientific research tools	How to deliver and give examples	Discussion of the topic and daily examination

		observation and their types.		for each type explained	
5	2	**Identify the ethics scientific research that are taken into account when embarking scientific research.**	Ethics scientific research.	Schemes	Topic Discussion and reports
6&7	4	**Identifying the conditions for scientific research, steps, and methods defining the research problem.**	**Conditions scientific research, steps scientific research, and t research problem**	Presentation and delivery the lecture	Discussion of the topic and exam daily
8	2	Identifying the novelty of the problem, scientific value, the researcher's interest and experience, time and cost.	**Conditions for choosing t research problem**	Presentation the lecture	Discussing the topic and creating examples to choose the research problem
9	2	Identify the research plan, its title, the research problem, objectives, methods of work, and its hypotheses.	Search Plan	Presentation the lecture	Discuss the topic and make a research plan
10&11	4	Identify data and methods collecting	Data collection	Presentation the lecture	Discuss the topic

		and processing statistically to reach results and achieve the desired research objectives			
12	2	Identifying research sources and references, how to write them down, the difference between references and sources, and methods writing a source.	Recording research Sources and references.	Giving a Lecture and using examples letters and dissertations explain how the source was written	Discussing the topic and creating examples recorded sources
13	4	Learn about the methods recording scientific research and what it includes, including the title of the research, the name of the researcher, and the place where the research was conducted.	Writing scientific research	Giving the lecture	Discussing the topic and creating models for research that has been written down and formulated again
11.Course Evaluation					
The study system is annual Chapter One: Theoretical 20 Reports 3 Daily exams 2 Chapter Two: Theoretical 20 Reports 3 Daily exams 2 Final: Theoretical 50 Final grade: 100					

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Free education for the department
Main references (sources)	Published research
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Google scholar, Iraqi academic journal

Course Description Form

1. Course Name:
Counseling and mental health
2. Course Code:
3. Semester / Year:
2025 – 2026
4. Description Preparation Date:
5. Available Attendance Forms:
In-person (theoretical only)
6. Number of Credit Hours (Total) / Number of Units (Total)
Number of hours: 32 / Units: 4
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Professor Adnan Talfah Mohammed Email: adnantmk4@gmail.com
8. Course Objectives

Course Objectives	**To enable the student to:** **1. Understand the meaning of counseling.** **2. Understand the origins, development, and concepts of counseling.** **3. Understand the rationale and objectives of counseling.** **4. Understand the relationship between counseling and other sciences.** **5. Understand the fields of counseling and counseling methods (individual counseling, group counseling).** **6- Foundations of counseling: (philosophical, social, ethical, religious, psychological).** **7- Counseling theories: (psychoanalytic theory, behavioral theory, irrational idea theory, self theory).** **8- Information needed for counseling (importance of**

	information, types of information, means of gathering information, (cumulative record, case study, narrative record, autobiography, tests and measures, observation, interview). **9- Guidance and Counseling in Schools:** **- The Guiding Teacher – His Duties and Preparation.** **- The Educational Counselor – His Duties and Preparation.** **- Parent-Teacher Councils and Their Role in Guidance.** **- The Need for Guidance Programs in Schools.** **10- Problems Addressed by Educational Guidance:** **- The Meaning of Mental Health, Its Signs, Its Goals, and Its Importance.** **- The Normal and Abnormal Person, Standards of Normal and Abnormal Personality.** **- Characteristics of Normal and Abnormal Behavior, Personality Integration.**

9. Teaching and Learning Strategies

Strategy	1- Delivery Method 2- Discussion Method 3- Video Presentation Method

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	To understand the meaning of counseling.	Introduction Counseling.	Presentation+ Discussion	Tests
2	2	To understand the origins, development, and concepts of counseling.	Introduction Counseling.	Presentation+ Discussion+ Screen	Tests
3	2	To understand the rationale and objectives of counseling.	Introduction Counseling	Presentation+ Discussion+ Screen	Tests
4	2	To understand the relationship between counseling and other sciences.	Introduction Counseling	Discussion+ Interrogation+ Screen	Tests
5	2	To understand the fields of counseling and counseling methods (individual counseling, group counseling).	Introduction Counseling	Discussion+ Interrogation+ Screen	Tests
6	2	To understand the	Foundations	Discussion+	Tests

		foundations of counseling: (philosophical, social, ethical, religious, psychological).	Counseling	Interrogation+ Screen	
7	2	To understand psychoanalytic theory.	Counseling Theories	Discussion+ Questioning+ Overhead Projector Overhead Projector, Pens, and Whiteboard	Tests
8	2	To understand behavioral theory.	Counseling Theories	Discussion+ Interrogation+ Screen	Tests
9	2	To understand the theory of irrational thoughts.	Counseling Theories	Discussion+ Interrogation+ Screen	Tests
10		To understand the theory of the self.	Counseling Theories	Discussion+ Interrogation+ Screen	Tests
11	2		Second Semester Exa		Tests
12	2	To understand the importance of information and the types of information.	Information Need for Counseling	Presentation+ discussion	Tests
13	2	To identify the methods of collecting information: (cumulative record, case study).	Information needed guidance	Presentation+ discussion	Tests
14	2	To identify the methods of collecting information: narrative record, autobiography.	Information needed guidance	discussion	Tests
15	2	(Tests and measures, observation, interviews).	Information needed guidance	Questions+ Practical Applications	Tests

16	2	To learn about the methods of collecting information: (tests and measures, observation, interviews).	Information needed guidance	Discussion+ Interrogation+ Screen	Tests
17	2	The student will respond to and act out the role of: - The counselor teacher - his duties and preparation. - The educational counselor-his duties and preparation.	Guidance a counseling in school	Discussion+ Interrogation+ Screen	Tests
18	2	The student will respond to and act out the role of: - Parent-Teacher Councils and their role in counseling.	Guidance a counseling in school	Discussion+ Interrogation+ Screen	Tests
19	2	To recognize the need for counseling programs in school.	Guidance a counseling in school	Questions+ Practical Applications	Tests
20	2	The meaning of mental health: its signs, goals, and importance.	Problems Addres by Educatio Guidance	Discussion+ Interrogation+ Screen	Tests
21	2	Normal and abnormal individuals, criteria for normal and abnormal personality.	Problems Addres by Educatio Guidance	Discussion+ interrogation	Tests
22	2	- Characteristics of normal and abnormal behavior, personality integration.	Problems Addres by Educatio Guidance	Discussion+ interrogation	Tests
23	2		Second semester exa		Tests

11.Course Evaluation

Study System: Annual
First Semester: 25

Second Semester: 25 Final: 50 Final Grade: 100	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Free education for the department Basics of psychological and educatio counseling / Presented by Prof. Dr. Jamil Samadi
Main references (sources)	External sources
Recommended books and references (scientific journals, reports...)	Scientific journals, research, previous theses a dissertations
Electronic References, Websites	Modern Methods in Psychological a Educational Counseling Dr. Ahmed Abu Asaad // Riyad Al-Azaydeh

Course Description Form

46.Course Name:
English
47.Course Code:
Eng. 4
48.Semester / Year:
Year
49.Description Preparation Date:
2026
50.Available Attendance Forms:
Regularity
51.Number of Credit Hours (Total) / Number of Units (Total)
24hours / 3 units
52. Course administrator's name (mention all, if more than one name)
Name: Harith Abdullah MAhmood Email: Harith.edu.iq@uosamarra.edu.iq
53.Course Objectives

1. Develop academic education at universities and colleges in accordance with higher education quality standards, enabling universities to produce graduates capable of entering the labor market. 2. Clarify basic English language concepts. 3. Develop students' English language skills, such as listening, speaking, and writing. 4. Explain the importance of the English language.	.

54.Teaching and Learning Strategies	
Strategy	1- Explanation and clarification. 2- Lecture method. 3- Discussion method.

10- The course structure

Evaluation method	Teaching method	outcomes Name of unit/or subject	Required learning	hours	**week**
Oral and exams	Explanation and clarification	English	Introduction	1th	121
Oral and exams	Explanation and clarification	English	Present simple tense	1th	122
Oral and exams	Explanation and clarification	English	Simple present tense exercises	1th	123
Oral and exams	Explanation and clarification	English	Wh-questions	1th	124
Oral and exams	Explanation and	English	Exercises about wh-	1th	125

	clarification		questions		
Oral and exams	Explanation and clarification	English	Numbers	1th	126
Oral and exams	Explanation and clarification	English	Writing numbers	1th	127
Oral and exams	Explanation and clarification	English	Colors	1th	128
Oral and exams	Explanation and clarification	English	Reading passage	1th	129
Oral and exams	Explanation and clarification	English	Exercises about reading passage	1th	130
Oral and exams	Explanation and clarification	English	General info	1th	131
Oral and exams	Explanation and clarification	English	English letters	1th	132
Oral and exams	Explanation and clarification	English	Examples about English letters	1th	133
Oral and exams	Explanation and clarification	English	Reading passage	1th	134
		English	First semester exam	1th	135
Oral and exams	Explanation and clarification	English	introduction	1th	136
Oral and exams	Explanation and clarification	English	Past simple tense	1th	137
Oral and exams	Explanation and clarification	inorganic chemistry	Exercises about past simple tense	1th+1p	138
Oral and exams	Explanation and clarification	inorganic chemistry	A\An\the	1th+1p	139
Oral and exams	Explanation and clarification	Organic Chemistry	Exercises about a\an\ the	1th+1p	140
Oral and exams	Explanation and clarification	Organic Chemistry	Reading passage	1th+1p	141
Oral and exams	Explanation and clarification	Organic Chemistry	Exercise about reading passage	1th+1p	142
Oral and exams	Explanation and clarification	Organic Chemistry	General information	1th+1p	143
		Organic	Second	1th+1p	144

		Chemistry	semester exam		
21.Course Evaluation					
1. Semester exam (theory 25 +25) = 50% 2. Final exam (practical 50) = 50%					
22.Learning and Teaching Resources					
Required textbooks (curricular books, if any)	Headway beginner student's book. OXFORD.				
Main references (sources)	Headway beginner student's book. OXFORD				
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites					

Course Description Form

1.	Course Name:
	ECOLOGY and pollution
2.	Course Code:
3.	Semester / Year:
Year:2025-2026	
4.	Description Preparation Date:
5.	Available Attendance Forms:
6.	Number of Credit Hours (Total) / Number of Units (Total)
	hours40
7.	Course administrator's name (mention all, if more than one name)

Afrah toma kalaf

8. Teaching and Learning Strategies

Strategy	Learn the basics of ecology and its relationship to other living organisms Identify living and non-living components and the interactions between them. Understand the biological connections between living organisms and the surrounding world. Know the physical and chemical factors. Know the water cycle and biochemical cycles. Know the ecosystem and energy flow. entify the components of an ecosystem, their importance, and their uses Identify the types of environments. Identify the relationships between living organisms. Study the types of living organisms. Study pollution and its types.

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
3. 1,2	3	troducing students to the term environmental science arning about the nciples of environmental ence and the most portant types of pollution	Basic principles of ecology	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
4.5.6.7	4	Ecosystem nponents of an Ecosystem	Types of ecosystems and their components	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
8.9.10	6	Atmospheric gases			

		Biogeochemical cycles	Types of gases and gas layers	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
	6				
13.14.15		Definition of food chains and their types	Basic cycles and their importance	Lecture or discussion meth	Attendance, Reports and dutyHome and daily exams
	8				
16.17.18.19		Productivity in Ecosystems Limiting Factors and Tolerance Levels	Types of ecological pyramids and which is better: a food chain or a food web Ecological pyramids -	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
	6		Productivity Steps and Methods for Measuring It		
.20.21.22		Types of ecological succession		Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
	8	Definition of environmental pollution and its .types	Stages of ecological succession		
24.25.26.27					
	6		Concept of . environmental pollution. Elements of pollution. Types of environmental	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams

29.30.31		Air pollutants	pollution. Main forms .of pollution		
		Water pollution		Lecture or discussion method	Attendance, Reports and dutyHome and daily exam
		Definition of soil pollution	their types		
	4				
32.33		Definition ofradioactive	Types of water pollutants	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
.34		treatments	Types of soil pollutants	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
36	2				
			types. Radioactive pollution Noise pollution -	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
37	2				
			Types of environmental treatments and pollution reduction	Lecture or discussion method	Attendance, Reports and dutyHome and daily exams
38.40	2			Lecture or discussion method	Attendance, Reports and dutyHome and daily exams

10. Course Evaluation

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

11. Learning and Teaching Resources	
quired textbooks (curricular books, if (any	lum, E.B. 1990. Foundations of Environmental Science anslated by Dr. Muhammad Ammar Al-Rawi University of Baghdad. Dar Al-Hikma
(Main references (sources	Saadi, Hussein Ali 1986. Environmental Science and .Pollution
Recommended books and references (...scientific journals, reports)	
Electronic References, Websites	

The decisions of the fourth stage

2025 – 2026

Course Description Form

58.Course Name:	
: parasitology	
59.Course Code:	
60.Semester / Year:	
2025-2026	
61.Description Preparation Date:	
2026	
62.Available Attendance Forms:	
Weekly	
63.Number of Credit Hours (Total) / Number of Units (Total)	
48 hours \6 units	
64. Course administrator's name (mention all, if more than one name)	
Name: Dr.Marwa Shakir Mahmood Email: marwa51@uosammarra.edu.iq	
65.Course Objectives	
Course Objectives	1-Identify of parasites and the relationships between living organisms.

	2- Understand the types of parasites and their methods of transmission. 3- To explore the most important factors affecting their density and spread. 4- To examine the scientific classification of parasites. 5- To examine parasites of medical importance. 6- Identify the clinical symptoms and pathological characteristics of parasites that cause disease in humans. 7- To develop students' skills in designing and conducting physiological experiments. 8-To encourage scientific thinking, critical analysis, and problem-solving abilities. .

66. Teaching and Learning Strategies

Strategy	- Interactive lectures using visual aids and multimedia presentations. 2- Laboratory sessions for hands-on experimentation and observation. 3- Group discussions and collaborative learning activities. 4- Student presentations to review concepts or present experimental results. 5- Use of recent scholarly sources and selected research papers

67. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
the first	2	Understand ing, clarifying, a analyzing this topic	Introduction to parasitology& Devices used in the parasitology laboratory	Theory Practical	Written tests Practical tests
the second	2	Understand ing, clarifying, a analyzing this topic	Introduction to protozo	Theory & Practical	Written tests Practical tests
the third	2	Understand ing, clarifying, analyzing this topic	Entamoeba spp	Theory & Practical	Written tests Practical tests
the fourth	2	Understand ing, clarifying, analyzing this topic	Atrial flagellates	Theory & Practica	Written tests Practical tests
Fifth	2		intestinal flagellate	l	
Sixth	2	Understand ing, clarifying, analyzing this topic	Blood and tissue flagellates (Leishmania (spp	Theory & Practical	Written tests Practical tests
Seventh	2	Understand ing, clarifying, analyzing this topic	Trypanosoma spp	Theory & Practical	Written tests Practical tests
The eighth	2	Understand ing, clarifying, analyzing this topic	& (Ciliates (B.coli sporozoa	Theory & Practica	Written tests Practical tests
Ninth	2	Understand ing, clarifying, analyzing this topic	& plasmodium spp) (T.gondii	l Theory & Practic	Written tests Practical tests
The tenth	2	Understand ing, clarifying, analyzing this topic	Isosporaspp&Sarcocyst sp	Theory & Practic	Written tests Practical tests

Eleventh	2	Understand ing, clarifying, analyzing this topic	Introduction to platyhelminthes	Theory & Practical	Written tests Practical tests
twelveth	2	,Understand ing, clarifying and analyzing this topic	intestinal trematoda	Theory & Practic	Written tests Practical tests
Thirteenth	2	Understand ing, clarifying, analyzing this topic	hepatic trematoda	Theory & Practic	Pract Written tests Practical tests
fourteenth	2	Understand ing, clarifying, analyzing this topic	Blood & Pulmonary trematoda	Theory & Practica	Written tests Practical tests
Fifteenth	2	Understand ing, clarifying, analyzing this topic	Introduction to cestoda	Theory & Practica	Written tests Practical tests
sixteenth	2	Understand ing, clarifying, analyzing this topic	& Order: Pseudophyllidea its most important of genera	Theory & Practica	Written tests Practical tests
Seventeenth	2	Understand ing, clarifying, analyzing this topic	Order Cyclophyllidea &its most important of genera	Theory & Practica	Written tests Practical tests
Eighteenth	2	Understand ing, clarifying, analyzing this topic	Introduction to nematode	Theory & Practica	Written tests Practical tests
Nineteenth	2	,Understand ing, clarifying and analyzing this topic	intestinal nematode(T.trichiura, Ascaris)	Theory & Practica	Written tests Practical tests
Twenty	2	Understand ing, clarifying, analyzing this topic	&E.vermicularis Strongyloids sp	Theory & Practica	Written tests Practical tests
Twenty-first			Hook worms		
twenty-two	2	Understand ing, clarifying, analyzing this topic	Blood nematode	Theory & Practica	Written tests
twenty-three	2	Understand ing, clarifying, analyzing this topic	tissue nematode (Loa loa (Dracunculus sp,&	Theory & Practica	Practical tests
twenty-four	2	Understand ing, clarifying, analyzing this topic	Dioctophyma sp&capillarias	Theory & Practica	Written tests

68.Course Evaluation

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

69.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Parasitology .Al-Hadithi ,I &Awad, A H
Main references (sources)	1-Clinical Parasitology-Elizabeth A. Gockel-Blessing- **2**-Essentials of medical parasitology -Apurba Sankar Sastry & Sandhya Bhat K 3- Human Parasites- Heinz Mehlhorn
Recommended books and references (scientific journals, reports...)	**1-** Textbook of medical parasitology- Paniker, C. K. J 2- Essentials of medical parasitology -Apurba Sankar Sastry & Sandhya Bhat K 3- Journal of Parasitic Disease
Electronic References, Websites	1-. Gooogle scholar. https://scholar.google.com 2- Iraqi Academic Scientific Journals - *http://www.iraqoaj.net* 3- Clinical Microbiology and Infection .https://www.clinicalmicrobiologyandinfection.com 4-International Journal for Parasitology *https://www.sciencedirect.com* › journal › international-j

Course Description Form

1. Course Name:
Practical parasitology
2. Course Code:
3. Semester / Year:
1st semester & 2nd semester
4. Description Preparation Date:
2026
5. Available Attendance Forms:
Practical Attending
6. Number of Credit Hours (Total) / Number of Units (Total)
19 hours / 6 Units
7. Course administrator's name (mention all, if more than one name)
Name: Maysaa Tarik Hanoon & Marwa Shaker & Nebras Aziz Email: maysaa@uosamarra.edu.iq
8. Course Objectives

Course Objectives	1-Graduating students with high competencies in diagnosing parasites, parasitic diseases and their vector 2- Introducing the types of parasites around the world, 3- Detection of parasites in general, methods of diagnosing the diseases they cause, and familiarity with epidemiological information surrounding the disease, which helps prevent and eradicate prevalent parasitic diseases.

9. Teaching and Learning Strategies

Strategy	: The main strategy that will be adopted in delivering this unit is encourage students' participation in the laboratory, while at the sa time improving and expanding their thinking skills. This will accomplished through interactive classroom and tutorial progra and by looking at types of simple experiments that include so sampling activities of interest to students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	Hour	Learn how to use a microscope, centrifuge , and how to prepare slides	Equipment used in the laboratory	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
2nd	Hour	Identify parasites, their types , hosts , and methods of transmission	Introduction to parasitology	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
3rd	Hour	elementary principles, the structure of their bodies , etc	Protozoa	Use The blackboard, the projector, and the use of parasitic slides using an optical	Exam and reports

				microscope	
4th	Hour	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Amoeba species	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
5th	Hour	Identify the most important species, their classification, shape, location, and methods of diagnosis	Intestinal dinoflagellates	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
6th	Hour	Use samples To examine the most important parasites present and others	Practical laboratory	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
7th	Hour	Identify the most important species , their classification , shape, location, and methods of diagnosis	Blood and tissue dinoflagellates	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
8th	Hour	Identify the most important genera, their classification, shape, location, and methods of diagnosis	Ciliates	Use The blackboard, the projector, and the use of parasitic slides using an optical	Exam and reports

				microscope	
9th	Hour	Identify the most important genera, their classification, shape, location, and methods of diagnosis	Trypanosomes	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
10th	Hour	Identify the most important genera, their classification, shape, location, and methods of diagnosis	Spores of the genus Plasmodium	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
11th	Hour	Identify the most important genera, their classification, shape, location, and methods of diagnosis	Toxoplasma Toxoplasma gondii	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
12th	Hour	Identify the most important genera, their classification, shape, location, and methods of diagnosis	Flatworms Liver flukes	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
13th	Hour	Identify the most important genera, their classification, shape, location, and methods of diagnosis	Intestinal and pulmonary perforations	Use The blackboard, the projector, and the use of parasitic slides using	Exam and reports

				an optical microscope	
14th	Hour	Using stool samples to examine the most important intestinal parasites	Practical laboratory	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
15th	Hour	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Bloody holes	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
16th	Hour	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Tapeworms	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
17th	Hour	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Practical laboratory	Use The blackboard, the projector, and the use of parasitic slides using an optical microscope	Exam and reports
18th	**Hour**	**rd, the projector, and asitic slides using an optical microscope**	**Nematodes Nematoda**	**, the projector, parasitic slides cal microscope**	**and reports**
19th	Hour	Use The blackboard, the projector, and the	Hookworms	Use The blackboard,	Exam and reports

		use of parasitic slides using an optical microscope		the projector, and the use of parasitic slides using an optical microscope	

11.Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Dr. Ismail Abdel Wahab
Main references (sources)	Google Schoolar
Recommended books and references (scientific journals, reports...)	Google Schoolar
Electronic References, Websites	Google Schoolar

Course Description Form

1. Course Name: physiology
2. Course Code:
3. Semester / Year:2025-2026

4. Description Preparation Date:

5. Available Attendance Forms:

6. Number of Credit Hours (Total) / Number of Units (Total)40hours

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

Name: *Khalida Khalil Abdullah*
Email: Khaleda.kh@uosamarra.edu.iq

8. Teaching and Learning Strategies Teaching the basic principles of physiology

Strategy	Theoretical lectures Reports scientific articles

9. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1,2	4	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	Basic principles of Physiology	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
3,4,5,6	8	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	Circulatory apparatus	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex
7,8,9,10	8	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	Digestive apparatus	Lecture or discussion method	Attendance, Reports and dutyHome and daily ex

11,12,13,14	8	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	Respiratory apparatus	Lecture or discussion method	
15,16		holiday			
17,18,19	6	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	muscular apparatus	Lecture or discussion method	Attendance, Reports an dutyHome and daily ex
20	2	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	Physiological regulation of temperature	Lecture or discussion method	Attendance, Reports an dutyHome and daily ex
21,22,23,24,25			Application period		
26,27,28	6	Creating a specialized scientific base in physiology that qualifies student to obtain a bachelor's degree	Complementing thermoregulation and some short and useful physiological lectures for the student	Lecture or discussion method	Attendance, Reports an dutyHome and daily ex

10.Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, d oral, monthly, or written exams, reports .... etc	
11.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	physiology SIXTH EDITION LINDA S. COSTANZO, PhD Professor of P and Biophysics Virginia Commonwealth University School of Richmond, Virginia
Main references (sources)	GRINCIPLES OF ANATOMY AND PHYSIOLOGY Twelfth Edition Tortora Bergen Community College Bryan Derrickson Valencia Co College
Recommended books and references (scientific journals, reports...)	Functional anatomy and physiology Shteiwi Al-Abdullah
Electronic References, Websites	

Course Description Form

13.Course Name:
Animal Physiology Practical
14.Course Code:
15.Semester / Year:
2025-2026
16.Description Preparation Date:
17.Available Attendance Forms:
Laboratory
18.Number of Credit Hours (Total) / Number of Units (Total)

128 hours

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

Name: Asmaa Ismael Hussein
Email: **asmaa.i.hu@uosamarra.edu.iq**
Name: Marib Ahmed Shawkat
Email: Marib.Ahmed@uosamarra.edu.iq

20.Course Objectives

Course Objectives	*** To teach students the fundamentals of animal physiology.** *** To demonstrate how to apply experiments in a laboratory setting.** *** To familiarize students with basic laboratory procedures, including handling samples, conducting tests, recording results, and documenting findings.**

21.Teaching and Learning Strategies

Strategy	1. Teacher- centered strategies (Direct instruction, Lecture- based teaching, Small group instruction, Individualized learning) 2. Learner- centered strategies (Active learning, Collaborative learning, Project- based learning)

3. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	8	Identify the types of blood used in laborato tests and perform bloo typing.	Blood collect types	-Board -Presentation slide - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
2nd	8	Identify blood groups and their types, and methods of performing their tests	Blood groups test	-Board -Presentation slide - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
3rd	8	Identify the blood sme test and the size of packed or compressed cells	Blood tests	-Board -Presentation slide - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports

4th	8	Identify the types of hemoglobin, the causes of its increase a decrease, and methods measuring it	Hemoglobin test	-Board -Presentation slides - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
5th	8	Identify the bleeding time	Bleeding time test	-Board -Presentation slides - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
6th	8	- Identify the clotting time and the factors affecting the clotting ti	Coagulation time test	-Board -Presentation slides - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
7th	8		Review previous lectures and repea some experiments		
8th	8		1st term exam		
9th	8	- Identify the factors affecting the sedimentation rate, the cases in which it increases and decrease and methods of measuring it (E.S.R	Erythrocytes Sedimentation Rate (E.S.R) test	-Board -Presentation slides - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
10th	8	- Identify the factors controlling blood pressure and changes i blood pressure	Blood pressure	-Board -Presentation slides - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports

11th	8	- Identify the factors controlling blood pressure and changes i blood pressure	Blood pressure	- Use the mercury blood pressure monitor and learn how to measure blood pressure.	- Practical demonstrations. - Da exams. - Lab reports
12th	8	- Identify the parts of t frog's heart and dissec	F r o g - h e a physiology (Introduction)	-Board -Presentation slide - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
13th	8	Identify the heart rate and pulse rate during t experiments.	Frog he physiology (He rate and pulse r experiments)	-Board -Presentation slide - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
14th	8	Identify the pulse of th isolated heart, the effe of temperature on the heart rate, and the determination of the pacemaker.	Frog He Physiology (Isola Heart Perfus Experiments, Eff of Temperature Heart Rate, Mapp the Pacemaker):	-Board -Presentation slide - Laboratory experiments	-Follow students' experiments conduct -Daily exams - Lab reports
15th	8		Review previ lectures and rep some experiments		
16th	8		2nd term exam		

4. Course Evaluation

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

5. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Textbooks on animal physiology
Main references (sources)	Laboratory manuals
Recommended books and references (scientific journals,	

reports...)	/
Electronic References, Websites	Online resources such as Khan Academy and Wikipedia

Course Description Form

1. Course Name: Plant physiology
2. Course Code:
3. Semester / Year: 2025 – 2026
4. Description Preparation Date: 2026
5. Available Attendance Forms: Theoretical lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
6
7. Course administrator's name (mention all, if more than one name)
Name: Ahmed Abdulhakeem Tawfeeq Email: akeem@uosamarra.edu.iq Name: Omar Naji Ali

Email: omer.na.al@uosamsrra.edu.iq

8. Course Objectives

Course Objectives	To provide students with a comprehensive understanding of the fundamental physiological processes in plants. ▪ To explain how plants absorb, transport, and utilize water, minerals, and nutrients. ▪ To explore photosynthesis, respiration, and energy transformations in plant cells. ▪ To examine the roles of plant hormones in growth and development. ▪ To analyze the impact of environmental factors (light, temperature, water, salinity) on plant function. ▪ To develop students' skills in designing and conducting physiological experiments. ▪ To encourage scientific thinking, critical analysis, and problem-solving abilities.

9. Teaching and Learning Strategies

Strategy	▪ Interactive lectures using visual aids and multimedia presentations. ▪ Laboratory sessions for hands-on experimentation and observation. ▪ Group discussions and collaborative learning activities. ▪ Student presentations on selected physiological topics. ▪ Problem-based learning through case studies and real-world scenarios. ▪ Self-directed learning via assigned readings and research tasks. ▪ Field visits (if available) to observe physiological applications in agricultural or natural settings. ▪ Use of digital tools and simulations to demonstrate complex physiological processes.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	6	Understanding, clarifying, analyzing this topic	Introduction to Plant Physiology	Screen and board	Daily and monthly exams

2nd	6	Understanding, clarifying, analyzing this topic	Water and Plant Water Relations	=	=
3rd	6	Understanding, clarifying, analyzing this topic	Water Absorption and Transport in Xylem	=	=
4th	6	Understanding, clarifying, analyzing this topic	Transpiration and Stomatal Regulation	=	=
5th	6	Understanding, clarifying, analyzing this topic	Osmosis, Water Potential, and Turgor	=	=
6th	6	Understanding, clarifying, analyzing this topic	Mineral Nutrition and Ion Uptake	=	=
7th	6	Understanding, clarifying, analyzing this topic	Photosynthesis: Light Reactions	=	=
8th	6		Respiration and Energy Metabolism	=	=
9th	6		Photosynthesis: Carbon Reactions (C3, C4, and CAM)	=	=
10th	6		Respiration and Energy Metabolism	=	=
11th	6		Enzymes and Metabolic Regulation in Plants	=	=

11.Course Evaluation

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

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

70. Course Name: Microbiology) theoretical&Practical)
71. Course Code:
72. Semester / Year:2025-2026
73. Description Preparation Date:
74. Available Attendance Forms:
Practical Attending
75. Number of Credit Hours (Total) / Number of Units (Total)
66
76. Course administrator's name (mention all, if more than one name)
Name: prof.Assistant. Dr Harth Ahmed Mustafa **Assistant Lecturer Ayat Muwafaq Majeed** **Assistant Lecturer Nisreen Yassin Taha** **& Assistant Lecturer noor Khaled** **Assistant Lecturer Ahmed Abdulbari Abdulwahid** Email: **: harith.a.m@uosamarra.edu.iq** **ayat.mw.m@uosamarra.edu.iq** nisreen.y.ta @uosaomarra.edu noor.k@uosamarra.edu

Email: Ahmed.abdulbari@uosamarra.edu.iq

77. Course Objectives

Course Objectives	**Recognize microbiology** **Recognize the nutrition of microscopic biology** **And the cultivation of microscopic biology.** **And the growth of bacteria**

78. Teaching and Learning Strategies

Strategy	1. Theoretical lectures 2. Practical laboratories 3. Teach students how to prepare implants, implant samples and how to diagnose bacteria with optical microscopy

79. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	6	Recognize microbiolog	Introduction to Microbiol	Whiteboard and Screen	Daily and mon examinations
2nd	6	Know the classification microscopic biology	Classification of Microbiol	=	=
3rd	6	Importance of classification	Classification totals for bacteria	= =	= =
4th	6	Cellular Wall Installatic	Bacteria and cell wall	=	=
5th	6	The role and functions the membrane	Cytoplasmic membrane	=	=
6th	6	The middle body is important and its functions	Middle Body	=	=
7th	6	Knowledge of Nutrient and Feeding Methods	Feeding microscopic biolc	=	=
8th	6	Agricultural circles use	Cultivation of microbiolog	=	=
9th	6	Bacterial Growth Phase	Growth of bacteria	=	=
10th	6	Appearance and geneti characteristics	Inheritance of microscopi biology	=	=

11th Practical	6	Mechanisms in wh genes are transmitted ...	Bacterial inheritance	=	=
1st	8	Identification of devices used in microbiological laboratory and principle Each device's work	Instructions and instructi in Microbiological Laborator	Watch Devices And the way each device runs, the board	Daily exam
2nd	8	Identifying shapes Bacteria and their assemblies	Forms of bacterial species	Models on projector	Daily exam External homework
3rd	8	Learn about the types of circles, how to prepare th and how to save them	Agricultural communities and methods of preparati	Display Screen To see how it works	Daily exam Practical Reports
4th	8	Learn about transplant methods and how microscopic biology growsMethods used to isolate and purify bacteri	Methods of development isolation and purification Microbiology	Calculate the quantity and the way each media i prepared.	Reports
5th	8	Identification of pigment types	Pigmentation of bacteria (dye Simple and complex) Pigmentation of bacteria gram dye)	Display Screen Pen &board	Daily exam End-of-lecture report on th results of the Gram Stain
6th	8	Study gram stain and hov works and results	=	Laboratory Scien Experiments Pen & board	Daily exam
7th	8	Know how to prepare	Dyeing capsule and spores	Experiences Display Screen Experiment work	Daily exam
8th	8	capsule dye and spores	Dyeing capsule and spores	Pen & board View experiences Videos	Daily exam Reports
9th	8	Teaching and training students on pigmentation Training students on how work the pending drop te	Motion Test for Bacterial Species (hanging drop and semi-glutinous circle	Scientific Experie View Video	Timely reports at the end o the lecture
10th	8	Recognize Growth Phases ..	Bacterial growth phases	Experiments usin microscope Practical experiments3	Daily exam

11th	8	Highlight physical factors such as heat on bacteria growth	Physical control over grov Microbiology	board and Pen	Daily exam Weekly Report
12th	8	Stand at sanitisers and th role in stopping microbia growth	Chemical control over growth Microbiology	board and Pen	
13th	8	Introduction, importance and risks of antibiotics	Antibiotic Test (Test ..	How To Try Kirby PowerKurby, Pen Spoilbauer	Weekly Report
14th	8	Study of water-based bacteria and knowledge of pathological species	Microbiological waterproof test	Experiences PEN&board) Experiments for different samples different environments an water companies and their distribution to public circles	Homework Daily exam
15th	8	Testing different types of food and their relevance pollution	Microbiological testing of food	Laboratory experiments to gr food swabs in pul and optional circl	A week-by-week report Past and Present Delivers After a week of last
16th	8	Theoretically highlighting the inspection of excreme	General Urine Test	Display Screen Laboratory experiments to gr	Daily exam Exam Report
17th	8	Detailed study, diagn and analysis of genera samples	General Urine Test	food swabs in pul and optional circl Display Screen	
18th	8		Pathological Bacteria Study	Theoretica;	

80.Course Evaluation

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

81.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific	

journals, reports...)	
Electronic References, Websites	Google Schoolar

Course Description Form

82. Course Name: Immunity / Morning study

83. Course Code: Theoretical

84. Semester / Year: 2025-2026

85. Description Preparation Date:

86. Available Attendance Forms:

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

30 hours

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

Name: Nisreen yassen taha
Email: nisreen.y.ta @uosaomarra.edu

89. Course Objectives

Course Objectives	• **Preparing generation with knowle immunology and the immune mechanis occur in the body.....** • **.....Benefit from this science to protect the l ways to prevent diseases** • **.....**

90. Teaching and Learning Strategies

Strategy	Delivering a lecture, presentation, dialogue and discussion metho short exam

91. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2	Immunity, immunity system	Immunology	Giving the lectu	Oral

		History, title, branches			questions
Second	2	Organs, tissue, cells, proteins	Immunity syste	Giving lecture And discussion	Oral questions
Third	2	Defensive lines mechani and chemical barriers	Natural immuni	Presentation an Giving lecture	Short exa
Fourth	2	Type specific immunity Individuals, biological barrie	Type natural Immunity	Mixing discussi And lecture	Oral question
Fifth	2	Acquired immunity natural, Artificially, vaccination	Acquired Immunity	Collaborative learning	Preparing and discussing reports
Sixth	2	Inflammatory process	inflammation	presentation	Semester exam
Seventh	2	Phagocytosis process the Response of phagocytes to Injury steps in phagocytosis	Phagocytosis	presentation	Oral question
Eighth	2	Factor determining Immunogenicity the chemica Natural of antigen Antigenic Determination	Antigen	discussion method	Short question
Ninth	2	The functions of antibodies a determined by the types immunoglobulins	Antibodies	giving lecture	
Tenth	2	Association cells T and B cell Lymphocyte recycling	Cells of the inna and acquired Immune system	mixed giving lecture and discussion	Short Exa

Eleventh	2	Biological manifestations Of cytokine network ways To control it experiments an Research related to cytokine	Cellular media	presentation method w lecture explanation	Semester exam
Twelfth	2	Its characteristics, functi mechanism, action	Complement System	giving lecture	Short exa
Thirteen	2	Cluster of differentiation Its division are histocompatibility complexes, antigen-presenti cells	Receptors on th Surface of cells	discussion method	Oral question
Fourteer	2	tolerance, aspects of toleran induction, autoimmunity, mechanisms of autoimmune diseases, and their causes	Tolerance and Autoimmunity	mixed giving lecture and discussion	Short exa

92.Course Evaluation

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

93.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Methodical book and lectures
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

94.Course Name:

Immunology (Practical)\ Fourth stage

95. Course Code:

96. Semester / Year:

2025-2026

97. Description Preparation Date:

2026

98. Available Attendance Forms:

Weekly

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

48 hours \ 4 Units

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

Name: Lecturer. Dr. Roaa Jaffer Jasim Al-Assi
Email: raouaa.j.jas@uosamarra.edu.iq

Name: Maad Asaad Abd

101. Course Objectives

Course Objectives	• **Teaching students the basics of immunology and all its topics, with examples and everything about this science has many applications, especially with regard to diagnosing diseases that effect on human (health aspect) and in a way that achieves a scientific background for students in the field of immunology to take their active role in serving individuals and society.**

102. Teaching and Learning Strategies

Strategy	**Problem solving, discussion, additional assignments, questions and answers, and adopting video lectures, pictures, shapes and diagrams to increase knowledge.**

103. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Memorizing and understanding the subject and its applications	Introduction in the immune system and its mechanisms	Lecture and practical application	Daily exam
2	4	Memorizing and understanding the subject and its applications	Preparing a blood and serum sample	Lecture and practical application	Preparing a typical blood and serum sample
3	4	Memorizing and understanding the subject and its applications	Immune system cells	Lecture and practical application	Preparing the blood smear, report and daily exam

4	4	Memorizing and understanding the subject and its applications	Subdivisions of immunity, natural immunity	Lecture and practical application	Prepare a smear from mouth lining, Report and daily exam
5	4	Memorizing and understanding the subject and its applications	Inflammation and its types	Lecture and practical application	Conduct an experiment and exam
6	4	Memorizing and understanding the subject and its applications	C- Reactive protein	Lecture and practical application	Conduct an experiment and exam
7	4	Memorizing and understanding the subject and its applications	The process of phagocytosis and its stages	Lecture and data show	Daily exam
8	4	Memorizing and understanding the subject and its applications	acquired immunity	Lecture and data show	Daily exam
9	4	Memorizing and understanding the subject and its applications	Types of acquired immunity	Lecture and practical application	Prepare a smear from blood and daily exam
10	4	Memorizing and understanding the subject and its applications	Antibodies and antigens in blood groups	Lecture and practical application	An experiment, report and a daily exam
11	4	Memorizing and understanding the subject and its applications	Rose Bengal test	Lecture and practical application	An experiment, report and a daily exam
12	4	Memorizing and understanding the subject and its applications	Toxoplasmosis	Lecture and practical application	An experiment, report and a daily exam
13	4	Memorizing and understanding the subject and its applications	Widal test	Lecture and practical application	An experiment, report and a daily exam

104. Course Evaluation

The practical grade of the first semester is 8, the practical grade of the second semester is 7, and the practical final exam grade is 15. Thus, the total grade for the first and second semesters becomes 15, the final exam is 15, and the sum of the final grade is 30.

105. Learning and Teaching Resources

Required textbooks (curricular books, if any)	علم المناعة والمصول
Main references (sources)	Immunology and serology
Recommended books and references (scientific	Cellular and molecular immunology 2015

journals, reports...)	
Electronic References, Websites	

Course Description Form

106. Course Name: Endocrinology
107. Course Code:
108. Semester / Year
2025-2026
109. Description Preparation Date:
2026
110. Available Attendance Forms:
111. Number of Credit Hours (Total) / Number of Units (Total)
1 hour / week 2 unit

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

Name: dr.Asmaa Hassan Jumaa
Email: asmaa.hasan@uosamarra.edu.iq

113. Course Objectives

Course Objectives	**Recognizing the importance of endocrinol and linking it to the nervous system** • **2. Study of the types of endocrine gla and their secretions** • **3. Knowledge of disorders resulting fr increases and decreases in secre hormones** • **4. Introducing students to the clin importance of this science and linkin to health problems.....**

114. Teaching and Learning Strategies

Strategy	The importance of the course is to learn about endocrinology, definitions, the types of endocrine glands present in the body, a the reason for its close connection with the nervous system, addition to studying the structure of these glands, their secretio and the most important disorders that occur in them, includi increases and decreases.

115. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Introduction to endocrinology and hormone definitio	Giving A lecture	Daily exam a discussion
2	1		Introduction to endocrinology and hormone definition		
3	1		Identify the most important terms related to endocrinology		
4	1		The hypothalamic gland and its		

5	1		secretions exam pituitary gland		
6	1		Hormones of the anterior lobe of the pituitary gland		
7	1		Hormones of the middle lobe of the pituitary gland		
8	1		Hormones of the posterior lobe of the pituitary gland		
9	1		exam		
10	1		Hormonal disorders The thyroid gland, its structure and secretions Thyroid disorders The adrenal gland, its structure and secretions Adrenal gland disorders		

116. Course Evaluation

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

117. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Endocrinology book Written by: Prof. Dr. Rashid Muhamm Rashid, Prof. Dr. Sabah Abdel Hamid Abd Rahman

	Anbar University, Al-Farabi Univers College
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

117. Course Name:	
measurement and evaluation	
118. Course Code:	
119. Semester / Year:2025-2026	
120. Description Preparation Date:	
121. Available Attendance Forms:	
122. Number of Credit Hours (Total) / Number of Units (Total):64	
4Units	
123. Course administrator's name (mention all, if more than one name)	
Name: Ass.Prof.Dr: Adnan Tilfah Muhammed Email: adnan.tmk4@uosamarra.edu.iq	
124. Course Objectives	
Course Objectives	**Make the student able to:** **1- Knows the types of achievement tests.** **2- Know the types of measurement.** **3- Know the types of calendar.** **4- knows the areas of use of each type**

	of test... its advantages. and disadvantages... , the rul for preparing... and the rules for correcting each type test, so that he can use the appropriate test according the goals to be achieved, and according to the learner maturity. **5- Identify non-test evaluation methods.** **6- Identify the specifications of a good test.** **7- The learner becomes familiar with the statist analysis of the test items**

125. Teaching and Learning Strategies

Strategy	1- delivery Method 2- Discussion method. 3- Video presentation method.

126. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	**To learn about a historical introduction to measurement and evaluation**	**ntroduction to measurement and evaluation**	**Presentation + discussion**	exams
2		**The student gets to know the basic concepts of testing, measurement, and evaluation and the relationship between them**	**Testing – Measurement - evaluation**	**Presentation + discussion + display screen**	
3		**The student should know the types and objectives of evaluation (systems and programs/student/ teacher).**	**Calendar**	**Presentation + discussion + display screen**	
4		**For the student to know the types and objectives of assessment (introductory / constructive / summati / normative / narrative For the student to know the classification of educational objectives**	**Calendar**	**Discussion + interrogation + display**	
5		**For the student to know the types of achievement tests (essay/supplemental /oral)**	**Educational goals**	**Discussion + interrogation + display**	

6		For the student to know the types of achievement tests (objective/practical performance)	Achievement tests	Discussion + interrogation + display	
7		For the student to know how to design a test map	Achievement tests	Discussion + interrogation + display	
8		The student designs the test map	Test map	display Colored pens + whiteboard	
9		The student should know honesty, its types, and the factors affecting it	Test map	Discussion + interrogation + display	
10		The student should know stability and types, methods extracting it, and factors affecting it.	Good test specifications	Discussion + interrogation + display	
11		For the student recognize (objectivity, comprehensiveness, a ease)	Good test specifications	Discussion + interrogation + display	
12		For the student to know the types observation	Good test specifications Non-test assessment methods	Presentation + discussion Presentation + discussion	
13		For the student to become familiar with reports,		discussion	
14		discussions, and school card	Non-test assessment methods	Questions + practical	
15		For the student to know the steps constructing tests	Steps to build tests	applications	
16		The student must respond to the test items and applications	First semester exam	Discussion + interrogation + display	
17		The student gets to know the ease factor	Statistical analysis of tes items	Discussion + interrogation + display	
18		The student should know the difficulty factor	Statistical analysis of tes items	Discussion + interrogation + display	
		The student gets			

19 20 21		**to know the discrimination factor** **For the student to recognize the effectiveness of incorrect alternatives** **The student must respond to the test items and applications**	**Statistical analysis of tes items** **Statistical analysis of tes items** **Second semester exam**	**Discussion + interrogation + display** **Questions +** **practical applications**	

127. Course Evaluation

128. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Evaluation and Measurement/Mustafa Mahmoud Imam/1990**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description

13.Course Name:
Observation and Application
14.Course Code:
15.Semester / Year:
Fourth Grade / 2025-2026
16.Description Preparation Date:
2026
17.Available Attendance Forms:
In-person
18.Number of Credit Hours (Total) / Number of Units (Total)
4 Hours / 4 Units (Per Week)
19. Course administrator's name (mention all, if more than one name)
Name : Asst. Prof. Dr. Ali Obaid Omar Email : ali.ob.om@uosamarra.edu.iq
20.Course Objectives

Course Objectives At the end of the Practical Educati course, the student/teacher is expected be able to:	• **1. Sets appropriate educational objectives their lesson.** • **2. Designs instruction effectively.** • **3. Evaluates student performance.** • **4. Creates a friendly and respectful classro environment.** • **5. Manages classroom procedures effectivel** • **6. Manages student behavior effectively.** • **7. Communicates clearly and accurately w students.**

	• **8. Uses questioning and discussion method teaching.** • **9. Provides feedback to students.** • **10. Demonstrates flexibility responsiveness to students.** • **11. Develops and improves themsel professionally.** • **12. Respects the teaching profession develops positive attitudes toward it.**

21.Teaching and Learning Strategies

Strategy	- Active learning strategy - Lecture method - Practical presentation method - Discussion method

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First 3 - Writes the subject vocabulary. - Records some controls and agreements with the teacher. - Receives the registration letter from the schools for implementation and initiates the reservation procedures. - Provides the teacher with a no-objection letter for implementation. Registrati and reservation procedures in schools: Observation and continuous follow-up. Second 3 - Lists the stages of practical education. - Mentions the responsibilities of the student teacher. - Mentions the duties of the supervisor. - Explains the duties and rights of the cooperating teacher. Stages of practical education and the responsibilities of staff. In the application: Lecture, oral questions. Third 3 - Distinguishes between the general objective and the behavioral objective. - Formulates behavioral objectives for a lesson in their field of specialization. - Implements microteaching (5) students. Competency: Educational objectives, active learning. Evaluation by observation. Fourth 3 - Lists the types of plans. - Mentions the components of the plan. - Designs an annual plan. - Designs a daily plan. Microteaching (3) Students with proficiency in planning, active learning, writte					

test, daily to design a plan, and observational assessment for microteaching. Fif
Grade 3 - Defines self-assessment.
- Practices self-reflection to develop self-development.
- Microteaching (5) Students with proficiency in self-assessment and reflective practices, lecture, active learning, and observational assessment.
Sixth Grade 3 - Observes lessons in schools.
Evaluates what they have observed. Field visit observation
Discussion after return: Observation and oral questions
Seventh grade 3 - Lists the types of questions
Explains each type
Clarifies question-directing skills
Emphasises the importance of communication
Practice micro-teaching (4) students. Competency in using classroom questions
Practical presentation. Observation
Eighth grade 3 - Explains the principles of good classroom management
Discusses some principles
Practice micro-teaching (4) students. Competency in using classroom management. Discussion and active learning. Observation and oral questions
Ninth grade 3 - Addresses disruptive student behavior
Explains steps for controlling and avoiding anger
Practice micro-teaching (4) students. Competency in using classroom management. Discussion and lecture. Active learning. Observation and oral questions
Tenth grade 3 - Achievement test
Eleventh grade 3 - Explains the meaning of teaching aids
Listens the types of teaching aids
Clarifies the skill of using the blackboard
Practice micro-teaching (4) students. Competency in using educational aids.
Practical presentation. Observation
Twelfth grade 3 - Review some lessons
Practice teaching Mini Review and Applications of Active Learning Observation
Thirteenth
Remedial Week
Fourteenth
Final Examinations for the First Semester
Fifteenth
Fifth =
Sixth
Fifth =
Mid-Year Break
Seventh
Fifth - The student applies what she has learned

in the field directly with students in schools for 45 days

Weeks of Application - The student applies what she has learned
in the field. Continuous monitoring of students' enrollment in the application and communicating with them to resolve problems and obstacles. Academic an Educational Supervision
Twenty-fourth - Receiving evaluation forms from the academic and educational supervisor and the principal for the students. Transcription of grades and preparation for submission to the examination committee.
Twenty-fiveth
Third - The student writes a report on their observation and application experience.
- Discusses their report. Writing the report. Transcription of grades and preparation for submission to the examination committee.
Twenty-sixth
Twenty-seventh =
Final Examinations for the Second Semester

23.Course Evaluation

The grade is distributed out of 100 based on the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, reports, etc.
Achievement exam (15) points, daily (5) points, report (10) points, academic supervisor (30) points, educational supervisor (30) points, school principal (10) points.

24.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Summaries prepared by the cou instructor
Main references (sources)	- Obaid, Jumana Muhammad. (2006). Tl Teacher: His Preparation, Training, and Competencies. 1st ed., Safa House, Amman, Jordan. - Al-Ayasrah, Walid Rafiq. (2010). Islam Education, its Teaching Strategies, and Practical Applications. 1st ed., Dar Al-Masirah, Amman, Jordan. - Al-Qudat, Bassam, and Maysoun Duwairi. (2012). Practical Educati Guide for Classroom Teachers. 1st e Dar Al-Fikr, Amman.

Recommended books and references (scientific journals, reports...)	(scientific journals, reports...)
Electronic References, Websites	websites

Course Description Form

55.Course Name:
English
56.Course Code:
Eng. 4
57.Semester / Year:
Year
58.Description Preparation Date:
2026

59.Available Attendance Forms:					
Regularity					
60.Number of Credit Hours (Total) / Number of Units (Total)					
24hours / 3 units					
61. Course administrator's name (mention all, if more than one name)					
Name: Harith Abdullah MAhmood Email: Harith.edu.iq@uosamarra.edu.iq					
62.Course Objectives					
1. Develop academic education at universities and colleges in accordance with higher education quality standards, enabling universities to produce graduates capable of entering the labor market. 2. Clarify basic English language concepts. 3. Develop students' English language skills, such as listening, speaking, and writing. 4. Explain the importance of the English language.	.				
63.Teaching and Learning Strategies					
Strategy	1- Explanation and clarification. 2- Lecture method. 3- Discussion method.				
10- The course structure					
Evaluation method	Teaching method	outcomes Name of unit/or subject	Required learning	hours	**week**
Oral and exams	Explanation and clarification	English	Introduction	1th	145
Oral and exams	Explanation and clarification	English	Present simple tense	1th	146
Oral and exams	Explanation and clarification	English	Simple present tense exercises	1th	147
Oral and exams	Explanation and clarification	English	Wh-questions	1th	148
Oral and exams	Explanation and clarification	English	Exercises about wh-questions	1th	149
Oral and exams	Explanation and clarification	English	Numbers	1th	150
Oral and exams	Explanation and clarification	English	Writing numbers	1th	151
Oral and exams	Explanation and clarification	English	Colors	1th	152
Oral and exams	Explanation and	English	Reading passage	1th	153

	clarification				
Oral and exams	Explanation and clarification	English	Exercises about reading passage	1th	154
Oral and exams	Explanation and clarification	English	General info	1th	155
Oral and exams	Explanation and clarification	English	English letters	1th	156
Oral and exams	Explanation and clarification	English	Examples about English letters	1th	157
Oral and exams	Explanation and clarification	English	Reading passage	1th	158
		English	First semester exam	1th	159
Oral and exams	Explanation and clarification	English	Introduction	1th	160
Oral and exams	Explanation and clarification	English	Past simple tense	1th	161
Oral and exams	Explanation and clarification	inorganic chemistry	Exercises about past simple tense	1th+1p	162
Oral and exams	Explanation and clarification	inorganic chemistry	A\An\the	1th+1p	163
Oral and exams	Explanation and clarification	Organic Chemistry	Exercises about a\an\ the	1th+1p	164
Oral and exams	Explanation and clarification	Organic Chemistry	Reading passage	1th+1p	165
Oral and exams	Explanation and clarification	Organic Chemistry	Exercise about reading passage	1th+1p	166
Oral and exams	Explanation and clarification	Organic Chemistry	General information	1th+1p	167
		Organic Chemistry	Second semester exam	1th+1p	168

23.Course Evaluation

1. Semester exam (theory 25 +25) = 50%
2. Final exam (practical 50) = 50%

24.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Headway beginner student's book. OXFORD.
Main references (sources)	Headway beginner student's book. OXFORD
Recommended books and references (scientific journals, reports...)	

Electronic References, Websites	