

**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

Department of Science

2025/ 2026

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: Wasit University

Faculty/Institute: College of Basic Education

Scientific Department: Science

Academic or Professional Program Name:

Final Certificate Name: Bachelor's Degree in Physics

Academic System: Courses/ 2nd Course

Description preparation date: 1-9-2025

File completion date: 2-9-2025

Signature: 

Head of Department Name:
Dr. Yahya M. Abbas

Date: 2 / 9 / 2025

Signature: 

Scientific Associate

Name: Prof. Dr. Salah Abdel Hadi

Date: 3/9 / 2025

The file is checked by: 

Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance
Department: Areej Fawzi Hatroush

Date: 3 / 9 / 2025

Signature:


Approval of the Dean
Abbas Fadel Abed
4 / 9 / 2025

1. Program Vision

The Department of Science at the College of Basic Education / Wasit University seeks to achieve a distinguished and prestigious position among the scientific departments in accredited Iraqi and Arab universities and to provide a distinguished environment for teaching, effective learning and scientific research. It also seeks to develop itself through leadership and excellence in providing various community services at the local and national levels in a way that serves Comprehensive development purposes to achieve the goals of sustainable development and green education.

2. Program Mission

The Department of Science is committed to its own responsibilities in explaining and interpreting the cultural values of society in their local, national and global context. And to provide the community with distinguished graduates who possess the mental and physical skills to serve the community and develop the environment surrounding them. The department should provide comprehensive education in the various scientific disciplines related to the natural and human environment. Graduating students who are proficient in field and environmental studies and are proficient in interacting with various civil institutions. The department teaches and produces students who understand and appreciate the accumulated human knowledge and culture of peoples, their civilizations, beliefs and traditions in the past and present, as well as helping students in developing the necessary skills in criticism, analysis and creative work, which allows graduates to adapt to the changing labor market and achieve success in various professions.

3. Program Objectives

Through developing its study plan and the activity of its faculty members, the department aims to prepare the student for scientific research and the labor market. Qualifying the department's faculty members and their assistants in some specialized programs and scientific and training courses with the aim of providing them with more scientific experience. Participation in research projects that serve the environment and society, such as projects to train students in health and environmental practices in the city of Al-Aziziya, a project to develop scientific courses in the faculties of Wasit University, and a project to work in the local market of Iraqi cities. Qualifying students scientifically to advance them and achieve better development of their skills between science and specialization (science). The student graduates with many mental skills, manual skills, and the ability to use the computer and its modern programs.

4. Program Accreditation

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

NO

5. Other external influences

Is there a sponsor for the program?

Ministry of Higher Education and Scientific Research - Iraq

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	13	26	19 %	
College requirements	12	30	19 %	
Department requirements	23	80	62 %	
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
2024/ 2025 First, second, third and fourth levels					
First Level	1		the computer	1	2
			Democracy and human rights	2	----
			Developmental Psychology	3	----
			General biology	3	2
			General chemistry	3	2
			Mathematics	2	----
	2		Arabic	2	----
			English	2	----
			Principles of education	3	----
			Islamic education	2	----
			General physics	3	2
			Human biology	2	2
			Laboratory security and safety	2	----
Second Level	3	Cultural and educational materials	Arabic	2	----
			English	2	----
			Counseling and mental health	3	----
			Crimes of the Ba'ath Regime in Iraq	2	----
			School Curricula and Textbooks	1	2
		Physics Branch	Wave motion and sound	2	2
			Material properties	2	----
			Classic mechanics	2	2
		Life Sciences Branch	Microbiology	2	2
			Cytology	2	2
	4	Cultural and educational materials	Virology	2	----
			Classroom Thinking Education	2	2
			Psychology	2	2
		Physics Branch	Educational Psychology	2	----
			The computer	1	2
	Life Sciences Branch		Thermodynamics	2	2
			Electric and magnetic	3	2
			Calculus	2	----
			Optical physics	2	2
			Invertebrate Science	2	2
			Histology and Embryology	2	2
			Biochemistry	2	2
			Plant Physiology	2	2

Third Level	5	Cultural and educational materials	General teaching methods Educational research methodology	3 3	---- ----
		Physics Branch	Modern physics Quantum mechanics Astronomy	2 2 2	2 ----- ----
		Life Sciences Branch	Animal Physiology Parasitology Plant and Animal Production	2 2 2	2 2 2
	6	Cultural and educational materials	sustainable development Environment and health Measurement and evaluation Curricula and textbooks	2 2 2 2	----- ----- ----- ----
		Physics Branch	Electronics science Solid state physics Methods of teaching science Radioactivity	2 3 2 2	2 ----- ----- 2
		Life Sciences Branch	Immunology Entomology Plant Taxonomy	2 2 2	2 2 ---
Fourth Level	7	Cultural and educational materials	Arabic literature Professional ethics Educational administration and supervision Practical education (watching)	3 2 2 ----	---- ---- ---- ----
		Physics Branch	Laser Electromagnetism Nuclear Physics Plasma physics	2 3 2 2	2 ---- ---- ----
		Life Sciences Branch	Algae and Fungi Genetics Serums and Vaccines Endocrine Physiology	2 2 2 2	2 2 -- ---
	8	Physics Branch AND Life Sciences Branch	Undergraduate Research	2	----
			Practice Teaching	12	----

8. Expected learning outcomes of the program

Knowledge

- | | |
|--|--|
| 1. Empowering students scientifically to advance them and achieve better development of their scientific and practical skills. | 2. Enabling students to understand and know broad scientific concepts and the relationship of physics to the rest of the sciences. |
| 3. Acquiring students' scientific geographical field research skills and linking it to community service, environmental development, sustainable development, and green education. | 4. Raising the level of preparation among students to suit the requirements of the labor market as university teachers. |

Skills

- | | |
|---|---|
| 1. Enabling them to formulate and write scientific research and reports, how to search for sources, collect data, and methods of analysis. | 2. Training students well on practical applications and the use of modern technologies. |
| 3. Training students on other applications related to computer science, statistics, weather science, climate, environment, and pollution using the latest modern technologies and applications. | |

Ethics

- | | |
|---|---|
| 1- Giving a lecture and discussion with students, exchanging dialogue, and creating groups to discuss and dialogue about various topics | 2- Transferring what the student has acquired in physics to serve society |
| 3- Strengthening scientific honesty. | 4- Rapid response to physical problems facing the workplace and finding quick solutions to them, such as global warming, the green belt, and sustainable development. |

9. Teaching and Learning Strategies

The lecture is delivered by the professor, after which they open the questions and answers section, after which the discussion and expression of different opinions about the scientific material and discussion of its validity.

10. Evaluation methods

Monthly exams
Daily exams (quizzes)
Oral exams
Writing scientific reports
Daily preparation and effectiveness in class
Final Exams

11. Faculty

Faculty Members

Academic Rank	Specialization		Special requirements skills (if applicable)		Number of the Teaching Staff	
	General	Special			staff	Lecturer
1.Prof. D. Gazi Kamal Al-Shammary	Physics	Physics Materials			√	
2. Asst. Prof D. Yahya M. Abbas	Physics	Physics Materials			√	
3.Lecture D. Firas S. Mized	Physics	Astronomy is celestial bodies			√	
4. Asst. Lec.. Masar A. Kauod	Physics	Thin film			√	
5. Asst. Lec.. Rasol hamed	Physics	Plasma				√
6. Lecture D. Jafar kamad	Biology science	Methods of teaching			√	
7.LectureD.HannaAbdAl hussen	Mathematics	Mathematics applied			√	
8. Asst. Prof. Ansam Gazi Anceef	Mathematics	Analytical Mathematics			√	
9. Asst. Lec. Sara hachm	Biology science	Methods of teaching			√	
10. Asst. Lec. Ranya M. Jasam	Biology science	Methods of teaching			√	
11. Asst. Lec. Rasha Reda	Psychology	Psychology			√	
12. Asst. Lec. Sara Kalaf	Computer Engineering	Computer			√	
13. Prof. D.Sada Jasim AbdAlameer	Biology	Genetics			√	
14.Asst.Prof. Zinah Mohammed	Veterinary medicine Surgery	Physiology			√	
15. Lecture D. Ali Saad Kadhim	Microbiology	Immunolgy Genetic and			√	

16. Lecture D.Anfal Izaldeen AL Kateeb	Biology	bioengineering			√	
17.LectureD.SaifAli Muttaleb	Chemistry	Clinical biochemistry			√	
18. Lecture. Alaa Sabah Aleewi	Biology	Biotechnology			√	
19. Lecture. Raad Saad Sultan	Veterinary medicine	Poultry Diseases			√	
20.Asst.Lec. Hanan Hameed Attyhia	Biology	Special-Medicinal			√	
21. Asst.Lec. Ruaa Salam Abbas	Biology	Plants Botany			√	
22. Asst.Lec. Huda HusseinEid	Biology	Human anatomy, histoiogy and embryology			√	
23.Asst.Lec. Linda Khalaf Kenawe	Biology	Micobiology			√	
24. Asst.Lec. Zaman Isaa Hachim	Biology	Zoology/ Genetics			√	
25.Asst.Lec.Manar naji hamad	Biology	Molecular			√	
26. Asst.Lec. Alaa Hussein Hamel	Biology	Microbiology			√	
27. Asst.Lec. Shatha Qasim Jaber	Veterinary medicine	Department of Physiology			√	
28.Asst.Lec.Wasam Hseeb Shaker	Biology	Microbiology			√	
29. Asst.Lec.Lath Ammar Chiyad	Biology	Zoology			√	
30. Giath Ameen Mohumed	Physics	Medical Physics			√	

Professional Development

Mentoring new faculty members

1. Developing the technical, professional and administrative capabilities and skills of new faculty members in the field of specialization.
2. Indulging them in scientific activities, donation campaigns, and service to the institution and society
3. Including them in the various committees in the department
4. Allocating a training program and introducing them to training courses for the purpose of strengthening their professional, scientific and administrative skills

Professional development of faculty members

1. Annual evaluation of faculty members, which includes teaching, scientific and research activity, and the educational and administrative aspects
2. The teaching and scientific activities of the teaching staff are gathered. Then, the scientific committee, the student opinion questionnaire, and the Quality Assurance and University Performance Division at the college and university take part in the evaluation process of each lecturer.

12. Acceptance Criterion

1. Admission requirements for students are approved in accordance with the laws of the Ministry of Higher Education and Scientific Research (central admission).
2. The student must pass the personal interview prepared by the department council.
3. Students must be medically fit for the specialty they are applying for.
4. The department's absorptive capacity and focus on quality, not quantity, and the market's need for the required numbers is another important criterion.

13. The most important sources of information about the program

1. Department Syllabuses
2. In addition to several sources related to the topics of each subject taught in the department, provided that they are modern and keep pace with the development of curricula and new terminology.

1. Program Development Plan

1. Forming an improvement plan committee, as the plan relates to reviewing and updating curricula on the one hand, and reviewing activity related to scientific research and methods of teaching for teachers in the department on the other hand.
2. Distributing a questionnaire to the students to extract their opinions at the end of each semester about the academic program.
3. Distributing a questionnaire to the faculty members to collect their opinions at the end of each semester for the purpose of developing the curricula and courses.
4. Coordination with the Quality Assurance and University Performance Division and implementing the prepared academic program effectively.
5. Conduct a comprehensive review of the curriculum during any new developments regarding the program, such as changing some topics or adding others, and updating them periodically.

[illegible]

	Counseling and mental health	Basic		•				•				•		
	Wave motion and sound	Basic		•				•				•		
	Material properties	Basic		•				•				•		
	Classic mechanics	Basic		•				•				•		
	Baath Party crimes	Basic		•				•				•		
	Classroom Thinking Education Psychology	Basic		•				•				•		
	Educational psychology	Basic		•				•				•		
	Thermodynamics	Basic		•				•				•		
	Electric and magnetic	Basic		•				•				•		
	Calculus	Basic		•				•				•		
	Optical physics	Basic		•				•				•		
	General teaching methods	Basic		•				•				•		
	Educational research methodology	Basic		•				•				•		
	Modern physics	Basic		•				•				•		
	Environment and health	Basic			•				•				•	
	Astronomy sustainable development	Basic			•				•				•	
	Measurement and evaluation	Basic			•				•				•	
	Curricula and textbooks	Basic			•				•				•	

	Electronics science	Basic			•				•				•	
	Solid state physics	Basic			•				•				•	
	Methods of teaching science	Basic			•				•				•	
	Radioactivity	Basic			•				•				•	
	Quantum mechanics	Basic			•				•				•	
	Arabic literature	Basic			•				•				•	
	Professional ethics Educational	Basic			•				•				•	
	administration and supervision	Basic			•				•				•	
	Practical education (watching)	Basic			•				•				•	
	Laser	Basic			•				•				•	
	Electromagnetism	Basic			•				•				•	
	Nuclear Physics	Basic			•				•				•	
	Plasma physics	Basic				•				•				•
	Graduation research project	Basic				•				•				•
	Application	Basic				•				•				•

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

Course Description Form

1. Course Name:					
Mathematics					
2. Course Code:					
3. Semester / Year:					
Fourth semester / 2025					
4. Description Preparation Date:					
2025/8/25					
5. Available Attendance Forms:					
Classroom					
6. Number of Credit Hours (Total) / Number of Units (Total)					
70 Hours/ 4 Units					
7. Course administrator's name (mention all, if more than one name)					
Name: Ass.p.Ansam Ghazi					
8. Course Objectives					
Getting to know the concept of computers networks, what is the Artificial intelligent , and what are the advantage of its study ,getting to know of this study in most of fields.					
9. Teaching and Learning Strategies					
Strategy					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	5	Introductions		Discussion	questions and answers

3-4	5	Logic since		Discussion and questioning	Oral Test
5-6	5			Discussion	First
1. Course Evaluation					
7-8	5	Theoretical exam	Grasping and learning general concepts	Communicative	Discussion
2-		The operations on the sets			
3-		Requesting reports from students to learn how to research			
		Practical exam			
9-10	5	The functions	Grasping and learning general concepts	Communicative	Daily exam
2. Learning and teaching resources					
		Functions and logic	learning general concepts	Discussion	month exam
13-14	5	Exercises	Grasping and learning general concepts	Discussion	Oral test
15	5	Types of functions	Grasping and learning general concepts		Oral test

The textbook is computer basics and its office applications

Course Description Form

1. Course Name:	
computer	
2. Course Code:	
3. Semester / Year:	
Fourth semester / 2025	
4. Description Preparation Date:	
2025/8/25	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 4 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass.p.Ansam Ghazi	
8. Course Objectives	
Getting to know the concept of computers networks, what is the Artificial intelligent , and what are the advantage of its study ,getting to know of this study in most of fields.	
9. Teaching and Learning Strategies	
Strategy	A1- Historically, knowledge of the development of the computer networks. A2-Learning about Artificial intelligent A3- Know how to use it A4- Get to know about Artificial intelligent in learning A5- Get to know about Artificial intelligent in health field A6- Get to know about Artificial intelligent in transport
10. Course Structure	

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
Outcomes					method
1. Course Evaluation					
			Static electricity		and answers
3-4	5	background	Introduction to computers and network	Discussion and questioning	Oral Test
5-6	5	Hardware & software	Artificial intelligent with learning	Discussion + Practical laboratory	First monthly exam
7-8	5	Output devices	Artificial intelligent in health field	Communicative + Practical laboratory	Discussion
9-10	5	How to use it	Artificial intelligent in transports	Communicative + Practical laboratory	Daily exam
11-12	5	Computers interrupts	Some of errors of computers and how to fix it	Discussion + Practical laboratory	Second month exam
13-14	5	How to use it	Artificial intelligent with mobile	Discussion + Practical laboratory	Oral test
15	5	How to use it	Artificial intelligent in health		Oral test

1. Theoretical exam

2- Requesting reports from students to learn how to research

3- Practical exam

2. Learning and teaching resources

The textbook is computer basics and its office applications

Course Description Form

1. Course Name:	
General Biology	
2. Course Code:	
3. Semester/Year:	
The First semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
60 hours / 4 units	
7. Course administrator's name (mention all, if more than one name)	
Lec. Alaa Sabah Alewi Email: alaasabah@uowasit.edu.iq	
8. Course Objectives	
1. Understand the concept of Biology. 2. Understand of Taxonomy . 3. Understand Scientific Nomenclature. 4. Study of Biological Classification . 5. Understand of Cell. 6. Understand of Genetic and Genom Structure . 7. Explain of Plant and Animal Hormons . 8. Study of Viruses . 9. Know of Photosynthesis and Cell Transpiration .	
9. Teaching and Learning Strategies	
Strategy	1. Introduce students to the importance of Biology . 2. Develop and empower students to understand the Plant ,Animals and Microbiology .

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	4	Understand of Biology	Biology :Definition and Importance	Discussion and dialogue	Questions and Answers
2	4	Definition of Taxonomy	Taxonomy	Discussion, dialogue and illustrations	Questions and Answers
3	4	Living Organism Classification	Type of Living Organism,Classificationally	Discussion, dialogue and illustrations	Questions and Answers
4	4	Types of Living Cells	Living Cell	Discussion, dialogue and illustrations	Questions and Answers
5	4	Genome Material and Mendels Laws and Replication and cloning	Genetic	Discussion, dialogue and illustrations	Questions and answers
6	4	Applications of electromagnetic induction	Evolution	Discussion, dialogue and illustrations	Questions and Answers
7	3	first month exam	first month exam	Exam	Questions and answers, first month exam
8	4	Effect and Types of Plant and Animal Hormones	Plant and Animal Hormones	Discussion, dialogue and homework	Questions and Answers
9	4	Definition of Immunology	Immunology	Discussion, dialogue and homework	Questions and Answers
10	4	Definition of Virus	The Virus	Discussion, dialogue and homework	Questions and Answers
11	4	Definition of Photosynthesis	Photosynthesis	Discussion, dialogue and homework	Questions and Answers
12	4	Definition of Mitosis	Mitosis	Discussion, dialogue and homework	Questions and Answers
13	4	Definition of Meiosis	Meiosis	Discussion, dialogue and homework	Questions and Answers
14	3	second month exam	second month exam	Exam	Questions and answers, second month exam
15	4	Definition of Cell Transpiration	Cell Transpiration	Discussion, dialogue and homework	Questions, answers and review

11- Course Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

1 – Basics of Biology... Proff.Dr.Hussain A. Al-Sadi

2 – General Biology Lamyaa M. mursi

3- Basic of General Biology Dr. Raheem A. Khothaer

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
developmental psychology	
2. Course Code:	
3. Semester / Year:	
The first / first stage 2025–2026	
4. Description Preparation Date:	
1 / 9 / 2025	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 hours / 3 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Rasha Ahmed Ridah	
Email: Rasha.ahmed@uowasit.edu.iq	
8. Course Objectives	
1- This course aims to introduce the topics and subjects of developmental psychology. 2- . Increase students' knowledge of how to grow physically, socially, cognitively and emotionally control them. 3- Help the student to identify his/her essential self in order to diagnose strengths and weaknesses in various areas of his/her development. 4- Know the problems of childhood and adolescence how to prevent and treat them.	• • •
9. Teaching and Learning Strategies	
Strategy	The method of presenting the lecture by recitation, in addition to using modern educational methods, including PowerPoint presentation and Data Show, adding the method of discussion, discussing how to solve issues related to the topics. Also motivating the student to be able to work with modern technologies to teach school students. 1- Allowing the student the freedom to discuss and ask questions about the topic. 2- The skill of choosing the right method. 3- Choosing the appropriate educational method that helps students understand the topic according to individual differences. 4- Developing the skill of expressing an opinion among kindergarten students.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The first second	6	Knowing the first human ideas about the existence of the soul, defining psychology , types of measurable behavior, and distinguishing between the opinions of scientists in explaining behavior.	Introduction to general psychology, the concept of psychology as a study activity, schools of psychology and its objectives	Discussion dialogue	Questions and Answers Oral Exam
Third/ fourth	6	Understand the nature growth and maturity, impact of learning development, how growth proceeds from general to specific, the meaning of continuity and variation.	The relationship between psychology growth, the concept maturity, growth, development , and the principles and laws of growth	Presentation	Questions and answers + first month exam
Fifth/ sixth	6	Knowing the stages mental development and how morals develop and affected by circumstances	Cognitive development (Piaget) moral development (Kohlberg)	Presentation Dialogue Discussion	Questions and answers
Seventh /eighth	6	Learn how to build confidence independence, and agency, how to build positive identity, choose partner, be satisfied with be grateful, and productive.	Social development Erikson's theory emotional development	Discussion dialogue	Daily test
Ninth /tenth	6	How to treat digital addiction and get rid of teenage problems	Digital addiction and teenage problems	Discussion dialogue	a report
Eleventh/ twelfth	6	Learn about the steps identity building and its impact on the individual's future	Identity crisis and negative tendencies	Discussion dialogue	Oral exam + second month exam
Thirteenth/ fourteenth	6	Negative effects on personal health, society, economy morals	Drug addiction risks	Discussion dialogue	Report + oral exam
Fifteenth	3				End of term exam
11. Course Evaluation					
very good					
12. Learning and Teaching Resources					
1- Abu Asaad, Ahmed Abdel Latif, and Al-Khatatneh, S Mohsen.			(2011)		
2- Abdel Rahim, Mohamed Mohamed.			(2000)		
3- Awida, Kamel Mohamed.			(1996)		
4-Haqi, Alfat Mohamed.			(1992)		

Course Description Form

1. Course Name:	
General Chemistry	
2. Course Code:	
3. Semester/Year:	
First semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
75 hours / 4 units	
7. Course administrator's name (mention all, if more than one name)	
Dr. Saif A. Muttaleb Email: Smatloob@uowasit.edu.iq Mrs. Suhad Mahdi	
8. Course Objectives	
By the end of this course, the student will be able to: 1. Define basic concepts such as atoms, ions, acids, bases, and solutions. 2. Understand the elements of the periodic table and their main properties. 3. Distinguish between acids, bases, and salts and their properties. 4. Demonstrate the ability to express solutions in terms of chemical concentrations (Molality, molarity, and normality). 5. Evaluate the differences between types of chemical reactions and how to balance Chemical equations. 6. Perform mathematical exercises to express chemical concentrations.	
9. Teaching and Learning Strategies	
Strategy	1- Explain the scientific material to students in detail. 2- Allow students the freedom to discuss and ask questions about the topic . 3- Involve students in solving mathematical problems.

4 - Choose an appropriate teaching method that helps students understand the subject and accommodates individual differences.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	5	The student should understand the cognitive concepts of chemistry and the most important theories explaining the structure of the atom	Getting to know the atom	Discussion and dialogue	Questions and Answers
2	5	Definition of atomic functions and how to calculate them	Concept of atoms	Discussion, dialogue and illustrations	Questions and Answers
3	5	Explanation of the electronic orbitals of the atom and ion	Electronic arrangement of atoms and ions	Discussion, dialogue and homework	Questions and Answers
4	5	The student should be able to distinguish between the types of chemical bonds.	chemical bonds	Daily discussion, dialogue and exam	Questions and Answers
5	5	The student will be able to distinguish between the types of chemical reactions and how to balance an equation.	Chemical Reactions and Chemical Equations	Discussion, dialogue and homework	Questions and answers
6	5	To recognize the states of matter and the Lewis symbol.	States of Matter and Chemical Formulas	Discussion, dialogue and homework	Questions and Answers
7	5	To familiarize the student with the chemical properties of acids, bases, and salts.	Acids, Bases, and Salts	Discussion, dialogue and homework	Questions and answers, first month exam
8	5	To understand the chemical composition of solutions.	Solutions	Discussion, dialogue and homework	Questions and Answers
9	5	The student will be able to distinguish between expressions for chemical solutions (molality, molarity, and normality).	Molality, Molarity, and Normality.	Discussion, dialogue and homework	Questions and Answers
10	5	Understand chemical concentrations by mass and volume.	Percent Concentrations (By Weight, By Volume, By Volume).	Discussion, dialogue and homework	Questions and Answers
11	5	The student will be able to solve mathematical exercises to express concentrations.	Mathematics Exercises on Expressing Concentrations.	Discussion, dialogue and homework	Questions and Answers

12	5	Understand the basics of element classification in the periodic table.	The Periodic Table and Its Important Properties	Discussion, dialogue and homework	Questions and Answers
13	5	Distinguish between metals, nonmetals, and metalloids.	Metals, Nonmetals, and Metalloids.	Discussion, dialogue and homework	Questions and Answers
14	5	Understand the chemical properties of organic compounds.	Organic Chemistry (Alkanes, Alkenes, and Alkynes).	Discussion, dialogue and homework	Questions and answers, second month exam
15	5	Understand the functional groups of organic compounds (alcohols and aldehydes).	Aromatic Compounds, Alcohols, and Aldehydes.	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Fundamentals of General Chemistry / Dr. Hassan Ahmed

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Arabic	
2. Course Code:	
3. Semester/Year:	
Third semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
hours / 2 units	
7. Course administrator's name (mention all, if more than one name)	
Asst. Prof . Ahmed Hamed Abdel Imam Email: Ahmed.Hamed @nowasit.edu.iq	
8. Course Objectives	
1. Enabling students to understand the poets and sects of the Islamic era. 2. Developing students' tastes by utilizing the nature of the material and its distinctive poetic texts. 3. Learning how to deal with literary texts and how to understand and analyze them. 4. Understanding Arabic vocabulary and how to interpret it. 5. Providing students with the skill of applying grammatical rules. 6. Expanding their speaking and writing skills according to an Arabic grammatical perspective.	
9. Teaching and Learning Strategies	
Strategy	1. Delivering lectures in person 2. Using modern learning methods (videos, presentations, PDF files, etc.)

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	2	Cognitive	Subject and predicate	Discussion and dialogue	Written - Oral
2	2	Cognitive	actor	Discussion, dialogue	Written - Oral
3	2	Cognitive	Subject	Discussion, dialogue and homework	Written - Oral
4	2	Cognitive	The name kāna and its sisters	Daily discussion, dialogue and exam	Written - Oral
5	2	Cognitive	News that and its sisters	Discussion, dialogue and homework	Written - Oral
6	2	Cognitive	Literary life in the early Islamic era	Discussion, dialogue and homework	Written - Oral
7	2	Cognitive	Farewell Pilgrimage Sermon	Discussion, dialogue and homework	Questions and answers, first month exam
8	2	Cognitive	The Burda poem	Discussion, dialogue and homework	Written - Oral
9	2	Cognitive	Literary life in the Umayyad era	Discussion, dialogue and homework	Written - Oral
10	2	Cognitive	Poetry of contrasts	Discussion, dialogue and homework	Written - Oral s
11	2	Cognitive	Poetry of contrasts	Discussion, dialogue and homework	Written - Oral
12	2	Cognitive	Jarir	Discussion, dialogue and homework	Written - Oral
13	2	Cognitive	Al-Farazdaq	Discussion, dialogue and homework	Written - Oral
14	2	Cognitive	Alphabetical order	Discussion, dialogue and homework	Questions and answers, second month exam
15	2	Cognitive	Solar and lunar letters	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

- 1- History of Arabic Literature in the Islamic Era (Dr. Shawqi Dayf)
- 2- Explanation of Ibn Aqil and other grammatical methodological books
- 3- Lectures prepared by the course instructor

Supporting sources and references (scientific journals, reports...)

1. Course Name:	
English	
2. Course Code:	
3. Semester / Year:	
First/ 2025	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Ali Haif Abbas Email: ahaif@uowasit.edu.iq	
8. Course Objectives	
1. Teaching the student parts of speech 3. Teaching the student adjectives, types of adjectives, positions of adjectives, and comparative adjectives. 5. Teaching the student about adverbs, their types, positions, and adverbs of comparison.	2. Training the student to read and comprehend 4. Giving the student reading passages. 6. Teaching the student to pronounce the consonant and diphthong sounds.
9. Teaching and Learning Strategies	
Strategy	1. Brainstorming 2. Questioning and discussion 3. Illustrative examples, video lectures

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1 – 2	2	Knowledge	Parts of Speech	Discussion	Quiz
3 – 4	2	Knowledge	Adjectives and their types	Video lectures	Oral Test
5 – 6	2	Knowledge	Positions of adjectives, adjectives of comparisons	Discussion	Written Test
7 – 8	2	Knowledge	Adverbs and their types	Discussion	Oral Test
9 – 10	2	Knowledge	Positions of adverbs, adverbs of comparisons	Video lectures	Quiz
11 – 12	2	Knowledge	Reading passages	Discussion, Listening	Written Test
13 – 14	2	Knowledge	Reading Passages	Discussion, Listening	Oral Test
15	2	Knowledge	Sounds	Discussion	Written Test

1. Course Evaluation	
Homework and Activities: 10 Daily Exams: 10 First Month Exam: 10 Second Month Exam: 10 Total: 40 marks Final Exam: 60 marks	
2. Learning and teaching resources	
Required textbooks (curricular book, if any)	Rapid Review of English Grammar Praninskas, J.
Main references (sources) Recommended books and references (scientific journals, reports...)	Developing Skills by L. G. Alexander Phonetics and Phonology by Peter Roach
Electronic references, websites	

Course Description Form

1. Course Name:
Microbiology
2. Course Code:
3. Semester/Year:
Third semester 2025- 2026
4. Description Preparation Date:
1-9-2025
5. Available Attendance Forms:
Classroom, laboratory, and online classroom
6. Number of Credit Hours (Total) /Number of Units (Total)
45 hours / 4 units
7. Course administrator's name (mention all, if more than one name)
Lecturer, Anfal I. AL KATEEB Email: anfal@uowasit.edu.iq
8. Course Objectives
1. Understanding and knowing the basics of microbiology, with the beginnings of the discovery and identification of microbes, and the most important scientists in this field. 2. Learn about the types of microbes, the environments in which they exist, their ways of living and reproducing, and their importance in the environment. 3. Identify the most important types of bacteria, their life forms, methods of growth and reproduction, and the most important culture media for them. 4. Understanding the stages of bacterial reproduction and growth and how to control them. 5. Introducing the student to the importance of medical bacteria and the most important areas of life that overlap with them. 6. What are the types of bacteria, types of culture media, and forms of arrangement of bacterial groups? 7. Introducing students to the pharmaceutical, industrial, and agricultural importance of bacteria. 8. Identify the language of communication in bacteria and its impact on growth in their communities. 9. Learn about the world of viruses, the importance of medical viruses, and how to control them 10. Introducing students to the world of fungi.and Algi.. their presence, reproduction, and medical and environmental importance..

9. Teaching and Learning Strategies

Strategy	1- Introducing students to the importance of microbiology and its overlap with other life sciences. 2- Developing and enabling students to understand the topics of microbes and their positive and negative importance in our daily lives. 3- Identifying the nature of microbes in their environments, how they develop, their types, and their applications in all aspects of life.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	3	History of microbiology and the most important scientists who discovered microbes	Microbiology Introduction	Discussion and dialogue	Questions and Answers
2	3	Types of microbes, the types of environments they belong to, and their ways of life	Microbiology	Discussion, dialogue, illustrations, and animated videos	Questions and Answers
3	3	Bacteria, their forms, life cycle, methods of growth and reproduction, and the most important culture media for them	Types of microorganisms	Discussion, dialogue, homework, and presentation of illustrative materials	Daily exam questions and answers
4	3	Stages of bacterial reproduction and growth and how to control them	Types of microorganisms \ bacteria	Daily discussion, dialogue and exam	Questions and Answers
5	3	The importance of medical bacteria and the most important areas of life that overlap with them	Types of microorganisms \ bacteria	Discussion, dialogue and homework	Questions and answers
6	3	Present student lectures and discuss the importance of bacteria.	Types of microorganisms \ bacteria	Discussion, dialogue and homework	Questions and Answers
7	3	Types of bacteria, types of culture media, and forms of bacterial group arrangement	Types of microorganisms \ bacteria	Discussion, dialogue and homework	Questions and answers, first month exam
8	3	The pharmaceutical, industrial and agricultural importance of bacteria	Types of microorganisms \ bacteria	Discussion, dialogue and homework	Questions and Answers
9	3	QS. The language of bacteria and how they communicate with each other	Types of microorganisms \ bacteria	Discussion, dialogue and homework	Questions and Answers
10	3	The World of Virology: A Historical Introduction	Types of microorganisms \ VIRUS	Discussion, dialogue and homework	Questions and Answers

11	3	The importance of medical viruses and how to control them	Types of microorganisms \ VIRUS	Discussion, dialogue and homework	Questions and Answers
12	3	The world of fungi... their presence and reproduction	Types of microorganisms \ fungi	Discussion, dialogue and homework	Questions and Answers
13	3	The medical and commercial importance of fungi	Types of microorganisms \ fungi	Discussion, dialogue and homework	Questions and Answers
14	3	Introduction and history of algae and their types	Types of microorganisms \ Algae	Discussion, dialogue and homework	Questions and answers, second month exam
15	3	Microalgae science and its medical, industrial and commercial importance	Types of microorganisms \ Algae	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

1. MICROORGANISMS 16th edition BROCK BIOLOGY OF
2. Microbiology book by Ibrahim Ali Al-Tayyar

1. Supporting sources and references (scientific journals, reports, etc.) in addition to a group of recent international accredited scientific research.

Course Description

1. Course Name:
Cell science
2. Course Code:
3. Semester/Year:
Seven semester 2025- 2026
4. Description Preparation Date:
1-9-2025
5. Available Attendance Forms:
Classroom, laboratory and online classroom
6. Number of Credit Hours (Total) /Number of Units (Total)
70hours / 3 units
7. Course administrator's name (mention all, if more than one name)
M. M Manar naji Hamad Email: Manar.Naji@uowasit.edu.id
8. Course Objectives
1.Understanding the cellular structure: Identifying the basic components of a cell,such as the nucleus, cytoplasm, and cell membrane. 2. Mechanism of cellular functions: Studying how cells perform their vital functions, such as cellular respiration, protein synthesis, and cell division. 3. Cellular Diversity: Identify different cell types and their differences in structure and function. 4. Cellular Interactions: Understand how cells communicate with each other and how this affects vital functions. 5. Medical Applications: Explore how knowledge of cell science can be used in fields such a 6. Cell Evolution: Studying how cells develop through time and the impact of this on biodiversity. 7.Scientific Research: Developing research and experimental skills through laboratory studies related to cells. sgene therapy and disease treatment.. .

9. Teaching and Learning Strategies

Strategy	1. Introducing students to the importance of cell science. 2. Developing and encouraging students to actively participate in lessons through discussions and activities. 3. Organizing laboratory experiments that allow students to apply theoretical concepts practically.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1-2	5	Concept of cell science and cell chemistry	Introduction	Discussion and dialogue	Questions and Answers
3-4	5	Nucleus and cytoplasm	Study of the vital organ surrounding the nucleus and the perinuclear fluid	Illustrative drawings + practical	Questions and Answers
5-6	5	Cytoplasmic organelle	Study of the organelles found in the cytoplasm	Discussion and dialogue + practical lab	Questions and Answers First Month Exam
7-8	5	Mitochondria and plastids	Study their shapes and functions	Discussion and dialogue + practical lab	Questions and Answers
9-10	5	Lysosomes	Study their shapes and functions	Daily discussion, dialogue, and exam + practical lab	Questions and answers
11-12	5	Golgi apparatus	Study of its structure, functions and importance	Daily discussion, dialogue and exam	Questions and Answers
13-14	5	Eukaryotic and prokaryotic cells	We learn the cellular structure of each and the difference between them	Daily discussion, dialogue, and exam + practical lab	Questions and answers, first month exam

11- Corse Assessment:

Oral exams: 5

daily preparation: 5

Experimental procedures and reports: 10

Monthly exams: 20 marks

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

1. Cell Biology - Bruce Campbell.
2. Cellular Biology - Edward J. Abrams.

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Material properties	
2. Course Code:	
3. Semester / Year:	
Third semester / 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Integrated classrooms and electronic classes, class code (ein2jaos)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Asst. Alaa Saady Dawood	
8. Course objectives :	
By the end of the course, the student will be able to: 1. Define basic concepts such as fluids, viscosity, surface tension, and capillary action. 2. Explain the difference between Pascal's principle and Archimedes' principle. 3. Explain hardness and identify each type. 4. Analyze stress-resistance curves (tensile test). 5. Define plasma and its generation mechanism.	
9. Teaching and learning strategies :	
Strategy	1. Lecture 2. Discussion 3. Problem-based learning 4. Project-based learning 5. Effective activity cards

		6. Six thinking hats			
		7. Brainstorming			
10. Course structure					
Week	Hours	Required learning outcomes	Name of the unite or topic	Learning method	Evaluation method
1-2	4	The student will understand the concepts related to fluids.	Learn about both bulk and gravimetric density, capillary tubes, and viscosity.	Lecture	Essay tests
3-4	4	The student will learn about pressure in fluids.	Distinguish between Pascal's principle and Archimedes' principle.	Lecture, Discussion, and Brainstorming	Performance tests
5-6	4	The student will learn about the mechanical properties of materials	Stress-strain and Hooke's law.	Active and Asynchronous Learning	Performance tests
7-8	4	The student will distinguish between different types of hardness	Burnell hardness, Rockwell hardness, Vickers hardness, and Knoop hardness	Lecture, Discussion, and Learning on Active Learning Cards	Objective tests

9-10	4	The student will learn about the magnetic properties of materials.	Magnetic fields, their sources, types, and representation	Lecture and Brainstorming	Performance tests
11-12	4	The student will be able to distinguish between types of magnetic materials.	Diamagnetic, paramagnetic, and ferromagnetic materials	Lecture and Problem-Based Learning	Essay tests
13	4	The student will be able to identify the electrical properties of materials.	Ohm's law	Lecture, Presentation, Discussion, and Six Learning Hats	Objective tests
14	2	The student will be able to analyze the concept of plasma	Plasma and nuclear fusion reactions	Stable and Self-Conscious Asynchronous Learning	Performance test + objective tests (end of course)

11. Course evaluation

Mark	Extracurricular activities	Mark	Test	Mark	Testing	Mark	Testing
◦	Extracurricular activities	◦	Essay Achievement Tests	◦	Objective Achievement Tests	◦	Standardized
Final mark for the course = 100				٦٠	Final Exam	٢٠	Performance Tests

12. Learning and teaching references

Main References (Books)

- 1 – Heat and Properties of Matter Dr. Ahmed Kazim
- 2 – Fundamentals of Physics Bosch
- 3 – Mechanics of Materials / Part One Translated by Sabah Muhammad Jam
- 4 – Mechanics of Materials / Part Two Translated by Sabah Muhammad Jam

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Classical Mechanics	
2. Course Code:	
3. Semester / Year:	
Third semester / 2025- 2026	
4. Description Preparation Date:	
1 / 9 / 2025	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 Hours/ 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Mohammed Jalil Ibrahim	
8. Course Objectives	
1- Classical mechanics is concerned with studying how objects move when subjected to different forces, as well as the forces affecting non-moving objects. 2- identifying the concept of classical mechanics and its relationship to physics through rotational and translational motion and the factors that affect objects during motion. 3- Finding mathematical relationships and calculating variables such as displacement, velocity and acceleration. 4- Studying the applications of Newton's laws in rotational motion.	
9. Teaching and Learning Strategies	
Strategy	1) Introducing students to the importance of classical mechanics. 2) Developing and enabling students to understand topics related to classical mechanics. 3) Understanding of Newton's laws in rotational motion 4) Identifying variables during the movement of bodies.

10. Course Structure

Week	Hours	Required Learning Outcome	Unit or Subject name	Learning method	Evaluation method
1-2	५	Definition of rotational and translational motion	The concept of rotational and translational motion	Discussion	questions and answers
3-4	५	Definition of centripetal acceleration and centripetal force	The concept of centripetal acceleration and centripetal force	Communicative + Practical laboratory	Oral Test
5	२				First monthly exam
6-7	५	Rotational motion dynamics	Concepts of angular displacement, angular velocity and angular acceleration	Communicative + Practical laboratory	Discussion
8-9	५	Newton's Laws of Rotational Motion	The Concept of the First Law of Rotational Motion	Communicative + Practical laboratory	Daily exam
10-11	५	Newton's Laws of Rotational Motion	The concept of the second and third laws of rotational motion	Discussion + Practical laboratory	Discussion
12-13	५	Moment of Inertia and Angular Momentum	The concept of moment of inertia and angular momentum in rotational motion	Discussion + Practical laboratory	Oral test
14	२	Work and rotational power	The concept of power and rotational work	Discussion + Practical laboratory	Discussion
15	२				Second month exam

11.Course Evaluation

Activities: 5

Daily exams: 5

First month theoretical exam: 10

Second month theoretical exam: 10

First month practical exam: 5

Second month practical exam: 5

Total: 40 marks

Final exam: 60 marks

12.Learning and teaching resources

Main references (books)

1 -Physics I Geology- Abdul Sattar Jawad.

2 -Physics for Earth Sciences Students- Farouk Abboudi.

3- General Physics for Non-Physicists- Abdul Salam Abdul Amir.

(....Supporting sources and references) scientific journals, reports

Electronic patches

1 -Lectures for corresponding scientific departments in other Iraqi universities.

2- Video lectures through the YouTube platform.

Course Description Form

1. Course Name:	
Wave motion and sound	
2. Course Code:	
3. Semester / Year:	
Third semester / 2025-2026	
4. Description Preparation Date:	
1 / 9 /2025	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Masar abd kaood Email: Masar.Abd@uowasit.edu.iq	
8. Course Objectives	
Understand how energy and disturbances (such as sound and light) travel through physical media and space, and identify basic properties such as wavelength, frequency, and amplitude. Understand the relationship between the frequency, pitch, amplitude, and intensity of a sound wave, and how they interact with the surrounding environment.	
9. Teaching and Learning Strategies	
Strategy	١-Understanding the basics of wave motion and the means of energy transmission. ٢-Studying the types of wave motion, including mechanical, electromagnetic, and physical waves. ٣-Understanding vibrational motion. ٤-Studying the nature of sound and how it travels as a wave in different media (such as air and water). ٥- Analyzing the properties of sound waves: Identifying and understanding the physical properties of sound waves, such as frequency, wavelength, amplitude, and intensity.
10. Course Structure	

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	5	Basic Concepts of Wave Motion	Means of Motion Transmission and Types of Wave Motion	Discussion	questions and answers
3-4	5	Oscillatory Motion	Vibrational Motion and Its Conditions	Communicative + Practical laboratory	Oral Test
5-6	5	Simple Harmonic Motion	Simple Harmonic Motion Equation	Discussion + Practical laboratory	First monthly exam
7-8	5	Force and Energy in Simple Harmonic Motion	Kinetic and Potential Energy	Communicative + Practical laboratory	Discussion
9-10	5	Reflection, Refraction, Interference and of Waves	Reflection, Refraction, Interference and of Waves	Communicative + Practical laboratory	Daily exam
11-12	5	Sound	Sound	Discussion + Practical laboratory	Second month exam
13-14	5	Resonance	Sound Intensity	Discussion + Practical laboratory	Oral test
15	5	Speed of Sound Waves	Sound Speed Laws		End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)
Physics of Sound and Wave Motion Dr. Amjad Abdel Razzaq

(....Supporting sources and references) scientific journals, reports

Course Description Form

1. Course Name:

General teaching methods

2. Course Code:

3. Semester / Year:

Five semester / 2025 - 2026

4. Description Preparation Date:

1/ 9 / 2025

5. Available Attendance Forms:

Classroom

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

42 Hours/3 Units

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

Name: M.D. Jaafar Khamat Jalo

Email: jaafar- Al_Atabi@uowasit.edu.iq

8. Course Objectives

- Providing learners with information about teaching theory, its importance, and the relationship between teaching theory and education.
- Familiarizing learners with the concept of teaching method, its importance, and the criteria for selecting it.
- Introducing learners to the difference between teaching method and teaching style.
- Familiarizing learners with teaching skills and classroom management.
- Providing learners with information about diversifying teaching and effective teaching.
- Familiarizing learners with commonly used general teaching methods and teaching methods that foster creative thinking.
- Training learners to apply various teaching methods.
- Enabling learners to apply various teaching methods.
- Implementing various activities within teaching methods.
- Enhancing learners' self-confidence through the application of various teaching methods.
- Instilling in learners the human aspect of the teaching profession.

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9. Teaching and Learning Strategies

Strategy	Use a variety of teaching strategies, such as: 1- Dialogue and discussion, 2- Inquiry, 3- Exploration, 4- Brainstorming, 5- Interrogation, 6- Lecture, 7- Problem solving
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10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
First / Second	6	The learner should be able to understand teaching theories and their importance.	Teaching theories,	Dialogue and discussion.	Asking questions
Third / Fourth	6	The learner should be able to understand teaching terminology and the differences between them.	Teaching terms	interrogation	Asking questions
Fifth / Sixth	6	The learner should be able to master teaching skills. The learner should be able to understand teaching diversification and effective teaching	Teaching skills	inquiry	discussion
Seventh / Eighth	6	The learner should be able to apply commonly used teaching methods.	diversifying teaching and its strategies	discussion	questions.

Ninth/Tenth	6	The learner should be able to apply teaching methods based on research and reflection.	Commonly used teaching methods	learning Lecture	Applying the methods in the classroom
Eleventh / Twelfth	6	The learner should be able to apply teaching methods based on research and reflection.	teaching methods based on research and thinking,	brainstorming	Applying methods in the classroom
Thirteenth / Fourteenth	6	The learner should be able to apply teaching methods based on research and reflection.	Teaching methods that develop creative thinking,	exploration,	applying the methods in the classroom

11 –Course Evaluation

Oral Exam: 5
Daily Participation: 5
Practical Activities: 10
Monthly Exams: 20
Total: 40 points
Final Exam: 60 points
Final Total: 100

12 –Learning and teaching resources

Cognitive Learning and Teaching Strategies / Prof. Youssef Qatami

Active Learning Strategies / Prof. Ambo Saidi – Huda Bint Ali Al–Hosni

Active Learning / Dr. Ramadan Masoud Nabawi

Modern Curricula and Teaching Methods / Dr. Mohsen Ali Attia

Supporting sources and references (scientific journals, reports....)

Course Description Form

1. Course Name:
Educational research methodology
2. Course Code:
3. Semester / Year:
Third stage / Fifth semester
4. Description Preparation Date:
1-9-2025
5. Available Attendance Forms:
Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
30 Hours/ 2 Units
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher. Rania Muhammad Jassam
8. Course Objectives
Providing students with an understanding of the concept of scientific and .educational research, its importance, and the fundamentals upon which it is based Providing students with an understanding of the difficulties facing scientific .research and how to present the research problem Providing students with an understanding of the meaning of thinking, thought, and .thought patterns Introducing students to the characteristics of scientific thinking and methods of .acquiring knowledge Introduce the student to research hypotheses and their types, and provide examples of each type Training students on the steps of writing a scientific research paper and the main .elements included in each step Introducing students to the specifications and requirements for a good research title .and how to obtain one .Giving students an idea about the research plan and what it includes Introducing students to the tools researchers use to obtain the information and data they need in their scientific research, in addition to the advantages and disadvantages

of each

Introducing students to the meaning of a sample, methods for selecting it, its .benefits, types, and characteristics

Introducing students to the types of research and the steps for implementing it

9. Teaching and Learning Strategies

Strategy	1- Understanding and comprehending topics related to the educational research methodology. 2. Identifying the terms and concepts related to the educational research methodology. 3. Understanding scientific research and the concept of science. 4. Identifying the characteristics of a scientific researcher. 5- Identify the characteristics of a good hypothesis. 6- Identify the steps for writing a scientific research paper. 7- Identify scientific research tools such as observation, interviews, and questionnaires, and the advantages and disadvantages of each. 8- Identify the sample and its benefits. 9- Identify the types of scientific research.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	6	The concept of scientific and educational research, its importance, and the fundamentals upon which .it is based	Scientific Research	Discussion and questioning	Questions and Answers
2	6	The difficulties facing scientific research and how to present the research problem.	Scientific Research	Discussion and dialogue	Questions and Answers
3	6	The Meaning of Thinking, Thought, and Thinking Patterns	Thinking and Thought	Discussion, dialogue and homework	Questions and Answers
4	6	Terminology and Concepts Related to Educational Research Methodology	Scientific Researcher Qualities	Daily discussion, dialogue and exam	Questions and Answers
5	6	Scientific Thinking and Methods of Acquiring Knowledge	Scientific Thinking and Knowledge	Discussion, dialogue	Questions and answers
6	6	Scientific Thinking and Methods of Acquiring Knowledge	Scientific Thinking and Knowledge	Discussion, dialogue and homework	Questions and Answers
7	6	The Concept of Science	Science	Discussion, dialogue	Questions and answers, first month exam
8	6	Scientific Researcher Qualities	Scientific Researcher	Discussion, dialogue and homework	Questions and Answers
9	6	Characteristics of a Good Hypothesis	Hypotheses	Discussion, dialogue and	Questions and Answers

				homework	
10	6	Steps for Writing a Scientific Research	Steps for writing a research paper	Discussion, dialogue and homework	Questions and Answers
11	6	Good Research Title	Good Research Title	Discussion, dialogue and homework	Questions and Answers
12	6	Research Tools	Research Tools	Discussion and questioning	Questions and Answers
13	6	Research Tools	Research Tools	Discussion, dialogue and homework	Questions and Answers
14	6	Sample	Sample	Discussion, dialogue and homework	Questions and answers, second month exam
15	6	Types of scientific research	Types of Scientific Research	Daily discussion, questioning and exam	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Research Methods in Education and Psychology: Foundations and Tools

Kazem Karim Redha Al-Jabril / 2011

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
quantum mechanics	
2. Course Code:	
3. Semester / Year:	
Third semester / 2025-2026	
4. Description Preparation Date:	
٢٠٢٥-٩-١	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Masar abd kaood Email: Masar.Abd@uowasit.edu.iq	
8. Course Objectives	
Understanding the behavior of matter and energy at the atomic and molecular level, a level where phenomena are not subject to the classical physical laws we are accustomed to in our everyday lives. Quantum physics aims to explain the nature of elementary particles, the interactions between them, and how atoms and molecules are formed.	
9. Teaching and Learning Strategies	
Strategy	1-Developing students' positive attitudes toward the subject ٢-Achieving the educational content objectives of introducing quantum physics, which specializes in the study of quantum physics, enabling the relationship between the limits of classical theoretical application, studying the importance of this science, and the relationship of physics to other sciences. ٣-Explaining energy, energy levels, boundary diagrams, finite radiation, and levels. ٤-Explaining photons, the quantum effect, and pair creation and annihilation. ٥- Studying the Schrödinger function.

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation method
1. Course Evaluation					
1-2	5	quantum phenomena	Blackbody Radiation	Discussion	questions and answers
3-4	5	Atomic Stability	Thomson model	Communicative + Practical	Oral Test
5-6	5	Rutherford Model of the Atom	Rutherford Model of the Atom	Discussion + Practical	First monthly exam
7-8	5	Bohr Model of the Atom	Bohr Model of the Atom	Communicative + Practical	Discussion
9-10	5	Photoelectric Effect	Photoelectric Effect	Communicative + Practical	Daily exam
11-12	5	Compton effect	Compton effect	Discussion + Practical	Second month exam
13-14	5	Electron-Positron Pair Creation and Annihilation	Electron-Positron Pair Creation and Annihilation	Discussion + Practical	Oral test
15	5	Schrödinger Function	Schrödinger Function		End of semester exam

Oral exam: 5
Daily preparation: 5
Daily written test : 5
Activities:5
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main References (Books(

Quantum Physics / Written by W. McKernan, translated by Dr. Khalil Muhammad Abdo and Dr. Muhammad Abdullah Al-Shammari

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:					
Astronomy					
2. Course Code:					
3. Semester/Year:					
5th semester 2025- 2026					
4. Description Preparation Date:					
1-9-2025					
5. Available Attendance Forms:					
Classroom, Online classroom					
6. Number of Credit Hours (Total) /Number of Units (Total)					
45 hours / 3 units					
7. Course administrator's name (mention all, if more than one name)					
Lec. Dr. Firas S. MAZYED Email: fsaleem@uowasit.edu.iq					
8. Course Objectives					
1. Understand the history and importance of Astronomy. 2. Identify the most important optical instruments and their uses in Astronomy. 3. Study the Celestial sphere and identify its parts. 4. Learn about astronomical unites. 5. Study the solar system and its composition. 6. Study stars and galaxies and identify their types and physical properties.					
9. Teaching and Learning Strategies					
Strategy		1. Introducing the importance of astronomy. 2. Enable students to understand the basic concepts of astronomy, its branches, and its importance. 3. Learn about the techniques used to study and understand celestial bodies and the composition of the universe.			
10. Course Structure					
Week	Hours	Required Learning	Unit or Subject Name	Learning	Evaluation

		Outcomes		Method	Method
1	3	Introduction to Astronomy	Definition of astronomy - its history - its branches	Discussion and dialogue	Questions and Answers
2	3	Astronomical instruments	The electromagnetic spectrum and basic laws. Optical instruments and their use in observatories.	Discussion, dialogue and illustrations	Questions and Answers
3	3	Astronomical instruments	Telescopes - their construction, operating principle, and types.	Discussion, dialogue and homework	Questions and Answers
4	3	Celestial sphere	Definition of the celestial sphere and its components - Astronomical measurement systems - Units of measurement for astronomical dimensions and distances	Daily discussion, dialogue and exam	Questions and Answers
5	3	Celestial sphere	Systems for measuring the coordinates of celestial bodies	Discussion, dialogue and homework	Questions and answers
6	3	The solar system	The Solar System: Definition, Parts, Origin, Sun and Its Properties	Discussion, dialogue and homework	Questions and Answers
7	3	The solar system	The Moon: Composition, Methods for Measuring Its Physical Properties and Orbital Motions	Discussion, dialogue and homework	Questions and answers, first month exam
8	3	The solar system	Planets, Planetary Properties, Asteroids, Meteors, and Asteroids	Discussion, dialogue and homework	Questions and Answers
9	3	Stars	Definition - Composition - Measurement of Physical and Chemical Properties	Discussion, dialogue and homework	Questions and Answers
10	3	Stars	Stages of Stellar Evolution - Life Cycle - Types	Discussion, dialogue and homework	Questions and Answers
11	3	Galaxies	Definition - Composition - Measuring Properties	Discussion, dialogue and homework	Questions and Answers
12	3	Galaxies	Types of Galaxies - Methods of Classifying Them - Stages of Their Evolution	Discussion, dialogue and homework	Questions and Answers
13	3	The Universe	The Concept of the Universe: Its Dimensions, Shape, and Composition History of the Theories of the Formation of the Universe - The Static	Discussion, dialogue and homework	Questions and Answers

			Universe Theory		
14	3	The Universe	The Big Bang Theory - Its History - Physical Foundations - Stages of	Discussion, dialogue and homework	Questions and answers, second month exam
15	3	The Universe	Universe Formation - Theories of the End of the Universe	Discussion, dialogue and homework	Questions, answers and review
11- Corse Assessment:					

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

- 1- The Astronomical Encyclopedia - by Mikhail Abdul Ahad.
- 2- A Brief History of Time - by Stephen Hawking.
- 3- Astronomy - by Hamid Majul Al-Nuaimi

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Atomic Physics	
2. Course Code:	
3. Semester/Year:	
Fifth semester/2025	
4. Description Preparation Date:	
30-7-2025	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 hours / 4 units (3 hours of theory per week, 2 hours of practical work per week)	
7. Course administrator's name (mention all, if more than one name)	
Prof. Dr. Ghazi Kamal Saeed, Asst. M.R. Rassal Hamed Email: gkamal@uowasit.edu.iq	
8. Course Objectives	
Understanding the concept of atomic physics and the dual nature of matter, the dual property of light, atomic models, the special theory of relativity, implications of Newtonian mechanics, Maxwell's equations, motion and rest and the frame of reference, relativistic motion, the Michelson-Morley experiment, Galileo-Lorentz transformations, Einstein's theory of relativity, the twin problem, relativistic mass and relativistic energy, the general theory of relativity, derivation of the Schrödinger equation for the hydrogen atom, the spectrum of the hydrogen atom.	
9. Teaching and Learning Strategies	
Strategy	1- Introducing students to the importance of atomic physics. 2- Developing and enabling students to understand the topics of atomic physics, atomic models, and the equations that govern them. 3- Understanding how atomic spectra are formed.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	3	Units of measurement in the atomic field, the dual property of light	Different units of measurement, light duality	Discussion and dialogue	Questions and Answers
2	3	The dual nature of matter, de Broglie's hypothesis	The dual nature of matter, de Broglie's hypothesis	Discussion, dialogue and illustrations	Questions and Answers
3	3	Atomic structure, atomic theories	Atomic structure, different atomic theories	Discussion, dialogue and homework	Questions and Answers
4	3	Thomson model, Rutherford model	Visualize Thomson's model, Rutherford's model with experiment	Daily discussion, dialogue and exam	Questions and Answers
5	3	Electronic orbital's, hydrogen atom spectrum	Electronic orbitals, and how to obtain the spectrum of a hydrogen atom	Discussion, dialogue and homework	Questions and answers
6	3	Bohr Model, Questions and Exercises	Bohr Model, Various Questions and Exercises	Discussion, dialogue and homework	Questions and Answers
7	3	Special Theory of Relativity, Foundations and Implications of Newtonian Mechanics, Electric Field and Maxwell's Equations	Einstein's special theory of relativity, the foundations and implications of Newtonian mechanics, the electric field and Maxwell's equations	Discussion, dialogue and homework	Questions and answers, first month exam
8	3	Meaning of motion, rest, and frame of reference, relative motion, Michelson-Morley experiment	Meaning of motion, rest, and frame of reference, relative motion, Michelson-Morley experiment with figures and illustration	Discussion, dialogue and homework	Questions and Answers
9	3	Galileo transformations, Lorentz transformations, Einstein's relativity	Galileo transformations, Lorentz transformations, Einstein's relativity	Discussion, dialogue and homework	Questions and Answers
10	3	Length contraction, time dilation, examples and exercises	Length contraction, time dilation, various examples and exercises	Discussion, dialogue and homework	Questions and Answers
11	3	Twins' Dilemma, Adding Speeds	Twins' dilemma, speed addition, examples	Discussion, dialogue and homework	Questions and Answers
12	3	Relative mass, relativistic energy, mass-energy equivalence	Relative mass, relativistic energy, mass-energy equivalence	Discussion, dialogue and homework	Questions and Answers
13	3	Relativistic Doppler Effect, General Theory of Relativity	Relativistic Doppler Effect, Einstein's General Theory of Relativity	Discussion, dialogue and homework	Questions and Answers
14	3	Derivation of the Schrödinger equation for the total energy of a hydrogen atom	Derivation of the Schrödinger equation for the total energy of a hydrogen atom using equations	Discussion, dialogue and homework	Questions and answers, second month exam
15	3	Atomic spectra, hydrogen atom spectrum series	Atomic spectra, hydrogen atom spectrum series with scientific symbols	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 10%

Practical: 10%

Monthly exams: 20%

Total: 40%

Final exam: 60% (40% theoretical + 20% practical)

12- Learning and teaching resources

Main References (Books)

1 - The Bush Series... Bush Gerd

2 - The Feynman Lectures on Physics / Richard Feynman

4 - Fundamentals of Modern Physics / Dr. Ghazi Yassin Al-Qaisi

4 - Modern Atomic Physics / Claudia Nasser Al-Din

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Environment and Health	
2. Course Code:	
3. Semester / Year:	
Fifth semester / 2025-2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom + Electronic class	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Asst. Huda Hussein Eid Email: Heid@uowasit.edu.iq Asst. Zaman Issa Hajem Hussein Email : Zaman.Issa@uowasit.edu.iq	
8. Course Objectives	
1. Understanding the concept of environmental science and health. 2. Understanding the structure of the environment and health. 3. Objectives of environmental and health education. 1. Forming sound environmental and health attitudes. 2. Forming healthy habits in daily life. 3. Working to reduce the spread of disease and maintain health. 4. Preserving environmental, family, and personal health. 5. Helping individuals achieve healthy physical, mental, psychological, and social development. 6. Conserving natural resources in society and around the world.	
9. Teaching and Learning Strategies	
Strategy	-1 -Introducing students to the importance of environmental and health sciences. -2 -Developing and empowering students to understand environmental and health topics and improve learning outcomes that contribute to health. -3 - Identifying the environment and public health through their types and their impact on individuals and society.

10. Course Structure					
Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	2	Introduction to Environmental Education	Introduction to Environmental Education	Discussion	questions and answers
3-4	2	The Concept of Public Health	The Concept of Public Health	Daily discussion, dialogue and exam	Oral Test
5-6	2	Elements of Mental Health: Its Function	The Concept of Public Health	Daily discussion, dialogue and exam	First monthly exam
7-8	2	Areas of Public Health School Health	Areas of Public Health School Health	Communicative	Discussion
9-10	2	Methods and Approaches to Health Education	Methods and Approaches to Health Education	Daily discussion, dialogue and exam	Daily exam
11-12	2	Elements of Nutrition	Elements of Nutrition	Discussion	Second month exam
13-14	2	Malnutrition Diseases Communicable Diseases	Malnutrition Diseases Communicable Diseases	Discussion +	Oral test
15	2	Exam	Exam with Review		End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 30
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

- 1 –Environment and Public Health – Ihsan Ali Mahasneh(1994)
- 2– Health for All: Human and Environmental Diseases – Eric B. Ackholm
(translator)
- 3–(Planetary Health: Human Health in an Era of Global Environmental Change –
Jennifer Cole (2019)

Supporting sources and references) scientific journals,
(....reports

Course Description Form

1. Course Name:

Plant and animal production (morning + evening)

2. Course Code:

3. Semester / Year:

Six semester / ٢٠٢٦-٢٠٢٥

4. Description Preparation Date:

1-9-2025

5. Available Attendance Forms:

Integrated (classrooms + laboratories and electronic classes, class code: (bf5spwe)

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

40 Hours/ 4 Units

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

Name: Asst. Lec Hanan Hameed Atiyah AlQaragholy

Email: Hanan.Hamid@uowasit.edu.iq

hanan.hameed92z@gmail.com

8. Course Objectives

By the end of the course, the student will be able to:

1. Identify the primary objective of plant and animal production.
2. Develop and enable students to understand plant species, methods of reproduction, and their importance to humans and animals.
3. Understand the importance of plant production for humans and animals due to the increasing demand for various types of food and the urgent daily need to meet the demand for agricultural products.
4. Identify the factors that undermine production, whether these factors represent food shortages or disease, and what ideal animal production depends on: the close relationship between the genetic makeup of animals and the environmental conditions in which they live.
5. Identify animal species and their classifications according to habitat, the types of animal enclosures, and the systems used.

9. Teaching and Learning Strategies					
Strategy		1. Lecture 2. Discussion 3. Problem-based learning 4. Project-based learning 5. Effective activity cards 6. Six thinking hats 7. Brainstorming			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	5	Plant production	Knowing the importance of plant production	Lecture	Essay tests
3-4	5	Seed plants	Know the types of seed plants	Lecture, Discussion, and Brainstorming	Performance tests
5-6	5	Ornamental plants	The economic importance of ornamental plants and palm species	Active and Asynchronous Learning	Performance tests
7-8	5	First monthly exam			First month exam
9-10	5	Animal production	The importance of animal production and its relationship to plant production	Lecture and Brainstorming	Performance tests
11-12	5	Farm animal housing	Knowledge of building design for animals and animal housing systems	Lecture and Problem-Based Learning	Essay tests
13-14	5	The economic importance of cows	Knowing the breeds of dairy and beef cows	Lecture, Presentation, Discussion, and Six Learning Hats	Objective tests
15	5	The economic importance of buffalo farming	Knowing the types of buffalo and their characteristics	Stable and Self-Contained Asynchronous Learning	Second month exam + (end of course)

11.Course Evaluation

Oral exam: 5
Daily preparation: 5
Daily exams and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

12.Learning and teaching resources

Main references books

- 1– Prof. Dr. Natiq Hamid Al-Qudsi
- 2– M.M. Malak Mahlan
- 4– Prof. Dr. Jial Victoria
- 5– Books dairy Milk Production Cattle

Supporting sources and references (scientific journals, reports)

Course Description Form

1. Course Name:	
parasitology	
2. Course Code:	
3. Semester/Year:	
fifth semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
60 hours / 3 units	
7. Course administrator's name (mention all, if more than one name)	
Dr. Raad Saad Sultan and linda khalaf ghanawi Email: radsad1975@gmail.com	
8. Course Objectives	
1. Introduction to the concept of parasitology. 2. Classification of parasites 3. Study of the types and genera of parasites. 4. Study of parasite life cycles. 5. Understanding how to transmit and infect. 6. Understanding how to diagnose parasitic infections. 7. Prevention and treatment.	
9. Teaching and Learning Strategies	
Strategy	1- Introducing students to the importance of parasitology. 2-Developing and enabling students to understand the topics of parasitic infections and their seriousness. 3- Identifying the types of parasites and how they infect.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	4	Introduction to Parasitology.	Parasitology	Explanation, Slide Show, Discussion,	Questions and Answers
2	4	Types of parasites and their classification	Parasitology	Explanation, Slide Show, Discussion,	Questions and Answers
3	4	Internal parasites: infection, life cycle, diagnosis, prevention, and treatment	Parasitology	Explanation, Slide Show, Discussion,	Questions and Answers
4	4	A study of infection with Ascaris, tapeworms, and other species	Parasitology	Explanation, Slide Show, Discussion,	Questions and Answers
5	4	External parasites: infection, life cycle, diagnosis, prevention, and treatment.	Parasitology	Explanation, Slide Show, Discussion,	Questions and answers
6	4	Lice, scabies and tick infestations	Parasitology	Explanation, Slide Show, Discussion,	First month exam questions and answers
7	4	Blood parasites infection, life cycle, diagnosis, prevention and treatment	Parasitology	Explanation, Slide Show, Discussion,	Questions and answers, first month exam
8	4	Leishmaniasis, Trypanosoma, and other species	Parasitology	Discussion, dialogue and homework	Questions and Answers
9	4	The presence of parasites and worms in nature and their transmission to humans	Parasitology	Discussion, dialogue and homework	Questions and Answers
10	4	The importance of health awareness to avoid parasitic infections	Parasitology	Discussion, dialogue and homework	Questions and Answers
11	4	Methods of transmission of internal parasites from animals to humans and from infected to healthy individuals	Parasitology	Discussion, dialogue and homework	Questions and Answers
12	4	Methods of transmission of external parasites from animals to humans	Parasitology	Discussion, dialogue and homework	Questions and Answers
13	4	Methods of transmission of blood parasites from animals to humans and from infected to healthy individuals	Parasitology	Discussion, dialogue and homework	Questions and Answers
14	4	Schistosome infection.	Parasitology	Discussion, dialogue and homework	Questions and answers, second month exam
15	4	Infection with tapeworms and hydatid cysts	Parasitology	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 10 marks

Monthly theoretical exams: 20 marks

Monthly practical exams: 10 marks

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Fundamentals of General Chemistry / Dr. Hassan Ahmed

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
physiology	
2. Course Code:	
3. Semester / Year:	
sixth semester / 2025	
4. Description Preparation Date:	
31-8-2025	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 4 Units	
7. Course administrator's name (mention all, if more than one name)	
+ shatha Qasam Email: shatha.q@uowasit.edu.iq	
8. Course Objectives	
Knowledge of physiology with its beginnings, discussion and questioning -The main aspects of physiology - Interrogation presenting activities (laboratory work) - Power point presentation for the first written exam -Create a lecture presentation for students • Digestive system • Cardiac system • Endocrine • Respiratory system	
9. Teaching and Learning Strategies	
Strategy	1. Introducing students to the importance of physiology 2- Developing and enabling students to understand the topics of animal physiology and organ functions 3- The skill of mastering laboratory tests in physiology, the practical aspect

10. Course Structure					
Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	5	Introduction physiology	Animal physiology	Discussion	questions and answers
3-4	5	Digestive system	Digestive system	Communicative + Practical laboratory	Oral Test
5-6	5	Circulatory system	Heart and blood vessel	Discussion + Practical laboratory	First monthly exam
7-8	5	Endocrine	Endocrine gland	Communicative + Practical laboratory	Discussion
9-10	5	Respiratory system	Respiratory system	Communicative + Practical laboratory	Daily exam
11-12	5	Urinary system	Urinary system	Discussion + Practical laboratory	Second month exam
13-14	5	Thermoregulation	Thermoregulation	Discussion + Practical laboratory	Oral test
15	5				End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Animal physiology / Sabah Nasser Animal Physiology/Youssef Muhammad Arab
Al-Alwaji

Course Description Form

1. Course Name:	
Arabic literature	
2. Course Code:	
3. Semester/Year:	
Seven semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
30 hours / 2 units	
7. Course administrator's name (mention all, if more than one name)	
Asst. Prof. Ahmed Salem Abdel-Sada Email: ahmed1988abedi1988@gmail.com	
8. Course Objectives	
1. Define the concept of Arabic literature. 2. Explain the importance of studying Arabic literature. 3. Identify the study objectives for this course (Arabic literature). 4. Distinguish between the objectives of studying Arabic literature. 5. Explain the characteristics of studying this subject. 6. Identify the important characteristics that should be highlighted within the study of Arabic literature.	
9. Teaching and Learning Strategies	
Strategy	- Introducing students to literary eras. - Memorizing and analyzing poetic examples. - Studying the lives of famous poets. - Analyzing and studying prose examples, and engaging in dialogue and discussion with students to raise their academic level. - Assessing the student's knowledge and understanding of the lesson material to achieve the cognitive objective.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1-2	2	Cognitive and skill	The meaning of literature in language _and terminology Sources of pre-Islamic literature	Discussion and dialogue	Daily exam
3-4	2	Cognitive and skill	Documenting pre-Islamic poetry _Imru' al-Qais, the most prominent figure in pre-Islamic poetry	Discussion, dialogue, memorization and analysis of texts	Daily exam
5-6	2	Cognitive and skill	Pre-Islamic Prose - The Icon of Islamic Poetry: Hassan ibn Thabit	Discussion, dialogue and homework	First month exam
7-8	2	Cognitive and skill	The flags of Abbasid poetry Al-Mutanabbi	Daily discussion, dialogue and exam	Daily exam
9-10	2	Cognitive and skill	Modern Arabic poetry (Al-Baroudi, Al-Rasafi, Al-Jawahiri)	Memorizing and analyzing texts	Daily exam
11-12	2	Cognitive and skill	Free verse (Badr Shakir al-Sayyab, (Nazik al-Malaika	Discussion, dialogue and homework	Questions and answers, first month exam
13-14	2	Cognitive and skill	Modern Arabic Prose Article	Discussion, dialogue and homework	Daily exam
15	2	Cognitive and skill	a novel	Discussion, dialogue and homework	Questions and Answers

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

The History of Literature in the Pre-Islamic and Islamic Eras - Shawqi Dayf

Poets' Collections and the Most Important Research Published in Arab Academy Journals

Accredited Arabic Language Library Websites

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Educational management and supervision	
2. Course Code:	
3. Semester / Year:	
Stage Four/ 7 th 2025-2026	
4. Description Preparation Date:	
1/9/2025	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Assistant teacher. Rasha Ahmed Email: Rasha.Ahmed@uowasit.edu.iq	
8. Course Objectives	
1. Developing students' positive attitudes towards the subject 2. Achieving the objectives of the educational content in identifying the concept of management and supervision 3. Knowing the theories of management and supervision 4. Clarifying the theories of classroom management and their importance and distinguishing between them, identifying the management patterns and clarifying them, and distinguishing between them 5. Identifying the concept of educational supervision and its definition, identifying the types of educational supervision and their impact and clarifying them and distinguishing between them, identifying the most important methods of individual and collective educational supervision and clarifying their purpose and blindness and distinguishing between them, clarifying evaluation in educational supervision and its importance and methods, clarifying the foundations on which educational supervision is based, identifying the functions of educational supervision, clarifying the evaluation patterns in supervision and distinguishing between them .	
9. Teaching and Learning Strategies	
Strategy	A-Knowledge and understanding A1- The student learns about educational administration and its types. A2- The student understands the processes on which the management process is based. A3- Identify the most important management theories and types of management.

A4- Identify and understand the concept of leadership and its theories.
A5- Identify and understand educational supervision, its types and methods.
B - Subject-specific skills
B1- Identify and define the concept of management, leadership and supervision.
B2- How to distinguish between theories.
B3- Knowing how to choose the appropriate management or leadership.
C- Thinking skills
A1- How does the student link management to his own style
A2- Be able to identify the type of leadership in administrations.
A3- Understand how to benefit from educational supervision

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	4	Cognitive , Skillful , Emotional	The concept of educational will	Discussion and dialogue	Daily tests
3-4	4	Cognitive , Skillful , Emotional	Educational, school and classroom management	Interrogation	Daily tests
5-6	4	Cognitive , Skillful , Emotional	Management Theories	discussion	questions and answers
7-8	4	Cognitive , Skillful , Emotional	Will styles	discussion And interrogation	First written exam
9-10	4	Cognitive , Skillful , Emotional	Leadership, Leadership Theories	Discussion and dialogue	Daily tests
11-12	4	Cognitive , Skillful , Emotional	Educational supervision. Types	With examples	Solve additional questions about the topic
13-14	4	Cognitive , Skillful , Emotional	Calendar in the supervision of the foundations and calendar functions	Discussion and problem solving	Second written exam

15	2	Cognitive , Skillful , Emotional	Calendar patterns	discussion And interrogation	Daily tests
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1. Course Evaluation

Oral exam: 5
 Daily preparation: 5
 Activities, resources and duties : 10
 Monthly exams: 20
 Total: 40 degrees
 Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

Educational Administration and Supervision / Diaa Awad Harbi Al-Arnousi and others / 2013

Electronic patches

Course Description Form

1. Course Name:	
Nuclear Physics	
2. Course Code:	
3. Semester / Year:	
Seventh semester / 2025-2026	
4. Description Preparation Date:	
1/ 9/ 2025	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Masar abd kaood Email: Masar.Abd@uowasit.edu.iq	
8. Course Objectives	
Nuclear physics is a branch of physics that focuses on the study of the nucleus of an atom and its components, as well as the reactions that occur within it. This science aims to explore the forces that hold the components of the nucleus (protons and neutrons) together and how nuclear reactions such as fission and fusion occur.	
9. Teaching and Learning Strategies	
Strategy	1. Developing students' attitudes toward understanding the fundamental nature of matter and energy ٢. Studying the structure and interactions of the atomic nucleus ٣. Studying and understanding the intrinsic angular momentum and orbital momentum of nucleons 4. Studying nuclear phenomena and interactions, including nuclear fission and nuclear fusion
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1. Course Evaluation					
		Nuclear Physics	Properties		and answers
3-4	5	Properties of the Nucleus	Charge, Mass, and Size of the Nucleus	Communicative + Practical	Oral Test
5-6	5	Nuclear Spin and Angular Momentum	Permanian Momentum of the Nucleus	Discussion + Practical	First monthly exam
7-8	5	Nuclear Stability	Explains how the nuclear force is the binding force between nucleons within the nucleus	Communicative + Practical	Discussion
9-10	5	Nuclear Structure	Nuclear Binding and Dissociation Energy	Communicative + Practical	Daily exam
11-12	5	Nuclear Reactions	Nuclear Fission and Fusion	Discussion + Practical	Second month exam
13-14	5	Elementary Particles	Particles Emitted by Radioactive Sources: Electrons, Protons, Photons, and Alpha Particles.....	Discussion + Practical	Oral test
15	5				End of semester exam

Oral exam: 5
Daily preparation: 5
Daily written test : 5
Activities:5
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main References (Books(

1 - Principles of Nuclear Physics / by Meyerhof, translated by Dr. Asim Abdel Karim Azouz

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
LASER	
2. Course Code:	
3. Semester/Year:	
7th semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom, lab., Online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
45 hours / 3 units	
7. Course administrator's name (mention all, if more than one name)	
Lec. Dr. Firas S. MAZYED Email: fsaleem@uowasit.edu.iq	
8. Course Objectives	
1. Developing students' positive attitudes toward understanding scientific material. 2. Achieving the educational content objectives by learning the physical principles of laser generation. 3. Identifying the basic properties of laser light. 4. Studying laser generation methods and the basic functions of laser devices. 5. Knowing the basic types of laser devices, their generation methods, and the properties of the resulting light. 6. Studying the uses of lasers in scientific and practical applications.	
9. Teaching and Learning Strategies	
Strategy	1- General and transferable skills (other skills related to employability and personal development). 2- The ability to apply skills in classroom discussion management. 3- The ability to test the best method. 4- The ability to select the appropriate educational model for students based on individual circumstances. 5- The ability to master all methods presented in the curriculum in practical applications.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	3	Basic Concepts	Light and its properties - Bohr's theory and the atomic structure model	Discussion and dialogue	Questions and Answers
2	3	Basic Concepts	The interaction of radiation with matter - Einstein's equation - Absorption - Emission - Stimulated emission - Rate equation.	Discussion, dialogue and illustrations	Questions and Answers
3	3	Basic Concepts	Inverse distribution - Use of stimulated emission - Laser generation.	Discussion, dialogue and homework	Questions and Answers
4	3	Laser Generation	Definition of lasers, stages of development in laser light production - Lasers, masers, and the difference between them.	Daily discussion, dialogue and exam	Questions and Answers
5	3	Laser Generation	The required conditions to produce Laser.	Discussion, dialogue and homework	Questions and answers
6	3	Laser Generation	Active medium and its importance in laser generation.	Discussion, dialogue and homework	Questions and Answers
7	3	Laser Generation	Activation of inverse distribution - Pumping methods - Triple and quadruple pumping schemes.	Discussion, dialogue and homework	Questions and answers, first month exam
8	3	Laser Generation	Oscillation in lasers - Resonant cavity - Laser resonators and their types - Resonator gain threshold equations	Discussion, dialogue and homework	Questions and Answers
9	3	Laser Generation	Resonant cavity stability condition - Oscillation formulas - Types of lasers - Laser mode selection mechanism	Discussion, dialogue and homework	Questions and Answers
10	3	Laser Generation	Characteristics of laser light - and methods for determining them - Laser production losses and methods for treating them	Discussion, dialogue and homework	Questions and Answers
11	3	Laser Generation	Laser production losses and methods for treating them	Discussion, dialogue and homework	Questions and Answers
12	3	Types of Lasers	Solid-state lasers - Generation methods - Types - Properties	Discussion, dialogue and homework	Questions and Answers
13	3	Types of Lasers	Liquid-state lasers - Generation methods - Types - Properties	Discussion, dialogue and homework	Questions and Answers

14	3	Types of Lasers	Gas-state lasers - Generation methods - Types - Properties	Discussion, dialogue and homework	Questions and answers, second month exam
15	3	Types of Lasers	Semiconductor lasers - Generation methods - Types - Properties Practical applications of lasers - Scientific applications - Industrial applications - Communications - Medicine - Military applications	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

- 1- The Astronomical Encyclopedia - by Mikhail Abdul Ahad.
- 2- A Brief History of Time - by Stephen Hawking.
- 3- Astronomy - by Hamid Majul Al-Nuaimi

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Electromagnetic	
2. Course Code:	
3. Semester/Year:	
Seven semester 2025- 2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
45 hours / 3 units	
7. Course administrator's name (mention all, if more than one name)	
Asst. Prof. Dr. Yahya M. Abbas Email: yminem@uowasit.edu.iq	
8. Course Objectives	
1. Understand the concept of electromagnetism. 2. Understand Faraday's principle of electromagnetic induction 3. Understand Lenz's law and eddy currents. 4. Study the properties of alternating current 5. Understand how direct current is generated. 6. Understand how self-induction arises. 7. Explain the working principle of the Rohmkorff coil and transformer. 8. Study the general properties of electromagnetic waves. 9. Know the difference between the types of electromagnetic waves and their positive and negative effects.	
9. Teaching and Learning Strategies	
Strategy	1. Introduce students to the importance of electromagnetic physics. 2. Develop and empower students to understand the topics of electromagnetism and its applications in our daily lives. 3. Learn about the nature of electromagnetic waves, their types, applications, and the negative effects resulting from exposure to these waves.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	3	Electromagnetic induction	Electromagnetic induction	Discussion and dialogue	Questions and Answers
2	3	Electromotive force and induced current	electromagnetic induction	Discussion, dialogue and illustrations	Questions and Answers
3	3	Lenz's law, eddy currents	electromagnetic induction	Discussion, dialogue and homework	Questions and Answers
4	3	Nature and properties of alternating current	alternating current	Daily discussion, dialogue and exam	Questions and Answers
5	3	DC generator, self-induction	Applications of electromagnetic induction	Discussion, dialogue and homework	Questions and answers
6	3	Mutual induction, Rühmkorff coil	Applications of electromagnetic induction	Discussion, dialogue and homework	Questions and Answers
7	3	Electrical transformer	Applications of electromagnetic induction	Discussion, dialogue and homework	Questions and answers, first month exam
8	3	Transformer laws - Power transfer	Applications of electromagnetic induction	Discussion, dialogue and homework	Questions and Answers
9	3	Electric motor – DC(Direct Current)	Applications of electromagnetic induction and Properties of Direct Current	Discussion, dialogue and homework	Questions and Answers
10	3	Counter-induced electromotive force in a motor	Induced Electromotive Force	Discussion, dialogue and homework	Questions and Answers
11	3	Electromagnetic waves - radio waves	Electromagnetic waves	Discussion, dialogue and homework	Questions and Answers
12	3	Infrared waves - visible waves - ultraviolet waves	Electromagnetic waves	Discussion, dialogue and homework	Questions and Answers
13	3	Gamma-Alpha-Beta Rays	Electromagnetic waves	Discussion, dialogue and homework	Questions and Answers
14	3	Transmission of Information via Electromagnetic Waves Motion of Particles in Magnetic and Electric Fields	Electromagnetic waves	Discussion, dialogue and homework	Questions and answers, second month exam
15	3	Broadcast and Receiving Radio Waves Radio Wave Propagation	Electromagnetic waves	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources
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Main References (Books)

1 - The Bush Series... Bush Gerd

2 - Introduction to electromagnetic theories Abd –alhady M. Albrgothy

3- Electromagnetism B.B. Laud translation ... Dr. Ali Al-azawy

4- Principles of electromagnetic theory Mary Intiwanet

5-Electromagnetic Wave Theory JIN AU KONG

6- Theory Electromagnetic JULIUS ADAMS STRATTON

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:
Practical Education (Observation)
2. Course Code:
3. Semester / Year:
Seventh Semester / 2025-2026
4. Description Preparation Date:
1-9-2025
5. Available Attendance Forms:
Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)
4 hours per week / 2 units
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher Sara Hajim Abdul saheb
8. Course Objectives
Giving the student an idea about the concept of observation Giving the student an idea about the importance of observation Giving the student an idea about the duties of the observer Giving the student an idea about preparing the study plan according to the type of topics covered in the lesson Introducing students to field visits Setting appropriate educational objectives for his lesson Designing instruction efficiently Evaluating students' performance Creating an environment of friendliness and respect within the classroom Managing classroom procedures effectively Managing students' behavior effectively Communicating clearly and accurately with students Using question and discussion methods in teaching Providing feedback to students Showing flexibility and responsiveness to students Developing and improving himself professionally Respecting the teaching profession and developing positive attitudes towards it of each Introducing students to the meaning of a sample, methods for selecting it, its benefits, types, and .characteristics Introducing students to the types of research and the steps for implementing it.

9. Teaching and Learning Strategies

Strategy	Active Learning Strategy Lecture Method Practical Presentation Method Discussion Method.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	4	Records some controls and agreements with the teacher, receives the school registration book for implementation and .begins the reservation procedures Provides the teacher with a no-objection letter for implementation	The concept of viewing	Discussion and questioning	Questions and Answers
2	4	Records some controls and agreements with the teacher, receives the school registration book for implementation and begins the reservation procedures. Provides the teacher with a no-objection letter for implementation.	The importance of viewing	Discussion and dialogue	Questions and Answers
3	4	The Meaning of Thinking, Thought, and Thinking PatternsDistinguishes between the general objective and the behavioral objective. Formulates behavioral objectives for a lesson in his field of specialization. Implements microteaching (5) male students	Student Viewer Assignments	Discussion, dialogue and homework	Questions and Answers
4	4	Lists the types of plans. Mentions the components of a plan. Designs an annual plan. Designs a daily plan. Implements microteaching (3) students.	Preparing the Study Plan	Daily discussion, dialogue and exam	Questions and Answers
5	4	Defines self-evaluation Practices his reflections to develop himself Implements microteaching (5) students	Definition of Field Visits	Discussion, dialogue	Questions and answers
6	4	Observes lessons in schools Evaluates what he observed.	Explain the Benefit of Field Visits	Discussion, dialogue and homework	Questions and Answers
7	4	Lists the types of questions Explains each type Develops question-directing skills	Visit a primary school	Field Visit and Discussion After Return	Questions and answers, first month exam

		Shows the importance of communication Implements micro-teaching (4) students			
8	4	Explains the principles of good classroom management Discusses some principles Implements micro-teaching (4) students	Visit a primary school	Field Visit and Discussion After Return	Questions and Answers
9	4	Addresses the behavior of the unruly student Explains the steps for controlling and avoiding anger Implements micro-teaching (4) students	Visit a primary school	Discussion, dialogue and homework	Questions and Answers
10	4	Clarifies the meaning of methods Multiple types of methods	Visit a primary school	Field Visit and Discussion After Return	Questions and Answers
11	4	Demonstrates the skill of using the blackboard Implements micro-teaching (4) students	Visit a primary school	Field Visit and Discussion After Return	Questions and Answers
12	4	Reviews some lessons Implements micro-teaching	Visit a primary school	Discussion and questioning	Questions and Answers
13	4	The student applies what he learned in the field	Visit a primary school	Discussion, dialogue and homework	Questions and Answers
14	4	The student writes a report about his experience in observing and applying	Visit a primary school	Discussion, dialogue and homework	Questions and answers, second month exam
15	4	Discusses his report	Individual Lesson Assessment	Daily discussion, questioning and exam	Questions, answers and review

11- Corse Assessment:

Daily exams and activities: 20%

Monthly exams: 20% - Total: 40% - Final exam: 60%

12- Learning and teaching resources

-Obeid, Jumana Muhammad. (2004). The Teacher: His Preparation, Training, and Competencies, 1st ed., Safa .House, Amman, Jordan

-Al-Qudat, Bassam, and Maysoun Al-Duwairi. (2012) Practical Education Guide for Classroom Teachers. 1st ed., Dar Al-Fikr, Amman

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course Name:	
Serology and Vaccines	
2. Course Code:	
3. Semester/Year:	
Seventh Semester / 2025–2026	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
Blended (Classroom and Online classes — Class code: 5eygumn)	
6. Number of Credit Hours (Total) /Number of Units (Total)	
30 hours / 2 units	
7. Course administrator's name (mention all, if more than one name)	
Asst. Prof. Dr. Ali Saad Kadhim Al-Badri	
8. Course Objectives	
By the end of the course, the student will be able to: 1. Define key concepts such as immunity, antibodies, sera, and vaccines. 2. Explain the difference between serum and vaccine in terms of function and composition. 3. Apply immunological tests such as ELISA and agglutination tests. 4. Analyze vaccine components and compare types (live, inactivated, subunit, etc.). 5. Evaluate the efficacy and safety of vaccines and sera based on scientific data. 6. Design an awareness plan or vaccination protocol against a specific disease using appropriate vaccines.	
9. Teaching and Learning Strategies	
Strategy	1 Lecture 2 Discussion 3 Problem-Based Learning 4 Project-Based Learning 5 Active Learning Cards 6 Six Thinking Hats 7 Brainstorming

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1-2		Student understands the conceptual foundations of serology and vaccines	Introduction to Sera and Vaccines	Lecture	Essay Tests
3-4		Student differentiates between types of human gammaglobulin and types of immune responses	Human Gamma Globulin and Immune Response	Lecture, Discussion, Brainstorming	Performance Tests
5-6		Student analyzes biological fluids and identifies appropriate immunological parameters	Immunotherapy and Serological Tests	Active and Asynchronous Learning	Performance Tests
6-7		Student meets standards for vaccine administration and understands factors affecting storage	Vaccine Administration and Factors Affecting Storage	Lecture, Discussion, Active Learning Cards	Objective Tests
7-8		Student distinguishes between vaccine types and recognizes their composition	Vaccine Additives and Types: Polio, Tuberculosis, Hepatitis Vaccines	Lecture, Brainstorming	Performance Tests
9-10		Student identifies types of vaccines and differentiates between them	Tetanus, Pertussis, Measles, Rubella Vaccines	Lecture, Problem-Based Learning	Essay Tests
11-12		Student determines geographical distribution of disease	Influenza, Rotavirus, Pneumococcal Vaccines	Lecture, Presentation, Discussion, Six Thinking Hats	Objective Tests
13-14		Student creates an educational tool to simplify the concept of serology and vaccines	Independent Unit	Fixed Self-Paced Asynchronous Learning	Performance + Objective Tests (Final Exam)

11- Corse Assessment:

Assessment Type	Grade
Standardized Performance Tests	5
Objective Achievement Tests	5
Essay Achievement Tests	5
Extracurricular Activities	5
Midterm Exam	20
Final Exam	60
Total	100

12- Learning and teaching resources

- *Comprehensive Reference in Vaccinology*, 2009
- Supporting References (Scientific journals, reports, etc.)

Course Description Form

1. Course Name:	Endocrinology
2. Course Code:	
3. Semester / Year:	seventh semester / 2024
4. Description Preparation Date:	1-9-2025
5. Available Attendance Forms:	Classroom + laboratory
6. Number of Credit Hours (Total) / Number of Units (Total)	70 Hours/ 4 Units
7. Course administrator's name (mention all, if more than one name)	Name :assist prof .dr. Zinah M hamad Email: zmuhammed@uowasit.edu.iq
8. Course Objectives	Here are the potential objectives for an Endocrinology course: By the end of this course, students should be able to: • Understand the fundamental principles of endocrinology: This includes the definition of hormones, their chemical classifications, mechanisms of action, and regulatory pathways. • Identify the major endocrine glands: Recognize the location, structure, and histological features of key endocrine organs like the hypothalamus, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, pancreas, and gonads. • Explain the synthesis, secretion, and regulation of major hormones: Describe the biochemical pathways involved in hormone production and the factors that control their release. • Describe the physiological roles of hormones: Detail how different hormones contribute to vital bodily functions such as metabolism, growth, development, reproduction, stress response, and fluid balance. • Discuss the interrelationships between different endocrine glands: Understand how hormones from one gland can influence the function of others, highlighting the complexity and integration of the endocrine system. • Recognize common endocrine disorders: Gain an introductory understanding of the causes, symptoms, and basic physiological bases of prevalent endocrine diseases (e.g., diabetes mellitus, hypo/hyperthyroidism, Cushing's syndrome, Addison's disease). • Relate endocrine function to overall body homeostasis: Appreciate the critical role of the endocrine system in maintaining internal stability and responding to environmental changes.

9. Teaching and Learning Strategies

Strategy	• Interactive Lectures: Delivering core content while encouraging student participation and questioning to foster critical thinking. We use visual aids to clarify complex concepts. • Problem-Based Learning (PBL): Analyzing and studying real or hypothetical clinical cases related to endocrine disorders, which develops students' analytical and problem-solving skills in collaborative groups. • Practical Labs and Simulation: Applying theoretical concepts through examining tissue slides and interpreting hormone assays, in addition to using virtual simulation to understand physiological interactions. • Blended Learning: Integrating in-person instruction with digital learning resources available online, such as recorded lectures and discussion forums, to provide greater flexibility in learning.
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10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	5	Introduction about physiology	Introduction in endocrinology	Discussion	questions and answers
3-4	5	Hypothalamus gland	Type secretion	Communicative + Practical laboratory	Oral Test
5-6	5	Pituitary gland	Lobes and secretion	Discussion + Practical laboratory	First monthly exam
7-8	5	Adrenal gland Thyroid and parathyroid gland	Secretion and effects	Communicative + Practical laboratory	Discussion
9-10	5	Pancreas,	Secretion and effects	Communicative + Practical laboratory	Daily exam
11-12	5	thymus gland	Secretion	Discussion + Practical laboratory	Second month exam

13-14	5	Ovaries and testes	Secretion and effects on reproduction	Discussion + Practical laboratory	Oral test
15	5	End exam			End of semester exam

1. Course Evaluation

Oral exam: 5
 Daily preparation: 5
 Conducting experiments and reports : 10
 Monthly exams: 20
 Total: 40 degrees
 Final exam: 60 marks

2. Learning and teaching resources

1. Animal Physiology/Youssef Muhammad Arab
 2. Animal physiology / Sabah Nasser Al-Alwaji
- Supporting sources and references) scientific journals, reports (....

Electronic patches

1.Course Title	
Mycology and Phycology	
2.Course Code	
3.Semester / Year	
Seventh Semester / 2025 - 2026	
4.Date of this Description	
01-09-2025	
5.Available Attendance Forms	
Lecture Hall, Laboratory, and Online Classroom	
6.Total Credit Hours / Total Units	
45 hours / 4 units	
7.Course Coordinator	
M.Sc. Alaa Hussein Hamil Alaa.Hussein@uowasit.edu.iq	
8.Course Objectives	
To introduce students to the general characteristics of the kingdoms of Fungi and Algae in terms of structure, nutrition, and reproduction methods. To enable students to classify fungi and algae and to identify the different divisions of each kingdom. To study the life cycles of typical species in fungi and algae. To understand the environmental and economic importance of fungi and algae and their various biological applications.	
9.Teaching and Learning Strategies	
Introducing students to the importance of mycology and phycology and their connection to other life sciences. Developing students' abilities to understand the characteristics of fungi and algae and their positive and negative impacts. Recognizing the nature of these organisms in their different environments and how to adapt to them. Providing students with the necessary practical skills for the	Strategies

diagnosis and study of fungi and algae.**10.Course Content Distribution**

Week	Hours	Scientific Content	Unit	Teaching & Learning Methods	Assessment Methods
1	3	General characteristics of the Fungi kingdom.	Kingdom Fungi	Discussion, dialogue, and daily quiz	Questions and answers
2	3	Nutrition and reproduction in fungi.	Kingdom Fungi	Discussion, dialogue, and daily quiz	Questions and answers
3	3	Classification of fungi.	Kingdom Fungi	Discussion, dialogue, and daily quiz	Questions and answers
4	3	Study of Zygomycota (Zygote fungi).	Zygomycota	Discussion, dialogue, and illustrations	Questions and answers
5	3	Study of Ascomycota (Sac fungi).	Ascomycota	Discussion, dialogue, and illustrations	Questions and answers
6	3	Study of Basidiomycota (Club fungi).	Basidiomycota	Discussion, dialogue, and illustrations	Questions and answers
7	3	Detailed study of the mushroom life cycle.	Mushroom Life Cycle	Discussion, dialogue, and presentations	Questions and answers
8	3	General review of previous	First Monthly Exam	Discussion and dialogue	Q&A and First

Week	Hours	Scientific Content	Unit	Teaching & Learning Methods	Assessment Methods
		topics.			Monthly Exam
9	3	Introduction to Deuteromycota (Imperfect fungi) and Lichens.	Deuteromycota and Lichens	Discussion, dialogue, and daily quiz	Questions and answers
10	3	Detailed study of the Desert Truffle life cycle.	Desert Truffle Life Cycle	Discussion, dialogue, and presentations	Questions and answers
11	3	Introduction to the general characteristics of the Algae kingdom.	Kingdom Algae	Discussion, dialogue, and daily quiz	Questions and answers
12	3	Understanding the distribution and structure of the algal cell.	Algae Distribution & Structure	Discussion, dialogue, and daily quiz	Questions and answers
13	3	Differentiating between various reproduction methods in algae.	Algae Reproduction Methods	Discussion, dialogue, and daily quiz	Questions and answers
14	3	Study of Chrysophyta, Chlorophyta, Euglenophyta, and Xanthophyta.	Golden Algae, Green Algae, etc.	Discussion, dialogue, and illustrations	Q&A and Second Monthly Exam

Week	Hours	Scientific Content	Unit	Teaching & Learning Methods	Assessment Methods
15	3	Study of the distribution, importance, and life cycle of Diatoms.	Diatoms	Discussion and dialogue	Q&A and Review

11.Course Assessment

- **Daily Quizzes and Activities:** 20 Marks
- **Monthly Exams:** 20 Marks
- **Final Exam:** 60 Marks

12.Learning and Teaching Resources

- **Main Resources** (Al-Khafaji, Ali Hussein Damin & Al-Ruhali, Ibrahim Mohammed Khudair. (2000). *Microbiology*. Ministry of Higher Education and Scientific Research, University of Kufa.)
- **Supporting Resources:** ((Scientific journals, reports, etc.) in addition to a collection of recent, internationally accredited scientific research.)

Course Description Form

1. Course Name:	
Genetics	
2. Course Code:	
3. Semester / Year:	
Fourth semester / 2025-2026	
4. Description Preparation Date:	
1/ 9 / 2025	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 4 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Sada Jasim Abdulameer Email: sabdulameer@uwasit.edu.iq Name: Zaman Issa Hachim Email: Zaman.Issa@uowasit.edu.iq	
8. Course Objectives	
Learn the concept of genetics, what is genetics and its relationship to sex, what are the factors affecting the composition of genetic material, then know the multiple alleles of the sex order, then classify them, study Mendel's first law and other Mendelian laws, as well as study genetic blood groups and study the types of dominance in cloning, and multiplication in genetic material.	
9. Teaching and Learning Strategies	
Strategy	1- Introducing students to the importance of genetics. 2- Developing and enabling students to understand genetic topics and their relationship to genetic genes. 3- Identifying the factors affecting genetic genes and blood groups and their relationship to genetic diseases as well as their relationship to types of dominance and multiple alleles.

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	5	Genetics	Genetics and Genetic material	Discussion	questions and answers
3-4	5	Mendel's laws	Classical Genetics	Communicative + Practical laboratory	Oral Test
5-6	5	Mendel's first and second laws	Cellular basis of Mendelian inheritance	Discussion + Practical laboratory	First monthly exam
7-8	5	Types of Mendelian dominance	Study of non-Mendelian dominance in all its forms and deadly genes	Communicative + Practical laboratory	Discussion
9-10	5	Linking, crossing and mapping	Factors affecting the crossing rate and Genetics maps	Communicative + Practical laboratory	Daily exam
11-12	5	Multiple alleles and blood group inheritance	Advantages of multiple alleles	Discussion + Practical laboratory	Second month exam
13-14	5	Determination Sex & Sex-linkage .	Solving genetic problems about sex-linked traits	Discussion + Practical laboratory	Oral test
15	5				End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

1. Genetic Syndromes: A Comprehensive Reference Guidebooks.google.iq › books.
Nima Rezaei · 2019 · No preview
This book is particularly useful for clinicians in diagnostic and therapeutic approaches to patients. With its apposite and easy-to-use classification this reference work offers straight-forward access to each syndrome.
2. Martincorena and Campbell. 2015. Somatic mutation in cancer and normal cells. Science.Vol. 349, Issue 6255, pp. 1483-1489.
3. “The causes of mutations”Understanding Evolution. University of California Museum of Paleontology#. 22 August 2008
http://evolution.berkeley.edu/evolibrary/article/evo_20
4. Griffiths AJF, Miller JH, Suzuki DT, et al. 2000. An Introduction to Genetic Analysis. 7th edition. New York: W. H. Freeman.
5. Supporting sources and references) scientific journals, reports (....

1. Program Vision

The directives of the Ministry of Higher Education and Scientific Research came to keep pace with developments in universities in developed countries that have worked to teach the subject of professional ethics in all their faculties and across various scientific disciplines.

As the university is the cornerstone in preparing future generations professionally and ethically, enabling them to perform their professional duties after graduation with high quality, it is the primary institution on the ladder of advancement and development in ethical practices across various professions. The university's role today is highlighted by its training and raising the level of awareness of students, enabling them to grasp all the ethical dimensions surrounding their future professions, in addition to providing academic and practical knowledge.

2. Program Mission

Teaching a course on professional ethics to university students represents the right start for any society that seeks to raise the level of ethical practice among professionals. All university graduates must realize that their commitment to the ethics of their profession is an integral part of proper practice, and this commitment is their duty towards their community.

3. Program Objectives

This course will enable all students to become familiar with the principles of ethical analysis and reflection on the various professional situations they will encounter, and to develop the optimal ethical behavior in these professional situations after graduation. This course will also assist colleges and technical institutes in obtaining academic accreditation from specialized international academic accreditation bodies by including a subject on professional ethics in their curricula.

4. Program Accreditation

NO

5. Other external influences

Interact with the society

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements	YES	2		A cours
Summer Training	NO			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2025–2026 /the first		Professional Ethics	Theoretical	2
			practical	

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

– Study the concept of professional ethics in its general, linguistic, and technical sense, and the importance of these ethics. – Identify the history of ethical codes, their development, and the interconnectedness of each. – List some of the ethical corruption in teaching that occurred due	Learning Outcomes 1, 2 , 3
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to a lack of professional ethics. Knowing the use of devices attached to the computer and how to connect them.	
Skills	
– Organize work well and avoid chaos that hinders fruitful results. – Monitor work yourself and provide a good system for monitoring and supervision.	behavioral skills
Ethics	
Attention: Arousing students' attention by implementing an application on the classroom display screen. Response: Monitoring the student's level of engagement with the material displayed on the screen. – Interest: Monitoring the interest of the student who interacted most with the material displayed, increasing this engagement by requesting other programs and applications to display. – Attitude Formation: This means that the student is sympathetic to the presentation and may have an opinion on the topic presented and defend it. – Value-Based Behavior Formation: This means that the student reaches the top of the emotional ladder, maintaining a stable level in the lesson and not becoming lazy or restless.	Learning Outcomes 4

9. Teaching and Learning Strategies
The usual theoretical presentation method is presented using a whiteboard, based on the "how and why" approach, and according to the subject's curriculum. • The theoretical presentation method is presented using a data show, based on the "how and why" approach, and according to the subject's curriculum. • Brainstorming method.

10. Evaluation methods

Direct questions using the "how" and "why" approach to the topic during the theoretical lecture.

- Pop-up exams during the theoretical lecture.
- Midterm exams for the theoretical part.
- Final exams for the theoretical part.

D – General and transferable skills (other skills related to employability and personal development).

D1– Developing the student's ability to complete assignments and submit them on time.

D2– Logical thinking to find solutions to various problems.

D3– Developing the student's ability to engage in dialogue and discussion.

D4– Developing the student's ability to deal with problems and how to solve them.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Lecturer	business management	Strategic management			Staff	

Professional Development

1– Thinking skills 2– Discussion 3– Asking questions 4– Performing practical experiments 5– Leadership in classroom management

Professional development of faculty members

Increasing the number of scientific sources that provide a greater amount of information on the topic at hand and striving to make students interact with the scientific material by encouraging them to conduct practical tests that prove the information they received in

the lecture.

12. Acceptance Criterion

Observing the students during the discussion process, which is done by asking questions about the topic and emphasizing the correct answer and how to avoid the wrong answer by understanding the topic correctly and having all students participate in the discussion.

13. The most important sources of information about the program

Professional Ethics Book

14. Program Development Plan

Utilizing theoretical hours to understand and understand professional ethics.
Addressing programs that relate to professional reality to create professional opportunities for those who acquire this knowledge.

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

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

Course Description Form

Course Name:	
Professional Ethics	
Course Code:	
Semester / Year:	
The first / Four Stage	
Description Preparation Date:	
2025 / 9 / 1	
Available Attendance Forms:	
In presence	
Number of Credit Hours (Total) / Number of Units (Total)	
1	2
Course administrator's name (mention all, if more than one name)	
Name: Zuhair wasmi salman	
Email: za.salman@uowasit.edu.iq	
Course Objectives	
1– Preparing a successful professionally prepared teacher capable of training future leaders using educational skills that are compatible with the current scientific development. 2– The ability to deal with modern means and find solutions for them. 3– Understanding the methods and techniques for learning and teaching how to work on computers.	• • •
Teaching and Learning Strategies	
Strategy	The method of presenting the lecture by recitation, in addition to using modern educational methods, including power point presentation and the smart board, adding the method of discussion and discussing how to solve problems related to the topics. Also motivating the student to be able to deal with modern technologies for teaching preschool children.

	1– Providing freedom for the student to discuss and ask questions about the topic. 2– The skill of choosing a good method. 3– Choosing the appropriate educational method that helps students understand the subject and according to individual differences. 4–Developing the skill of forming an opinion among female students in the kindergarten department.;uuuuuuuuuu8
--	--

1. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1	1	Introduction to the basic concepts of the topic	The linguistic and technical definition of creation	theoretical lecture	Written exam
Week 2	1	Introduction to the basic concepts of the topic	The importance of ethics, the emergence and development of ethics	theoretical lecture	Written exam
Week 3	1	Introduction to the basic concepts of the topic	Moral formation processes, pillars of good character	theoretical lecture	Written exam
Week 4	1	Introduction to the basic concepts of the topic	Methods of acquiring Sunnah morals	theoretical lecture	Written exam
Week 5	1	Introduction to the basic concepts of the topic	Methods of learning morals through the process of socialization. The role of social and educational institutions in moral education.	theoretical lecture	Written exam

Week 6	1	Introduction to the basic concepts of the topic	Theories of moral acquisition	theoretical lecture	Unannounced exams and self assessment during lectures
Week 7	1	Introduction to the basic concepts of the topic	Theories of moral acquisition	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 8	1	Introduction to the basic concepts of the topic	Ethics in Assessment and Examinations	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 9	1	Introduction to the basic concepts of the topic	Professional Ethics in the Field of University and Society	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 10	1	Introduction to the basic concepts of the topic	Basic Concepts of Professional Ethics	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 11	1	Introduction to the basic concepts of the topic	Professional duties of the teacher	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 12	1	Introduction to the basic concepts of the topic	Why should we care about professional ethics?	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 13	1	Introduction to the basic concepts of the topic	Sources of professional ethics	Lectures, presentation, and report	Unannounced exams and self assessment during lectures
Week 14	1	Introduction to the basic concepts of the topic	Professional ethics objectives	Lectures, presentation, and report	Unannounced exams and self assessment

					during lectures
Week 15	1	Introduction to the basic concepts of the topic	Characteristics of professionalism	Lectures, presentation, and report	Unannounced exams and self assessment during lectures

2. Course Evaluation

Attendance and interaction	10%
First month exams	10%
Second month exams	10%
Tasks and duties	10%
Total	40%

3. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Professional Ethics Book
	2- Experiences and living evidence

**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

Department of Science

2025/ 2026

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.

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Scientific Supervision and Scientific Evaluation Apparatus
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2025/ 2026

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Academic Program Description Form

University Name: Wasit University

Faculty/Institute: College of Basic Education

Scientific Department: Science

Academic or Professional Program Name:

Final Certificate Name: Bachelor's Degree in Physics

Academic System: Courses/ 2nd Course

Description preparation date: 5-2-2026

File completion date: 5-2-2026

Signature: 

Head of Department Name:

Dr. Yahya M. Abbas

Date: 10/ 2 / 2026

Signature: 

Scientific Associate

Name: Prof. Dr. Salah Abdel Hadi

Date: 10/ 2 / 2026

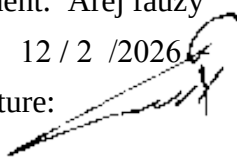
The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance

Department: Arej fauzy

Date: 12 / 2 / 2026

Signature: 


Approval of the Dean
Abbas Fadel Abed
15 / 2 / 2026

1. Program Vision

The Department of Science at the College of Basic Education / Wasit University seeks to achieve a distinguished and prestigious position among the scientific departments in accredited Iraqi and Arab universities and to provide a distinguished environment for teaching, effective learning and scientific research. It also seeks to develop itself through leadership and excellence in providing various community services at the local and national levels in a way that serves Comprehensive development purposes to achieve the goals of sustainable development and green education.

2. Program Mission

The Department of Science is committed to its own responsibilities in explaining and interpreting the cultural values of society in their local, national and global context. And to provide the community with distinguished graduates who possess the mental and physical skills to serve the community and develop the environment surrounding them. The department should provide comprehensive education in the various scientific disciplines related to the natural and human environment. Graduating students who are proficient in field and environmental studies and are proficient in interacting with various civil institutions. The department teaches and produces students who understand and appreciate the accumulated human knowledge and culture of peoples, their civilizations, beliefs and traditions in the past and present, as well as helping students in developing the necessary skills in criticism, analysis and creative work, which allows graduates to adapt to the changing labor market and achieve success in various professions.

3. Program Objectives

Through developing its study plan and the activity of its faculty members, the department aims to prepare the student for scientific research and the labor market. Qualifying the department's faculty members and their assistants in some specialized programs and scientific and training courses with the aim of providing them with more scientific experience. Participation in research projects that serve the environment and society, such as projects to train students in health and environmental practices in the city of Al-Aziziya, a project to develop scientific courses in the faculties of Wasit University, and a project to work in the local market of Iraqi cities. Qualifying students scientifically to advance them and achieve better development of their skills between science and specialization (science). The student graduates with many mental skills, manual skills, and the ability to use the computer and its modern programs.

4. Program Accreditation

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

NO

5. Other external influences

Is there a sponsor for the program?

Ministry of Higher Education and Scientific Research - Iraq

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	13	26	19 %	
College requirements	12	30	19 %	
Department requirements	23	80	62 %	
summer training				
Other				

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

Year/Level	Course Name	Course Name	Credit Hours	
2024/ 2025 First, second, third and fourth levels			theoretical	practical
First Level	COMFI1	the computer	1	2
	DEMF1	Democracy and human rights	2	----
	DEVFI1	Developmental Psychology	3	----
	UWA26 –BEDU– SCI– 104	General chemistry	3	2
	UWA26 –BEDU– SCI– 105	General biology	3	2
	UWA26 –BEDU– SCI– 106	Mathematics	2	
	UWA26 –BEDU– SCI– 108	Arabic	2	----
	ENGFI2	English	2	----
	EDUFI2	Principles of education	3	----
	ISLFI2	Islamic education	2	----
	UWA26 – BEDU– SCI– 111	General physics	3	2
	UWA26 – BEDU– SCI– 112	Human biology	2	2
	UWA26 – BEDU– SCI– 113	Laboratory security and safety	2	----
	UWA26 –BEDU– SCI– 201	Arabic	2	
Second Level	ENGSE3	English	2	
	BAASE3	Crimes of the Ba'ath Regime in Iraq	2	
	CURSE3	School Curricula and Textbooks	1	2
	UWA26 –BEDU– SCI– 205	Wave motion and sound	2	2
	UWA26 –BEDU– SCI– 206	Material properties	2	----
	UWA26 –BEDU– SCI– 207	Classic mechanics	2	2
	UWA26 –BEDU– SCI– 208	Microbiology	2	2
	UWA26 –BEDU– SCI– 209	Cytology	2	2
	UWA26 –BEDU– SCI– 210	Virology	2	----

	EDPSE4	Classroom Thinking Education	2	2
	CLTSE4	Psychology	2	----
	COMSE4	Educational Psychology	1	2
		The computer		
	UWA26 –BEDU– SCI– 214	Thermodynamics	2	2
	UWA26 –BEDU– SCI– 215	Electric and magnetic	3	2
	UWA26 –BEDU– SCI– 216	Calculus	2	----
	UWA26 –BEDU– SCI– 217	Optical physics	2	2
	UWA26 –BEDU– SCI– 218	Invertebrate Science	2	2
	UWA26 –BEDU– SCI– 219	Histology and Embryology	2	2
	UWA26 –BEDU– SCI– 220	Biochemistry	2	2
	UWA26 –BEDU– SCI– 221	Plant Physiology		
Third Level	GEMTH501	General teaching methods	3	----
	ED-RE-TH-1	Educational research methodology	3	----
	UWA26 –BEDU– SCI–305	Modern physics	2	2
	UWA26 –BEDU– SCI–306	Quantum mechanics	2	-----
	UWA26 –BEDU– SCI–307	Astronomy	2	----
	UWA26 –BEDU– SCI–308	Animal Physiology	2	2
	UWA26 –BEDU– SCI–309	Parasitology	2	2
	UWA26–BEDU– SCI–310	Plant and Animal Production	2	2
	SUSTH6	sustainable development	2	-----
	UWA26 – BEDU– SCI–312	Environment and health	2	-----
	MEATH503	Measurement and evaluation	2	-----
	CURSE3	Curricula and textbooks	2	-----
	UWA26 – BEDU– SCI– 315	Electronics science	2	2
	UWA26 – BEDU– SCI– 316	Solid state physics	3	-----
	UWA26 – BEDU– SCI– 305	Methods of teaching science	2	-----
	UWA26 –BEDU– SCI– 317	Radioactivity	2	2

	UWA26 –BEDU– SCI– 318	Immunology	2	2
	UWA26 –BEDU– SCI– 319	Entomology	2	2
	UWA26 –BEDU– SCI– 320	Plant Taxonomy	2	---
Fourth Level	UWA26 –BEDU– SCI– 401	Arabic literature	3	----
	PROFO7	Professional ethics	2	----
	ED-AD-FO-1		2	----
	PRTFO702	Educational administration and supervision	----	----
		Practical education (watching)		
	UWA26 –BEDU– SCI– 405	Laser	2	2
	UWA26 –BEDU– SCI– 406	Electromagnetism	3	----
	UWA26 –BEDU– SCI– 407	Nuclear Physics	2	----
	UWA26 –BEDU– SCI– 408	Plasma physics	2	----
	UWA26 –BEDU– SCI– 409	Algae and Fungi	2	2
	UWA26 –BEDU– SCI– 410	Genetics	2	2
	UWA26 –BEDU– SCI– 411	Serums and Vaccines	2	--
	UWA26 –BEDU– SCI– 412	Endocrine Physiology	2	---
		Undergraduate Research	2	----
		Practice Teaching	12	----

8. Expected learning outcomes of the program

Knowledge

- | | |
|---|--|
| 1. Empowering students scientifically to advance them and achieve better development of their scientific and practical skills. | 2. Enabling students to understand and know broad scientific concepts and the relationship of physics to the rest of the sciences. |
| 3. Acquiring students' scientific field research skills and linking it to community service, environmental development, sustainable development, and green education. | 4. Raising the level of preparation among students to suit the requirements of the labor market as university teachers. |

Skills

- | | |
|---|---|
| 1. Enabling them to formulate and write scientific research and reports, how to search for sources, collect data, and methods of analysis. | 2. Training students well on practical applications and the use of modern technologies. |
| 3. Training students on other applications related to computer science, statistics, laboratory safety and security, environment and pollution using the latest technologies and modern applications.. | |

Ethics

- | | |
|---|---|
| 1- Giving a lecture and discussion with students, exchanging dialogue, and creating groups to discuss and dialogue about various topics | 2- Transferring what the student has acquired in physics to serve society |
| 3- Strengthening scientific honesty. | 4- Rapid response to physical problems facing the workplace and finding quick solutions to them, such as global warming, the green belt, and sustainable development. |

9. Teaching and Learning Strategies

The lecture is delivered by the professor, after which they open the questions and answers section, after which the discussion and expression of different opinions about the scientific material and discussion of its validity.

10. Evaluation methods

Monthly exams
Daily exams (quizzes)
Oral exams
Writing scientific reports
Daily preparation and effectiveness in class
Final Exams

11. Faculty

Faculty Members

Academic Rank	Specialization		Special requiremnts skills (if applicable)		Number of the Teaching Staff	
	General	Special			staff	Lecturer
1.Prof. D. Gazi Kamal Al-Shammary	Physics	Physics Materials			√	
2. Asst. Prof D. Yahya M. Abbas	Physics	Physics Materials			√	
3.Lecture D. Firas S. Mized	Physics	Astronomy is celestial bodies			√	
4. Asst. Lec.. Masar A. Kauod	Physics	Thin film			√	
5. Asst. Lec.. Rasol hamed	Physics	Plasma				√
6. Lecture D. Jafar kamad	Biology science	Methods of teaching			√	
7.LectureD.HannaAbdAl hussen	Mathematics	Mathematics applied			√	
8. Asst. Prof. Ansam Gazi Anceef	Mathematics	Analytical Mathematics			√	
9. Asst. Lec. Sara hachm	Biology science	Methods of teaching			√	
10. Asst. Lec. Ranya M. Jasam	Biology science	Methods of teaching			√	
11. Asst. Lec. Rasha Reda	Psychology	Psychology			√	
12. Asst. Lec. Sara Kalaf	Computer Engineering	Computer			√	
13. Prof. D.Sada Jasim AbdAlameer	Biology	Genetics			√	
14.Asst.Prof. Zinah Mohammed	Veterinary medicine Surgery	Physiology			√	
15. Lecture D. Ali Saad Kadhim	Microbiology	Immunolgy Genetic and			√	

16. Lecture D.Anfal Izaldeen AL Kateeb	Biology	bioengineering			√	
17.LectureD.SaifAli Muttaleb	Chemistry	Clinical biochemistry			√	
18. Lecture. Alaa Sabah Aleewi	Biology	Biotechnology			√	
19. Lecture. Raad Saad Sultan	Veterinary medicine	Poultry Diseases			√	
20.Asst.Lec. Hanan Hameed Attyhia	Biology	Special-Medicinal			√	
21. Asst.Lec. Ruaa Salam Abbas	Biology	Plants Botany			√	
22. Asst.Lec. Huda HusseinEid	Biology	Human anatomy, histoigy and embryology			√	
23.Asst.Lec. Linda Khalaf Kenawe	Biology	Micobiology			√	
24. Asst.Lec. Zaman Isaa Hachim	Biology	Zoology/ Genetics			√	
25.Asst.Lec.Manar naji hamad	Biology	Molecular			√	
26. Asst.Lec. Alaa Hussein Hamel	Biology	Microbiology			√	
27. Asst.Lec. Shatha Qasim Jaber	Veterinary medicine	Department of Physiology			√	
28.Asst.Lec.Wasam Hseeb Shaker	Biology	Microbiology			√	
29. Asst.Lec.Lath Ammar Chiyad	Biology	Zoology			√	
30. Asst.Lec.Giath Ameen Mohumed	Physics	Medical Physics			√	
31. Asst.Lec. Ahmad Khlad	Electrical Engineering	Renewable energies			√	
32. Asst.Lec.Jabalia Hafed	Systems and Information Engineering	Systems and Information			√	
33. Asst.Lec. Suhad Mahdy	Chemical	Analytical Chemistry			√	

Professional Development

Mentoring new faculty members

1. Developing the technical, professional and administrative capabilities and skills of new faculty members in the field of specialization.
2. Indulging them in scientific activities, donation campaigns, and service to the institution and society
3. Including them in the various committees in the department
4. Allocating a training program and introducing them to training courses for the purpose of strengthening their professional, scientific and administrative skills

Professional development of faculty members

1. Annual evaluation of faculty members, which includes teaching, scientific and research activity, and the educational and administrative aspects
2. The teaching and scientific activities of the teaching staff are gathered. Then, the scientific committee, the student opinion questionnaire, and the Quality Assurance and University Performance Division at the college and university take part in the evaluation process of each lecturer.

12. Acceptance Criterion

1. Admission requirements for students are approved in accordance with the laws of the Ministry of Higher Education and Scientific Research (central admission).
2. The student must pass the personal interview prepared by the department council.
3. Students must be medically fit for the specialty they are applying for.
4. The department's absorptive capacity and focus on quality, not quantity, and the market's need for the required numbers is another important criterion.

13. The most important sources of information about the program

1. Department Syllabuses
2. In addition to several sources related to the topics of each subject taught in the department, provided that they are modern and keep pace with the development of curricula and new terminology.

1. Program Development Plan

1. Forming an improvement plan committee, as the plan relates to reviewing and updating curricula on the one hand, and reviewing activity related to scientific research and methods of teaching for teachers in the department on the other hand.
2. Distributing a questionnaire to the students to extract their opinions at the end of each semester about the academic program.
3. Distributing a questionnaire to the faculty members to collect their opinions at the end of each semester for the purpose of developing the curricula and courses.
4. Coordination with the Quality Assurance and University Performance Division and implementing the prepared academic program effectively.
5. Conduct a comprehensive review of the curriculum during any new developments regarding the program, such as changing some topics or adding others, and updating them periodically.

[illegible]

	Counseling and mental health	Basic		•				•				•		
	Wave motion and sound	Basic		•				•				•		
	Material properties	Basic		•				•				•		
	Classic mechanics	Basic		•				•				•		
	Baath Party crimes	Basic		•				•				•		
	Classroom Thinking Education Psychology	Basic		•				•				•		
	Educational psychology	Basic		•				•				•		
	Thermodynamics	Basic		•				•				•		
	Electric and magnetic	Basic		•				•				•		
	Calculus	Basic		•				•				•		
	Optical physics	Basic		•				•				•		
	General teaching methods	Basic		•				•				•		
	Educational research methodology	Basic		•				•				•		
	Modern physics	Basic		•				•				•		
	Environment and health	Basic			•				•				•	
	Astronomy sustainable development	Basic			•				•				•	
	Measurement and evaluation	Basic			•				•				•	
	Curricula and textbooks	Basic			•				•				•	

	Electronics science	Basic			•				•				•	
	Solid state physics	Basic			•				•				•	
	Methods of teaching science	Basic			•				•				•	
	Radioactivity	Basic			•				•				•	
	Quantum mechanics	Basic			•				•				•	
	Arabic literature	Basic			•				•				•	
	Professional ethics Educational	Basic			•				•				•	
	administration and supervision	Basic			•				•				•	
	Practical education (watching)	Basic			•				•				•	
	Laser	Basic			•				•				•	
	Electromagnetism	Basic			•				•				•	
	Nuclear Physics	Basic			•				•				•	
	Plasma physics	Basic				•				•				•
	Graduation research project	Basic				•				•				•
	Application	Basic				•				•				•

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



Course Description Form

1. Course name	
Arabic	
2. Course code	
UWA26 – BEDU– SCI– 108	
3. the chapter/Year	
Second semester/2026	
4. Date this description was prepared	
6-3-2026	
5. Available attendance forms	
Classroom	
6. Number of study hours (total) / Number of units (total)	
30hour/ 2lonliness	
7. Name of the course administrator (if more than one name is mentioned)	
Asst. Prof. Dr. Mohamed Gharkan Sarhan Asst. Lecturer .Ahmed Hamed Abdel-Imam	
8. Course objectives	
Developing students' ability to understand and analyze literary texts, and to master reading and writing skills according to the correct rules of the Arabic language.	
9. Teaching and learning strategies	
1. To recognize the importance and status of the Arabic language as a means of communication and expression. 2. To develop students' skills in reading, writing, and understanding and analyzing literary texts. 3. To enable students to correctly apply grammatical and linguistic rules in oral and written expression.	Strategy

10. Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
AskAndAnswersAnd viva voce	Discussion and Dialogue	(Noun, Verb, and Particle)	Parts of Speech	4	First-Second
			Definite Nouns	4	Third-fourth
examFirst month	Discussion and Dialogue	(Pronoun, Proper Noun, Demonstrative Pronoun, Relative Pronoun)	Pronouns	4	Fifth-Sixth
AskAndAnswersAnd	Discussion and Dialogue		Demonstrative Pronouns	4	Seventh-Eighth
	Discussion and Dialogue	(Attached and Detached Pronouns)	Relative Pronouns	4	Ninth - Tenth
examdaily	Discussion and Dialogue		Zuhair ibn Abi Sulma		
			Ahmad Shawqi	4	Eleventh - Twelfth
Second month exam	Discussion and Dialogue	His Life and Poetry	Surah Al-Qamar	4	
viva voce			The Prophet's Sermon		Thirteenth - Fourteenth
	Discussion and Dialogue	Memorization and Interpretation	Ayniyah by Abu Dhu'ayb al-Hudhali	3	
End of term	Discussion				

exam	and Dialogue	His Life and Poetry			fifteenth
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11. Course Evaluation

Oral test: 5 Daily preparation: 5

Daily exams:5 Activities: 5

Monthly exams: 20 Total: 40 degree

Final Exam: 60 marks

12. Learning and teaching resources

1. Ibn Aqil's Commentary

2. Shawqi Daif's Book

3. Arabic Language Libraries

thesourcesSupporting references (scientific journals, reports, etc.)

Course description form

1.Course name

Islamic Education / Civilization

2.Course Code

UWA26 – BEDU– SCI– 110

3.Term/Year

Second semester/ 2025-2026

4.Date this description was prepared

6-3 -2026

5.Available attendance formats

Classroom + Online Classroom

6. Number of study hours (total) / Number of units (total)

30 hours / 2 units

7. Name of the course coordinator (if there is more than one name, mention it)

Dr. Ali jomaa Sobh

8.Course objectives

- 1- Instilling the correct Islamic doctrine: Understanding the foundations and values of Islam and strengthening faith in God, His Messenger and the Last Day.
- 2 - Developing Islamic behavior: Applying the teachings of Islam in daily life and achieving good Islamic morals such as honesty, truthfulness and benevolence.
- 3 - Understanding the Quran and Sunnah: Learning the rulings of Islamic Sharia through the study of the Holy Quran and the noble Sunnah.
- 4.Developing critical thinking skills: Analyzing religious texts and distinguishing between right and wrong

5 - Promoting moral values: Building a strong personality with high morals and treating others with respect.

1. Teaching and learning strategies

1. Explanation of the subject matter by the course instructor.
2. Learning how to read Islamic texts in a new, scholarly manner.
3. Gaining a comprehensive understanding of various Islamic educational disciplines to develop a specialized scholarly personality.

1. Course Structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	week
Questions and Answers	Lecture and discussion	Definition of the science of the fundamentals of religion, names of this science and its origins	Cognitive/Skill-based/Emotional	4	First-Second
Daily testing	Save and discuss	The pillars of faith according to the majority of Muslims / Theology	Cognitive/Skill-based/Emotional	4	Third-fourth
interrogation	Lecture and discussion	God's existence, attributes, and	Cognitive/Skill-based/Emotional	4	Fifth-sixth

		proofs of God's existence			
First month test		First month test	Cognitive/Skill- based/Emotional	4	Seventh- eighth
Daily testing	Save and discuss	The illusion of the senses / There is no place for atheism in an open mind	Cognitive/Skill- based/Emotional	4	Ninth- Tenth
discussion	Lecture and discussion	Divine attributes and psychological attribute (existence)	Cognitive/Skill- based/Emotional	4	Eleventh- twelfth
Questions and answers	Discussion and questioning	Daily testing	Cognitive/Skill- based/Emotional	7	Thirteenth- Fourteenth
Second month test		Second month test	Cognitive/Skill- based/Emotional	8	fifteenth

1. Course evaluation					
Oral Exam: 5 Daily Preparation: 5 Reports: 5 Attendance: 5 Monthly Exams: 20 Total: 40 marks Final Exam: 60 marks					
2. Learning and teaching resources					
1- The Foundations of the Islamic Religion: A Comparative Analytical Study - by Dr. Abdullah Daraz					
2- An Introduction to Islamic Beliefs - Dr. Omar Suleiman Al-Ashqar					
3 Islamic Creed and its Foundations - by Dr. Wahba al-Zuhayli					
4The most important research published in Arab academic journals					



1. Course Name:					
English Language					
2. Course Code:					
UWA26-BEDU-SCI-107					
3. Semester / Year:					
Second/ 2026					
4. Description Preparation Date:					
15-2-2026					
5. Available Attendance Forms:					
Classroom					
6. Number of Credit Hours (Total) / Number of Units (Total)					
30 Hours/ 2 Units					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Ali Haif Abbas + Inst. Dr. Saja Qasim Tehemish					
8. Course Objectives					
1. The student's familiarity with the basics of the English language and the phrases and sentences used daily			2. The students' knowledge of nouns and their types, plural, singular, countable and uncountable		
3. Knowing the types of verbs and tenses and differentiating between them, negations and interrogatives			4. Knowledge of reading and vocabulary for the reading passages.		
5. Knowing the uses of tenses, their correct formulation, and the method of negation and interrogatives			6. Knowing of vowel sounds and how to pronounce them		
9. Teaching and Learning Strategies					
Strategy		1. A strategy for teaching, defining and understanding terms 2. Brainstorming strategy 3. Teaching students to read through reading pieces 4. Using modern methods to teach reading and comprehension of reading passages and vowel sounds, such as explanatory videos and posters.			
10. Course Structure					
Week	Hours	Required Learning	Unit or subject	Learning	Evaluation

		Outcomes			method
1-2	2	Knowledge and skill	Nouns	Discussion	Quiz
3-4	2	Knowledge, skill, and ethics	Kinds of nouns	Communicative	Oral Test
5-6	2	Knowledge and skill	Reading passage	Discussion	First monthly exam
7-8	2	Knowledge and skill	Gender	Communicative	Discussion
9-10	2	Knowledge, skill, and ethics	Reading passage	Experimental	Quiz
11-12	2	Knowledge and skill	Singular and Plural	Discussion	Second monthly exam
13-14	2	Knowledge and skill	Verb tenses	Discussion	Oral test
15	2	Knowledge and skill	Vowels	Discussion	Discussion

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Daily tests and reports: 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Required textbooks (curricular book, if any)	Rapid Review of English Grammar
Main references (sources) Recommended books and references (scientific journals, reports...)	Developing Skills, L. G. Alexander English Phonetics and Phonology, Peter Roach
Electronic references, websites	

Course Description Form

1. Course Name:	
Foundations of Education	
2. Course Code:	
UWA26-BEDU-SCI-109	
3. Semester / Year:	
second semester / 2026	
4. Description Preparation Date:	
2-3-2026	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 Hours/ 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Assistant teacher. Sara Hajim Abdulsahab/ Assistant teacher. Rania Mohammed Jassam	
8. Course Objectives	
Developing students' positive attitudes toward the subject 2. The objectives of the educational content are achieved in identifying the concept of basic education and its historical development 3. Identify the inputs of the basic education system 4. Give an idea about the goals and characteristics of basic education 5. Getting to know the basic education system in Arab countries 6. Getting to know the basic education system in some foreign countries 7. Basic education in the United States of America 8. Identify some of the problems facing education in Iraq and try to remedy them (failure/dropout)	
9. Teaching and Learning Strategies	
Strategy	1. Learn about the concepts of education and basic education 2. Identify the justifications for basic education 3. Knowing and understanding the educational goals of basic education in Arab countries 4. Identify the reality of basic education in Iraq 5. Identifying Arab and foreign experiences in basic education 6. Identify the proposed formulas for basic education 7. Students possess many skills, including the skill of effective

teaching

8. Lesson management skills in the classroom

9. Skills for extracting the new method that can be adopted to achieve the educational level and its goal

10. Thinking skills in order to deduce the most harmonious and appropriate method for the teacher

11. Critical thinking skills to understand the relationship to basic education between Arab countries

12. Creative thinking skills to come up with a new idea for innovative education formats in the world

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6	Cognitive, skillful, emotional	The concept of basic education and its historical development	Discussion and questioning	Additional questions solved by the student
3-4	6	Cognitive, skillful, emotional	Basic education system inputs Basic education	Collaborative learning	solving exercises
5-6	6	Cognitive, skillful, emotional	goals of basic	Discussion and dialogue	Student's answer
7-8	6	Cognitive, skillful, emotional	Characteristics of basic	Questioning	First written exam
9-10	6	Cognitive, skillful, emotional	The basic education system in Arab countries	Method of presentation and dialogue	Solve questions
11-12	6	Cognitive, skillful, emotional	The basic education system in some foreign countries	Presentation and interrogation	Solve additional questions about the topic

13-14	6	Cognitive, skillful, emotional	Proposals to modify basic education in Iraq	Problem Solving	Preparation and oral exam
15	6	Cognitive, skillful, emotional			Second written exam

1. Course Evaluation

Oral and written test : 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

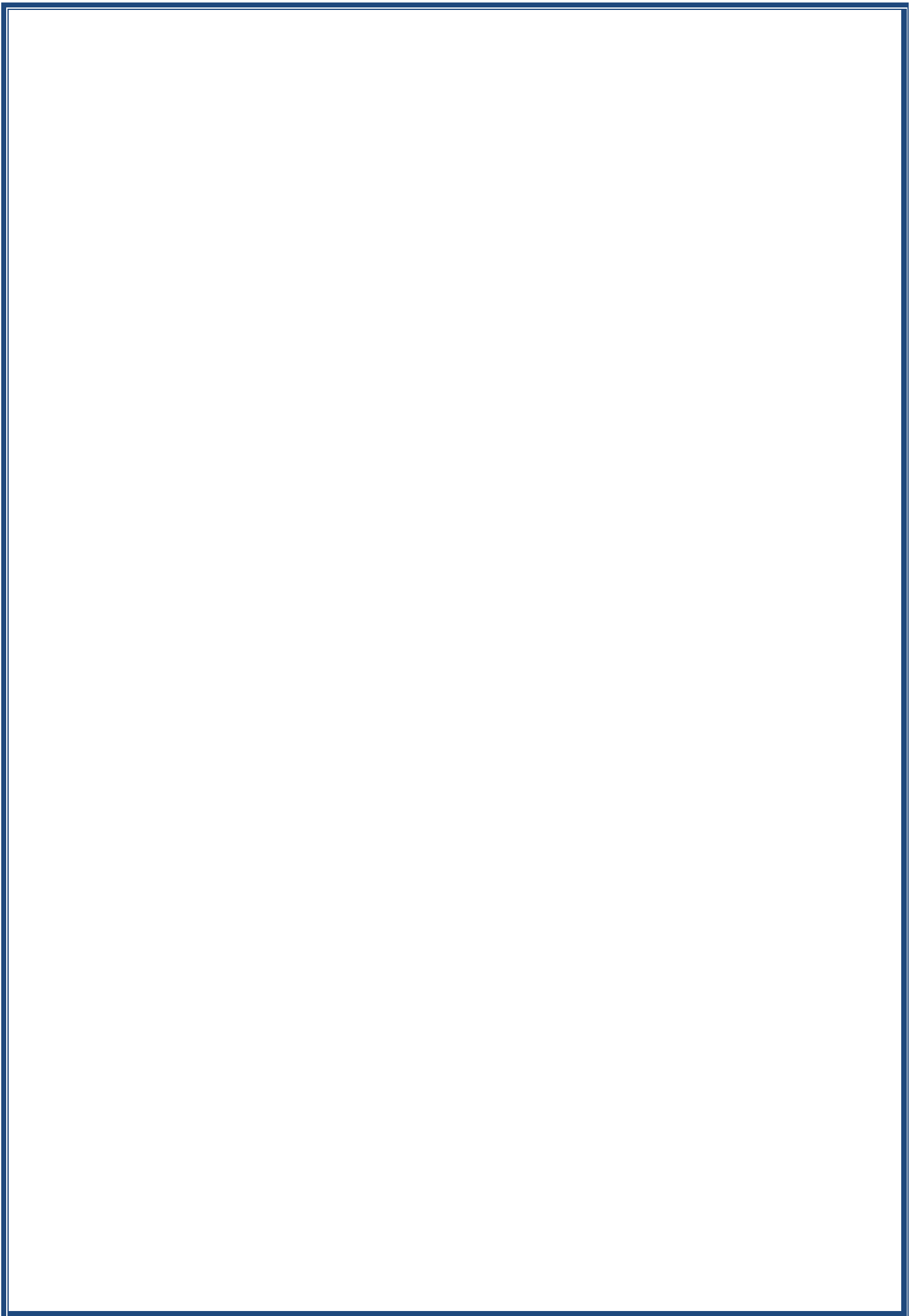
1. Al-Qaisi, Amer Yas Khudair, 2012, (Basic Education), 1st edition, Baghdad. Iraq
2. Ismail, Muhammad Sadiq, 2011, (Developing Basic Education), 1st edition, Al-Arabi Publishing and Distribution, Cairo, Egypt

(...Supporting sources and references (scientific journals, reports, websites

Course Description Form

1. Course Name:	
Laboratory Safety and Security	
2. Course Code:	
UWA26-BEDU-SCI-113	
3. Semester / Year:	
Second semester / 2026	
4. Description Preparation Date:	
03\02\2026	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. D. Anfal AL KATEEB and MSc. Suhad Email: anfal@uowasit.edu.iq	
8. Course Objectives	
Learn about the concept of laboratory safety, safety methods, and the most important procedures that must be available, and learn about the international safety card MSDS. Learn about the physical, chemical, and biological risks that laboratory workers may be exposed to, and learn how to confront these risks.	
9. Teaching and Learning Strategies	
Strategy	1- Introducing students to the importance of laboratory safety and security. 2- Developing and enabling students to understand safety topics and how to deal with and reduce risks. 3- Identifying the basic and international rules and the most important global regulations that must be available in every laboratory
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	5	Static electricity	Static electricity	Discussion	questions and answers
3-4	5	Definition of safety and security in the laboratory Safety guidelines	The concept of laboratory safety and security The most important laboratory signs and their explanation	Communicative + Practical laboratory	Oral Test
5-6	5	Safety and Security Card Components	MSDS	Discussion + Practical laboratory	First monthly exam
7-8	5	chemical risks	What are dangerous and toxic chemicals and how to deal with them	Communicative + Practical laboratory	Discussion
9-10	5	Biological risks	What are biological risks and how to deal with them	Communicative + Practical laboratory	Daily exam
11-12	5	Safety precautions	Informing students of all precautions and how to deal with an accident	Discussion + Practical laboratory	Second month exam
13-14	5	Types of waste in the laboratory	Separation of chemical and biological waste and how to deal with it	Discussion + Practical laboratory	Oral test
		Biological risks and ways to prevent them Physical risks	Evacuation and ways to evacuate citizens and workers	Discussion	Oral test
15	5				End of semester exam



Course Description Form

1. Course Name:	
Human Biology	
2. Course Code:	
UWA26 – BEDU- SCI- 112	
3. Semester / Year:	
Second semester / 2026-2025	
4. Description Preparation Date:	
17-07-2025	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 Hours/ 4 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Sada Jasim Abdulameer Email: sabdulameer@uowasit.edu.iq Name: Dr. Zinah Alshammari	
8. Course Objectives	
. Knowledge of human biology with its beginnings, discussion and questioning • -The main aspects of biology • - Interrogation presenting activities (laboratory work) • - Power point presentation for the first written exam • -Create a lecture presentation for students • Digestive system • Cells • Tissues • Respiratory system • Skeletal system	
9. Teaching and Learning Strategies	
Strategy	D - General and transferable skills (other skills related to employability and personal development). 1-The ability to employ skills. Managing class discussion 2-The skill of testing a good method. 3-The skill of choosing the appropriate educational model for students according to individual circumstances. 4- The skill of mastering all the methods presented in the curriculum in the practical aspect.

10. Course Structure					
Week	Hours	Required Learning	Unit or subject	Learning method	Evaluation
		Outcomes	name		method
1-2	4	Cognitive, skillful, emotional	Introduction human biology	Discussion & Video lectures discussions	Create a presentationof lectures for studen
3-4	4	Cognitive, skillful, emotional	Skeletal system	Video lectures & discussions	quiz
5-6	4	Cognitive, skillful, emotional	Muscles	Video lectures & discussions	First monthly exam
7-8	4	Cognitive, skillful, emotional	Cells	Video lectures & discussions	quiz
9-10	4	Cognitive, skillful, emotional	Metabolism	Video lectures & discussions	Create a presentationof lectures for student
11-12	4	Cognitive, skillful, emotional	Blood	Video lectures & discussions	Second month exam
13-14	4	Cognitive, skillful, emotional	Tissues	Video lectures & discussions	Exam
15	4	Cognitive, skillful, emotional	Thermal regulation	Video lectures & discussions	Home work

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

1. Required textbooks (curricular books, if any)
2. Main references (sources) Human biology / Walid Hamid Youssef
3. Recommended books and references (scientific
4. journals, reports...)
- 5.
6. Electronic References, Websites
7. Supporting sources and references) scientific journals, reports (....

Course Evaluation

Using scientific laboratories to link the theoretical and scientific situation Role playing and interrogation
Discussion, the teaching method is not devoid of it Weekly, monthly, daily exams and the end of the year exam

Course Description Form

1. Course Name:- General Physics	
2. Course Code: UWA26-BEDU-SCI-111	
3. Semester / Year: Fourth semester / 2025 - 2026	
4. Description Preparation Date: 15/1/2026	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Theoretical lectures (3 hours) & lab. (2hours)	
7. Course administrator's name (mention all, if more than one name)	
Name: Firas S. MAZYED Email: fsaleem@uowasit.edu.iq Name: Mohammed J. Ibrahim	
8. Course Objectives	
Course Objectives	1) Developing students' positive attitudes towards understanding the scientific material. 2) Achieving the objectives of the educational content through the basic principles of physical measurements and units 3) Identifying numerical and directional quantities and their properties 4) Studying vectors, their properties and methods of graphical representation 5) Identifying kinematics and its types and the relationship between motion and force and studying Newton's laws. 6) Defining the basic concepts and laws related to work and energy.
9. Teaching and Learning Strategies	
Strategy	General and transferable skills (other skills related to employability and personal development). 1-The ability to employ skills. Managing class discussion 2-The skill of testing a good method 3-The skill of choosing the appropriate educational model for student according to individual circumstances 4- The skill of mastering all the methods presented in the curriculum in the practical aspect.

11.Course Evaluation

10.Course Structure

Week	Hours	Required Learning Outcome	Unit or Subject name	Learning method	Evaluation method
1-2	6	Measurements and units	Measurements and units, types of basic and derived units - systems of units - the international system.	Discussion	questions and answers
3-4	6	Scalar and vector quantities	Vector quantities definition and concept - graphical representation.	Communicative + Practical laboratory	Oral Test
5-6	6	Scalar and vector quantities	Vector addition and subtraction		First monthly exam
7-8	6	Scalar and vector quantities	Scalar and vector multiplication - and the resultant	Communicative + Practical laboratory	Discussion
9-10	6	Force and motion	Definition and concept of motion - Types of motion - Linear motion - Newton's laws	Communicative + Practical laboratory	Daily exam
11-12	6	Force and motion	Law of universal gravitation - mass - free fall - projectile motion	Discussion + Practical laboratory	Discussion
13-14	6	Work and power	Work and power laws	Discussion + Practical laboratory	Oral test
15	6	Energy and Energy types.	Energy and Energy types.	Discussion + Practical laboratory	Second monthly exam

Activities: 5
Daily exams: 5
First month theoretical exam: 10
Second month theoretical exam: 10
First month practical exam: 5
Second month practical exam: 5
Total: 40 marks
Final exam: 60 marks

12. Learning and teaching resources

Main references

Book:

- Physics for the first year of geology - by Abdul Sattar Jawad.
- Physics for Earth Sciences Students - by Farouk Aboudi and Moayed Abdullah.
- General Physics for Non-Physicists - by Abdel Salam Abdel Amir

Electronic patches

- 1 -Lectures for corresponding scientific departments in other Iraqi universities.
- 2- Video lectures through the YouTube platform.

Course Description Form

1. Course Name:	
computer	
2. Course Code:	
UWA26 – BEDU– SCI– 211	
3. Semester / Year:	
Fourth semester / 2025	
4. Description Preparation Date:	
8-2-2025	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 4 Units	
7. Course administrator's name (mention all, if more than one name)	
D. Ahmed Mizhir Abed	
8. Course Objectives	
Getting to know the concept of computers, what is the science of computer and its relationship to sciences , and what are the advantage of its study ,getting to know the desktop and its icons with the tapes of the basic windows	
9. Teaching and Learning Strategies	
Strategy	A1- Historically, knowledge of the development of the electronic computer A2-Learning about Microsoft Office 2010 programs A3- Know how to use it A4- Get to know Microsoft Office Word 2010, how to open it and its features A5- Identify the tools, tapes, and instructions in the program
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1. Course Evaluation					
					and answers
3-4	5	background	Introduction to computers and Microsoft Office 2010 programs	Discussion and questioning	Oral Test
5-6	5	Hardware & software	Microsoft Office Word 2010: How to open the program, program properties, and close the program	Discussion + Practical laboratory	First monthly exam
7-8	5	Output devices	All that guarantees the file list is File	Communicative + Practical laboratory	Discussion
9-10	5	The windows	All that guarantees the home page and the tapes	Communicative + Practical laboratory	Daily exam
11-12	5	The desktop	List of drawers for writing documents, opening and closing the program, and saving files	Discussion + Practical laboratory	Second month exam
13-14	5	The page layout	Page layout, display and automatic correction	Discussion + Practical laboratory	Oral test
15	5	The keyboard secrets	Keyboard secrets		Oral test

1. Theoretical exam 2- Requesting reports from students to learn how to research 3- Practical exam

2. Learning and teaching resources

The textbook is computer basics and its office applications

Course Description Form

1. Course name	
Psychology of teaching classroom thinking	
2. Course code	
UWA26-BEDU-SCI-212	
3. the chapter/Year	
Fourth semester/2025	
4. Date this description was prepared	
5-2-2026	
5. Available attendance forms	
Classroom	
6. Number of study hours (total) / Number of units (total)	
60 hour/ 3 Unit	
7. Name of the course administrator (if more than one name is mentioned)	
Asst. Lec. Firas Aliwi Mahmoud	
8. Course objectives	
The course aims to introduce students to the foundations and principles of classroom learning psychology and enable them to understand learning theories and their applications in analyzing learner behavior and improving the educational process within the classroom.	
9. Teaching and learning strategies	
1. To introduce students to the fundamental concepts of classroom learning psychology and their relationship to the educational process. 2. To enable students to understand the main theories of learning and their applications within the classroom environment. 3. To equip students with the ability to analyze student behavior in the classroom in light of the principles of educational psychology. 4. To develop students' skills in using effective classroom learning strategies to contribute to improving the educational process. 5. To help students interpret individual differences among learners and how to address them in the classroom. 6. To train students in employing the principles of reinforcement,	Strategy

motivation, and classroom management to support learning.

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
AskAndAnswersAnd viva voce	Discussion and dialogue	An Introduction to the Psychology of Classroom Learning and its .Basic Concepts	The student will be able to define the basic concepts of classroom learning psychology.	4	First-Second
examFirst month	Communication + Illustrations			4	Third-fourth
AskAndAnswersAnd	Discussion and discussionAre	The Relationship • Between Educational Psychology and the Learning Process .in the Classroom	The student will be able to explain the main learning theories and their relationship to the educational process.	4	Fifth-Sixth
examdaily	Communication + Illustrations			4	Seventh-Eighth
Second month exam	Communication + Illustrations	Behavioral • Learning Theories and Their Applications in the Classroom .Environment	The student will be able to distinguish between different learning styles within the classroom environment	4	Ninth - Tenth
viva voce	Discussion and dialogue			4	Eleventh - Twelfth
	Discussion	Operant • Conditioning and the Principles of Reinforcement and Punishment in the .Classroom		3	Thirteenth - Fourteenth

End of term exam	and dialogue	Cognitive • Learning Theories and Their Impact on Organizing the .Learning Process Observational • Learning or Social Learning and Its Classroom .Applications Motivation for • Learning and Its Impact on Student Engagement in the .Classroom • Individual Differences Among Learners and How to Address Them.	• The student will be able to apply the principles of reinforcement and motivation in educational situations. • The student will be able to analyze learners' behavior in light of the principles of educational psychology. • The student will be able to explain the impact of individual differences among learners on the learning process. • The student will be able to employ effective classroom learning	fifteenth
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			strategies. • The student will be able to suggest appropriate methods for addressing behavioral problems within the classroom.		
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11. Course Evaluation

thinking test: 5 Daily preparation: 5
 Daily exams:5 Activities: 5
 Monthly exams: 20 Total: 40 degree
 Final Exam: 60 marks

12. Learning and teaching resources

Main references (Books)

Psychology of Classroom Learning

Dr. Yousef Qatami / Dr. Naifa Qatami

thesourcesSupporting references (scientific journals, reports, etc.)

Course Description Form

1. Course Name:	
Educational psychology	
2. Course Code:	
UWA26=BEDU-SCI-213	
3. Semester / Year:	
FOURTH semester / 2025 -2026	
4. Description Preparation Date:	
8-3-2026	
5. Available Attendance Forms:	
Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Rasha Ahmed Ridha Email: Rasha.Ahmed@uowasit.edu.iq	
8. Course Objectives	
Learn about the concept of educational psychology and its relationship to other scientific research and the factors affecting educational psychology, then learn about the characteristics of educational psychology and then study educational psychology and what are the most important types of educational psychology.	
9. Teaching and Learning Strategies	
Strategy	1 Introducing students to the importance of educational psychology. 2 -Developing and enabling students to understand the topics of educational psychology and their relationship to practical and educational research and other sciences. Identify the factors affecting educational psychology and their uses.

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	5			Discussion	questions and answers
3-4	5	Measurement and evaluation Measurement and evaluation and its role in the process And its role in the process	Educational psychology And his role in the process Educational Science concept Educational psychology	Communicative	Oral Test
5-6	5	Educational. Measurement concept and reinforcement. Measurement concept	Purposes of educational psychology. Fields of educational psychology	Discussion	First monthly exam
7-8	5	Measurement and evaluation purposes. And reinforcement. Measurement and evaluation purposes. Areas of measurement and evaluation.	Motivation Learning and teaching	Communicative	Discussion
9-10	5	Measurement and evaluation purposes. Areas of measurement and evaluation. Measurement fields Two types of calendar And reinforcement. Educational:	Science theories Educational psychology	Communicative	Daily exam
11-12	5	Magnetism		Discussion	Second month exam
13-14	5	Types of educational calendar: Formative calendar	Types of educational calendar:	Discussion	Oral test

		Formative calendar Final calendar	Formative calendar Formative calendar Final calendar.		
15	5	1. Final calendar. 2 .Achievement tests	1.Final calendar. 2 .Achievement tests		End of semester exam

1. Course Evaluation

Oral exam: 5
 Daily preparation: 5
 Conducting experiments and reports : 10
 Monthly exams: 20
 Total: 40 degrees
 Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

1 - Educational Psychology Book: Dr. Hana Hussein Al-Falfali

(...Supporting sources and references) scientific journals, reports

Electronic patches

**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

Department of Science

The second phase

Electric and Magnetic

2025 /2026

Course Description Form

1. Course Name:	
Electric and Magnatic	
2. Course Code:	
UWA26 – BEDU– SCI– 215	
3. Semester / Year:	
Fourth semester / 2025/2026	
4. Description Preparation Date:	
1-3-2025	
5. Available Attendance Forms:	
Classroom + laboratory + Classroom	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 4 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Lec. D. Yahya M. Abbas and Asst. Lec. Ahmed khald Email: yminem@uowasit.edu.iq	
8. Course Objectives	
Getting to know the concept of electrical and magnetic physics, what is the science of electricity and its relationship to physics, and what are the factors affecting electric and magnetic current, then knowing the physical and magnetic properties of materials, then classifying materials and what are the most important factors affecting the impedance of the material, studying Ohm's law and Kirchhoff's laws, as well as studying magnetism and Its relationship to electric current and the study of Ampere's law in magnetism, as well as Piosvar's law.	
9. Teaching and Learning Strategies	
Strategy	1- Introducing students to the importance of electricity and magnetism. 2- Developing and enabling students to understand electrical topics and their relationship to magnetism. 3- Identify the factors affecting the resistance of the conductor and its relationship to the electric current, as well as the relationship of the electric current to magnetism.

10. Course Structure					
Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	5	Static electricity	Static electricity	Discussion	questions and answers
3-4	5	Condencer	Factors affecting the capacitor, how to connect capacitors, and calculate power	Communicative + Practical laboratory	Oral Test
5-6	5	Ohm's law and resistors	Study of Ohm's Law and how to connect resistors in electrical circuits	Discussion + Practical laboratory	First monthly exam
7-8	5	Electric current and Kirchhoff's law	Electric current, its definition, its unit of measurement, and how to calculate it, in addition to studying Kirchhoff's laws	Communicative + Practical laboratory	Discussion
9-10	5	Magnetism	Overview + Biosafer Act	Communicative + Practical laboratory	Daily exam
11-12	5	Magnetism	Ampère's law	Discussion + Practical laboratory	Second month exam
13-14	5	Magnetism	Magnetic force and moment	Discussion + Practical laboratory	Oral test
15	5				End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

- 1 - Bosch Series ... Bosch Gear
- 2- Electricity and magnetism.....Dr. Muhammad Jassim Al Issa
- 3- Foundations of electricity and magnetism.....Dr. Rashid Abdul Razzaq Al-Rashed and Dr. Nazim Hassoun Al-Attar
- 4- Basics of electricity and magnetism.....Dr. Yahya Abdel Hamid Al Haj Ali

(...Supporting sources and references (scientific journals, reports

Electronic patches

Course Description Form

1. Course Name:	
Heat and Thermodynamic	
2. Course Code:	
UWA26-BEDU-SCI-214	
3. Semester / Year:	
Fourth semester / 2026	
4. Description Preparation Date:	
2026-3-5	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Alaa Saady Dawood Email: Alaa.saadi@uowasit.edu.iq	
8. Course Objectives	
1- Developing students' positive attitudes towards understanding the scientific material 2 -Achieving the objectives of the educational content by identifying heat, its nature, temperature scales and types 3 -Conductivity and thermal conductivity coefficient - thermal equilibrium. 4 -The effect of heat on materials - thermal expansion - change of phase of matter - freezing and melting. 5- Identifying the three laws of thermodynamics, work and energy, and internal and external combustion machines	
9. Teaching and Learning Strategies	
Strategy	1 -Knowing heat, its nature and the temperature scale. 2 -Identifying the methods of heat transfer and the thermal conductivity coefficient. 3 -Understanding radiation, Stefan's law, the amount of heat and thermal equilibrium. 4- Identifying the effect of heat on materials - thermal expansion - phase change of matter - freezing and melting - latent heat of fusion - latent heat of vaporization.
10. Course Structure	

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	4	Heat	Its nature - types of thermometers - heat transfer	Discussion	questions and answers
3-4	4	Thermal conductivity	Thermal conductivity and Stefan's law	Communicative + Practical laboratory	Oral Test
5-6	4	The effect of heat on materials	Thermal expansion - phase change - freezing and melting	Discussion + Practical laboratory	First monthly exam
7-8	4	Latent heat of fusion - Latent heat of vaporization	Study the states of matter and latent heat of fusion and vaporization	Communicative + Practical laboratory	Discussion
9-10	4	Boiling point and Newton's law of cooling	Boiling point and Newton's law of cooling	Discussion + Practical laboratory	Daily exam
11-12	4	Thermodynamic laws	Discussing Newton's Three Laws	Discussion + Practical laboratory	Second month exam
13-14	4	Work – Energy	Work – Energy	Communicative + Practical laboratory	Oral test
15	2				End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

1 -Basics of Physics / Bosch

2- Heat and Thermodynamics / Translated by Dr. Mohi El-Din Abbas and Dr. Hussein El-Sayes

Course Description Form

1. Course Name:	
Optical physics	
2. Course Code:	
UWA26-BEDU-SCI-217	
3. Semester / Year:	
Fourth semester / 2026	
4. Description Preparation Date:	
27-1-2026	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Masar abd kaood Email: Masar.Abd@uowasit.edu.iq	
8. Course Objectives	
Learn about the concept of optical physics, what optical physics is, its relationship to physics, and the factors affecting light waves, then learn about the optical physics properties of materials, then classify materials, what are the most important factors affecting optical phenomena and theories.	
9. Teaching and Learning Strategies	
Strategy	1- Introducing students to the importance of optical physics. 2- Developing and enabling students to understand the topics of optical physics. 3- Identifying the factors affecting optical physics, as well as the relationship between optical phenomena and optical theories.

1. Course Evaluation					
10. Course Structure					
Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	3	Explanation of optical theories	Explanation of optical theories	Discussion	questions and answers
3-4	5	Haykins theory	Haykins theory	Communicative + Practical laboratory	Oral Test
5-6	5	Jung's experiment	Jung's experiment	Discussion + Practical laboratory	First monthly exam
7-8	5	Fresnel theory	Fresnel theory	Communicative + Practical laboratory	Discussion
9-10	5	Lloyd's theory and Newton's rings		Communicative + Practical laboratory	Daily exam
11-12	5	Thin film interference		Discussion + Practical laboratory	Second month exam
13-14	5	Diffraction and polarization		Discussion + Practical laboratory	Oral test
15	5				End of semester exam

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main References (Books)

- 1- Bosch Series Bosch Gerd
- 2-Optical Physics

Supporting sources and references (scientific journals, reports, etc.)

Course Description Form

1. Course name					
Differential and Integral Calculus					
2. Course code					
UWA26 – BEDU- SCI- 216					
3. the chapter/Year					
Fourth semester/2026					
4. Date this description was prepared					
2-2-2026					
5. Available attendance forms					
Classroom					
6. Number of study hours (total) / Number of units (total)					
30 hour/ 2 units					
7. Name of the course administrator (if more than one name is mentioned)					
Asst. Prof. Ansam Ghazi Nsaif					
8. Course objectives					
- Differential and Integral Calculus is a fundamental subject in mathematics. - Introduce students to the concepts of differentiation and integration. - Study derivatives and integrals of trigonometric, hyperbolic, exponential, logarithmic, and inverse functions. - Develop students' ability to solve mathematical problems using derivatives and integrals. Understand practical applications of derivatives in scientific fields					
9. Teaching and learning strategies					
					Strategy
10. Course structure					
Evaluation method	Learning method	Name of the unit or topic Interaction with students through classroom discussion and applied mathematical exercises	Required learning outcomes	Watches	The week
Questions and answers	Discussion and dialogue Communicat	Real numbers, intervals, inequalities, functions, algebra	First. Statistics, definition of statistics, measurement	4	First-Second

Oral test	ion + Illustrations	of functions, domain and range, composite functions, graphing functions	and statistics, population, sample, statistical symbols.	4	Third-fourth
Quiz				4	
Monthly exam	Discussion and discussionAr e	Limits, properties of limits, methods of evaluating limits, limit theorems		4	
Assignment	Communication + Illustrations	Infinite limits, limits at infinity, continuity, continuity theorems	Data display methods: A. Quantitative data B. Qualitative data	4	Fifth-Sixth
Short test					
Short test	Communication + Illustrations	Differentiation, derivative rules, chain rule, implicit differentiation, higher order derivatives, Rolle's theorem, Mean Value Theorem, increasing/decreasing functions, maxima and minima	- Bar charts, histograms, polygons, graphs, pie charts.	4	
	Discussion and dialogue		Statistical measures: 1. Descriptive statistics Inferential statistics	4	Seventh-Eighth
				3	
	Discussion and dialogue	Integration, indefinite integrals, properties of integration, trigonometric, hyperbolic, exponential and logarithmic	- Measures of central tendency, arithmetic mean (average), weighted mean		
					Ninth – Tenth
					Eleventh - Twelfth

		integrals Applications of integration Additional integration techniques	(weighted), median, mode.		Thirteenth - Fou fifteenth
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11. Course Evaluation

Oral test: 5 Daily preparation: 5
 Daily exams:5 Activities: 5
 Monthly exams: 20 Total: 40 degree
 Final Exam: 60 marks

12. Learning and teaching resources

Al-Samarrai, Khalid. Differential and Integral Calculus

Course Description Form

1. Course Name:	
Biochemistry	
2. Course Code:	
UWA26-BEDU-SCI-220	
3. the chapter/Year	
Fourth semester/2026	
4. Date this description was prepared	
15-2-2026	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 / 3	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Saif Ali Muttaleb Email: Smatloob@uowasit.edu.iq Name: Sohad M. Hasan Email: Suhad.Mahdi@uowasit.edu.iq	
8. Course Objectives	
1- Preparing a successful university teacher for basic education schools With high scientific and artistic skills. 2- Dealing with educational problems and developing solutions for them. 3- Understanding educational methods and techniques in solving	
9. Teaching and Learning Strategies	
Strategy	1- Introducing the student to the importance of biochemistry. 2- Developing students' abilities to understand biochemistry topics. 3- Identify the structures of organic materials, as well as clarify the importance of each one within the human body. 4- Assigning the student to some group activities and duties. to group activities.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Introduction to the concept Biochemistry	General introduction	View the lecture	Daily exam
2	3	Basic molecules That build a living organism	Representation of molecules from sugars, proteins, and lipids		
3	3	Cell Parts	An explanation of the main parts of a cell and their functions		
4	3	Carbohydrates	Monosaccharides, Disaccharides, and Polysaccharides And Methods of Detection		
5	3	Proteins	Amino acids, peptide bonds and methods for detecting them		
6	3	Lipids	The chemical composition of fats and the active group		
7	3	Functions of Fats	The biology importance of fats in the body of a living organism		
8	3	The Importance and Classification of Fats	Saturated and Unsaturated Fats		
9	3	Nucleic acids	DNA, RNA		

10	3	Genetic Mutations	Explanation of DNA Sequence and Associated Diseases		
11	3	Enzymes	Their Benefits, Types of Enzymes, and Proposed Hypotheses		
12	3	Enzyme Inhibition	Explaining the theories and mechanisms by which enzymes work		
13	3	Hormones	The biology function of each hormone and associated diseases		
14	3	Endocrinology	Definition and functions of glands		
15	3	Insulin hormone, Adrenaline hormone	Their most important vital functions in the human body		

11. Course Evaluation

- Oral exam: 10
- Daily preparation: 5
- Participations and duties: 5
- Monthly exams: 20
- Total: 40
- Final exam: 60

12. Learning and Teaching Resources

Introduction to biochemistry / Dr. Khawla Ahmed Al Falih	
Basics of biochemistry / Dr. Sami Al-Muzaffar	

Course Description Form

1. Course Name:	Histology & Emperology
2. Course Code:	UWA26 – BEDU- SCI- 219
3. Semester / Year:	Second Semester / 2026 -2025
4. Description Preparation Date:	2026-3-3
5. Available Attendance Forms:	Classroom
6. Number of Credit Hours (Total) / Number of Units (Total)	28 Hours/ 2 Units
7. Course administrator's name (mention all, if more than one name)	Name: PhD. Huda Hussein Eid ALJurani Asst. Lect. Shatha Qasim (practical) Email: heid@uowasit.edu.iq
8. Course Objectives	A1- Developing students' positive attitudes towards tissues and embryos 1. The objectives of the educational content are achieved in learning about histology and embryology. It is the science that studies the stages of growth, formation and differentiation that take place in living organisms from the beginning (the first cell or zygote) until they become fully formed animals with complex structures similar to their parents, fully mature and approved in Her life is completely dependent on herself. 2. The term histology and histology (a compound of the Greek words (1) histo “tissue” and λογία logia anatomy), which is the study of microscopic anatomy 3. For cells and tissues of plants and animals. It is based on examining a thin slice (section) of tissue under a microscope or on an electron microscope. The use of histological stains often enhances the ability to visualize or quantify microstructural anisotropy. Histology is an essential tool of biology and medicine 4. A2 - Embryology is the study of the individual's life cycle from fertilization to sexual maturity, and that mutation, hatching, and birth are only signs that indicate the end of one stage of development and the beginning of another stage in a series of developments in the individual's life. 3- Embryology is considered an important “auxiliary” factor to understanding anatomy

9. Teaching and Learning Strategies

Strategy	D - General and transferable skills (other skills related to employability and personal development). D1-The ability to employ skills. Managing class discussion D2-The skill of testing a good method D3-The skill of choosing the appropriate educational model for students according to individual circumstances D4- The skill of mastering all the methods presented in the curriculum in the practical aspect
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10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
		Outcomes			method
1-2	2	knowledge of histology and embryology with its beginnings, discussion and questioning	knowledge of histology and embryology with its beginnings, discussion and questioning	Discussion	questions and answers
3-4	2	The main manifestations of morphology	Interrogation presenting activities (laboratory work)	Communicative	Oral Test
5-6	2	Stages of embryonic formation in animals and also types of tissues	The fate map and gastric formation of the interrogated frog	Discussion	First monthly exam
7-8	2	Stages of formation of the frog embryo. Diploidy in the frog	Stages of embryonic formation in animals and also types of tissues	Communicative	Discussion
9-10	2	Stages of formation of the frog embryo. Diploidy in the frog		Communicative	Daily exam
11-12	2	Types of tissues	Epithelial tissue connective tissue	Discussion	Second month exam

			nerve tissue muscle tissue		
13-14	2	Embryology and its branches Human	development from fertilization	Discussion	Oral test
15		Cleavage in frogs, chickens, and spears Cleavage in frogs, chickens, and spears	Stages of formation of the frog embryo. Diploidy in the frog		End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Daily exams and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

1 –Embryo Research UK philosophy and ethics website discussing the ethics of embryology

2- A squamous cell carcinoma with a Saint Valentine's day message". Int J Surg Pathol. DOI:10.1177/1066896911434768. PMID:2228765

3- Histology book

4- Embryology book

(Supporting sources and references (scientific journals, reports))



Course Description Form

1. Course name					
Plant physiology					
2. Course code					
UWA26-BEDU-SCI-221					
3. the chapter/Year					
Fourth semester/2026					
4. Date this description was prepared					
9-2-2026					
5. Available attendance forms					
Classroom					
6. Number of study hours (total) / Number of units (total)					
16hour/ 3lonliness					
7. Name of the course administrator (if more than one name is mentioned)					
Ruaa Salam Abbas					
8. Course objectives					
A. Knowledge of the curriculum vocabulary given to the student					
B. Developing students' positive attitudes towards understanding the scientific material					
9. Teaching and learning strategies					
1. To introduce students to the importance of plant physiology. 2. To familiarize students with the most important physiological processes: diffusion, respiration, photosynthesis, germination, and movement.					Strategy
10. Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week

AskAndAnsw ersAnd viva voce	Discussion and dialogue	Plant Physiology, its fields	What is plant physiology	4	First- Second
	Communicat ion + Illustrations	Activities of Cell Organelles, Plant Tissues, Plant Organs	Activities of Plant Parts	4	Third- fourth
examFirst month	Discussion and discussionAr e	Diffusion, Osmosis, Immersion, Plasmolysis	Water Relations	4	Fifth-Sixth
AskAndAnsw ersAnd	Communicat ion + Illustrations	Aquatic, Dry, and Halifun Plants	Environmental Influence on Phenotype and Anatomical Structure	4	Seventh- Eighth
examdaily	Communicat ion + Illustrations	Germination, Influencing Factors, Dormancy, and Plant Movements	Germination and Plant Movements	4	Ninth - Tenth
Second month exam	Discussion and dialogue	Photosynthesis, Influencing Factors, Plant Tissue Culture, Nutrient Media	Photosynthesis , Plant Tissue Culture	4	Eleventh - Twelfth
viva voce	Discussion and dialogue	General Questions on Previous Topics		4	Thirteenth - Fourteenth

End of term exam				3	fifteenth
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11. Course Evaluation

Daily exams: 5 Activities: 5
 Practical exam : 10
 Monthly exams: 20 Total: 40 degree
 Final Exam: 60 marks

12. Learning and teaching resources

Main references (Books)

Basic of plant physiology . Muhammed al-bayati

thesources Supporting references (scientific journals, reports, etc.)

Course Description: Invertebrates

Course Title	Invertebrates
Course Code	UWA26 – BEDU- SCI- 218
Semester / Year	Fourth Semester / 2025 - 2026
Preparation Date	1-02-2025
Attendance Forms	Classroom, laboratory, and electronic class
Study Hours / Units	60 hours / 3 units
Course Coordinator	Asst. Lec. Alaa Hussein Hamel (Alaa.Hussein@uowasit.edu.iq) Lec. Alaa Sabah Aliwi Ayat Falah Abdul Hussein
Course Objectives	1. Providing students with basic information on the classification and taxonomic ranks of invertebrate animals. 2. Introducing structural and functional characteristics of different invertebrate phyla. 3. Studying evolutionary relationships between invertebrate groups. 4. Clarifying the ecological, economic, and medical importance of invertebrates.
Teaching and Learning Strategies	1. Interactive Lecture: Presenting scientific content using demonstrations and diagrams with student involvement. 2. Learning by Comparison: Adopting a comparison method between phyla regarding structure, symmetry, and reproduction. 3. Problem-Based Learning: Presenting cases related to medical or environmental importance for analysis. 4. Visual Learning: Using microscopic images and life cycle diagrams. 5. Theory-Practice Link: Employing examples from the local environment or common diseases.
Learning Outcomes	1. Ability to classify invertebrates within correct taxonomic ranks. 2. Interpreting morphological and anatomical characteristics of studied phyla. 3. Distinguishing between Protostomes and Deuterostomes in terms of embryonic development. 4. Evaluating the importance of invertebrates in the environment and human health.

Week	Hours	Unit/Subject Name	Teaching Method	Evaluation
1-2	3	Introduction to Invertebrates, characteristics, benefits, harms, and Phylum Protozoa.	Discussion + 2h lab	Q&A
3-4	3	Phylum Protozoa and Phylum Porifera: characteristics, classification, and examples.	Discussion, daily exam, and PowerPoint presentations + 2h lab	Q&A
5	3	First Theory and Practical Exam		
6-7	3	Phylum Cnidaria and Phylum Platyhelminthes: characteristics, classification, and examples.	Discussion, daily exam + 2h lab	Q&A
8	3	Characteristics of Aschelminthes: classification, examples, and importance.	Discussion, daily exam + 2h lab	Q&A
9	3	Second Month Theory and Practical Exam		
10-11	3	Characteristics of Phylum Annelida and Arthropoda: general traits, classification, examples, and importance.	Discussion, daily exam + 2h lab	
12-13	3	Insects and Echinodermata: general traits, classification, examples, and importance.	Discussion, daily exam + 2h lab	Q&A
14	3	General Review	Discussion and exam	Q&A
15		Third Month Theory and Practical Exam		

Evaluation	❖ Oral Exam: 5 ❖ Daily Prep: 5 ❖ Experiments/Reports: 10 ❖ Monthly Exams: 20 ❖ Total Effort: 40 marks; Final Exam: 60 marks.
Main References	<i>Invertebrates</i> by Dr. Mahdi Baban; <i>Invertebrates</i> by Abdulaziz Mahmoud and colleagues.
Supporting Sources	Scientific journals and reports.

Course description template

1. Course Name	
sustainable development	
2. Course code	
UWA26 – BEDU- SCI- 311	
3. Semester / Year	
/ Sixth semester / three 2025-2026	
4. this description was prepared Date	
2-9-2026	
5. Available forms of attendance	
classroom	
6. (Number of study hours (total) / Number of units (total	
30 hours / 2 units	
7. (please mention it «Name of the course coordinator (if there is more than one	
M. M. Anmar NouriA.M	
8. Course objectives	
concept of sustainable development The Key Sustainable Development Goals Pillars of Sustainable Development .Dimensions of sustainable development Requirements for sustainable development	
9. Teaching and learning strategies	
1- Introducing students to the concept of development and sustainable .development, its importance, types and characteristics. 2- Enabling students to identify the most important indicators identified by ons for measuring developmentthe United Nati 3- Developing students' ability to link sustainable development concepts to local and global realities, and to propose practical solutions and .initiatives 4- Enhancing students' skills in expressing their ideas and discussing sustainable development issues with others in a scientific and .systematic way 5- Developing students' ability to evaluate sustainable development policies and practices, and to make decisions based on scientific .indicators	strategy

10. Course structure					
Evaluation Method	Learning method	Unit or topic name	Required learning outcomes	Hours	Week
F /W written exam	Discussion and dialogue	concept For sustainable development	Cognitive / based / -Skill Affective	2	-First Second
oral/written exam	Preserving the Sustainable Development Goals	Sustainable Development Goals	Cognitive/ based -Skill Emotional/	2	-Third fourth
Daily test		Pillars of Sustainable Development		2	-Fifth Sixth
First exam	Discussion and dialogue		Cognitive/ based -Skill Emotional/	2	-Seventh eighth
Daily test		First exam		2	
Daily test	Discussion and dialogue	Dimensions of sustainable development	Cognitive/ based -Skill Emotional/	2	-Ninth Tenth
Daily test	Explanation and memorization	Requirements for sustainable development	Cognitive/ based -Skill Emotional/	2	–Eleventh Twelfth
Second exam	Explanation of memorization	Sustainable development in Iraq	Cognitive/ based -Skill Emotional/	2	Thirteenth – Fourteenth fifteenth
	Discussion and dialogue	Second exam	Cognitive/ based / -Skill Affective		
			nitive/ Cog		

			based -Skill Emotional/		
1. Course evaluation					
Activity = 5, Attendance = 5 Daily Tests =5 ,Reports = 10 , First Exam =10 Second Exam = 10 Coursework grade = 40 grade Final exam = 60					
2. Learning and teaching resources					
Required textbooks (methodology, if applicable)			Sustainable Development		
Main references (sources)			Sustainable Development in the Exploitation of Natural Resources and Renewable Energy / Nizar Awni Al-Labadi		
Recommended supplementary books and references (scientific journals, reports, etc.)			Sustainable Development: Its Philosophy and Planning Methods, Othman Muhammad Ghoneim, Majda Abu Zant		
Electronic resources, websites			Accredited Library Websites for Human Development		

Course Description Form

1. Course Name:	
Measurement and evaluation	
2. Course Code:	
UWA26-BEDUSCI-305	
3. Semester / Year:	
Fourth semester / 2026	
4. Description Preparation Date:	
5-2-2026	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Hours/ 2 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Rasha Ahmed Ridha Email: Rasha.Ahmed@uowasit.edu.iq	
8. Course Objectives	
identify the concept of measurement and evaluation and its relation to scientific and educational research, and the factors affecting measurement and evaluation. Then identify the characteristics of measurement and evaluation, and then study measurement and evaluation and what are the most important types of measurement and evaluation.	
9. Teaching and Learning Strategies	
Strategy	1 -Introducing students to the importance of measurement and evaluation. 2 -Developing and enabling students to understand the topics of measurement and evaluation and their relationship to practical and educational research. 3-Identify the factors affecting measurement and evaluation and their uses
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4				questions and answers
3-4	4	Measurement and evaluation Measurement and evaluation and its role in the process And its role in the process	Measurement and evaluation Measurement and evaluation and its role in the process And its role in the process	Discussion	Oral Test
5-6	4	.Educational .Educational Measurement concept .And reinforcement Measurement concept	.Educational .Educational Measurement concept .And reinforcement Measurement concept	Discussion + Practical laboratory	Oral Test First monthly exam
7-8	4	Measurement and .evaluation purposes .And reinforcement Measurement and .evaluation purposes Areas of measurement and evaluation.	Measurement and evaluation .purposes .And reinforcement Measurement and evaluation .purposes Areas of measurement and evaluation.	Communicative + Practical laboratory	Discussion
9-10	4	Measurement and .evaluation purposes Areas of measurement and .evaluation Measurement fields	Measurement and evaluation .purposes Areas of measurement and .evaluation	Communicative + Practical laboratory	Daily exam

		Two types of calendar And reinforcement Educational:	Measurement fields Two types of calendar And reinforcement Educational:		
11-12	4	Magnetism		Discussion + Practical laboratory	Second month exam

11.Course Evaluation

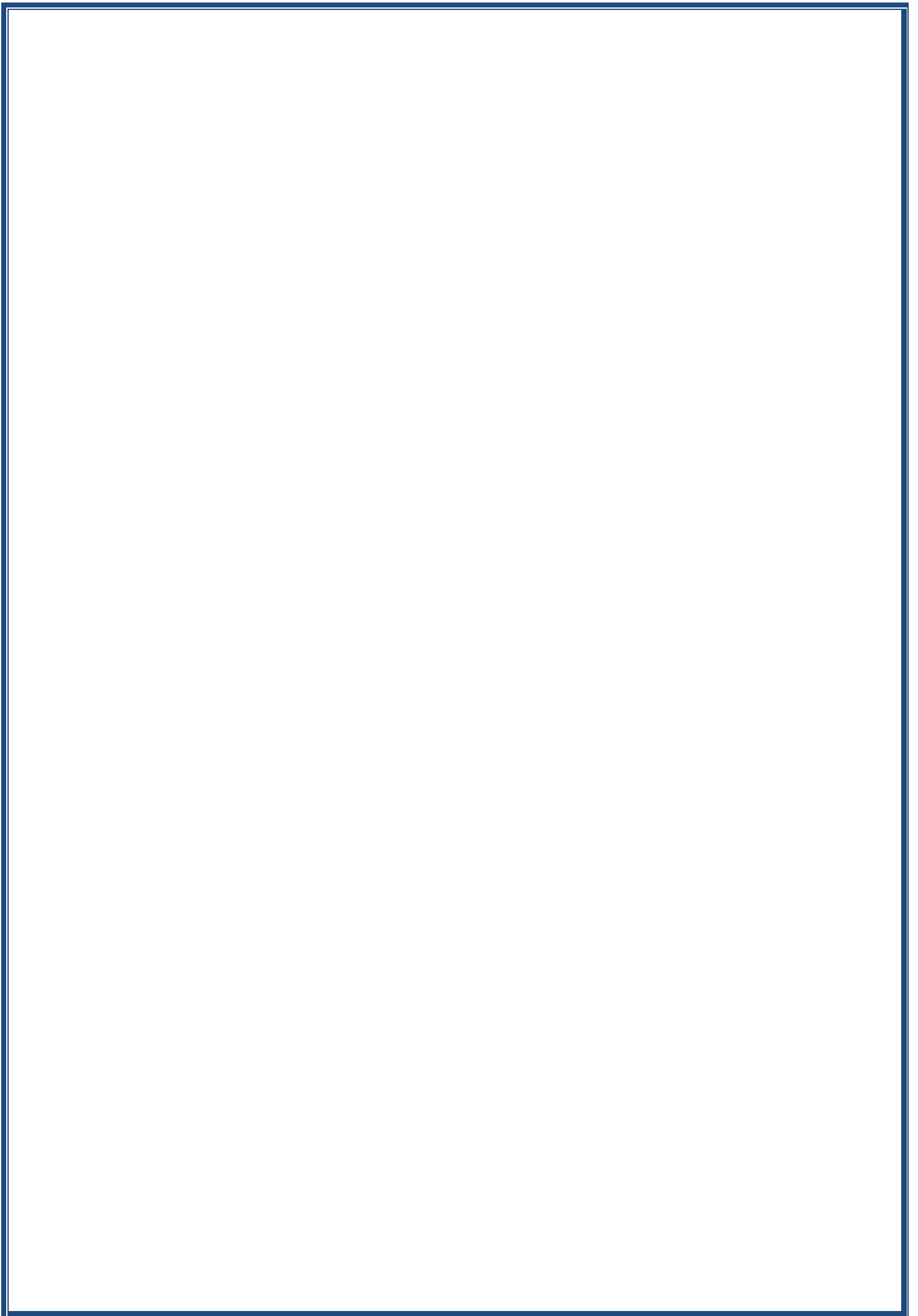
Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

12.Learning and teaching resources

Main references (books)

1 - Wahib Al-Kubaisi - Psychological Measurement and Tests

(....Supporting sources and references) scientific journals, reports
Electronic patches



Course Description Form

1. Course Name:

Methods of teaching science

2. Course Code:

UWA26-BEDU-SCI-402

3. Semester / Year:

Sixth semester / 2025-2026

4. Description Preparation Date:

/3 /3/ 2026

5. Available Attendance Forms:

Classroom

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

28 Hours/ 2 Units

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

Name: M.D. Jaafar Khamat Jalo

Email: drjaafark@gmail.com

8. Course Objectives

- To provide learners with information about the nature of science, its characteristics, and levels of scientific knowledge.
- To familiarize learners with the most important general objectives of teaching science in the primary stage.
- To introduce learners to educational objectives and the importance of defining and classifying them.
- To familiarize learners with the importance of Bloom's Taxonomy of Educational Objectives.
- To introduce learners to Bloom's Taxonomy and how to formulate behavioral objectives.
- To familiarize learners with the importance of lesson planning, its types, and principles.
- To train learners on how to develop daily lesson plans.
- To familiarize learners with teaching competencies, their dimensions, and the most important general characteristics, duties, and rights of a teacher.

- To familiarize learners with the most important methods of teaching science, their steps, and their advantages.
- To enable learners to apply science teaching methods.
- To enable learners to apply diverse activities in science teaching methods.
- To enhance learners' self-confidence through the application of diverse teaching methods.
- To reinforce the human aspect of the teaching profession among learners.

9. Teaching and Learning Strategies

Strategy	Using various teaching strategies such as Dialogue and discussion 2- Investigation 3- Exploration 4- Brainstorming 5- Interrogation
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First / Second	4	The learner should be able to understand the nature of science, its characteristics, and levels of scientific knowledge.	the nature of science	Dialogue and discussion.	Asking questions
Third / Fourth	4	The learner should be able to identify, classify, and formulate educational objectives and behavioral goals.	The general goals of teaching science The educational goals are	questioning	Asking questions
Fifth / Sixth	4	The learner should be able to understand lesson planning, its	Teaching planning	presentation	discussion

		importance, types, and how to create daily plans.			
Seventh / Eighth	4	The learner should be able to identify teaching competencies, their dimensions, and the sub-competencies for each.	dimension of teaching competencies	discussion	a home activity about the daily plan
Ninth/Tenth	4	The learner should be able to identify the most important teaching methods used in teaching science.	Teaching methods used in science education - laboratory experiments and demonstration experiments	learning Lecture	Applying methods in the classroom
Eleventh / Twelfth	4	The learner should be able to identify the most important teaching methods used in teaching science.	The Five-Stage Learning Cycle Method The Scientific Stations Method	Discussion	Applying methods in the classroom
Thirteenth / Fourteenth	4	The learner should be able to identify the most important teaching methods used in teaching science.	The historical method – the scientific story – using picture puzzles in science teaching	recitation	applying the methods in the classroom

1. Course Evaluation
Oral exam: 5 Daily preparation: 5 Practical activities: 10 Monthly exams: 20 Total: 40 degrees Final exam: 60 marks
2. Learning and teaching resources
Cognitive learning and teaching strategies / Prof. Dr. Youssef Qatami Active learning strategies / Prof. Dr. Ambo Saidi – Hoda bint Ali Al Hosaniyah Scientific education and science teaching / Prof. Dr. Muhammad Al–Sayed Ali Methods of teaching educational and psychological sciences / Prof. Dr. Anwar Hussein Abdel Rahman, Prof. Dr. Falah Al–Safi
Supporting sources and references (scientific journals, reports....)

Course Description Form

1. Course Name
Curricula and Textbooks
2. Course Code
UWA26 – BEDU- SCI- 204
3. Semester/Year
Sixes / 2025-2026
4. Available attendance forms
10-3-2026
5. (Number of study hours (total) / Number of units (total
30 hours / 2 units
(Name of the course administrator (if more than one name is mentioned
: Abdul Zahra Kazar Jader Youssef Abdel-zahraQzar@uowasit.edu.iqEmail
1. Course objectives .
1. Building advanced competencies in critical reading, analytical writing, and quantitative thinking, with a focus on integrating these skills across disciplines. 2. Enabling students to apply scientific research skills to solve problems in a systematic manner, by providing advanced tools and methods. 3. Enhancing students' ability to manage academic and professional projects using creative thinking techniques. 4. Focusing on developing effective communication and negotiation skills as part of the competencies necessary for professional success.

1. Teaching and learning strategies

1. Enabling students to define their educational goals ..
 2. Using different learning resources such as books, articles and digital sources.
 3. Enhancing time management skills and personal effort
- Collaborative learning:
4. Working in groups to exchange ideas and experiences.
 5. Developing leadership, negotiation and conflict resolution skills

Strategy

5.

1. Course structure

Unit or Topic Learning Method Evaluation Method	Unit or Topic Learning Method Evaluation Method	Unit or Topic Learning Method Evaluation Method	Unit or Topic Learning Method Evaluation Method	Unit or Topic Learning Method Evaluation Method	Unit or Topic Learning Method Evaluation Method
First-Second	First-Second	First-Second	First-Second	First-Second	First-Second

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1. Course Evaluation
Oral Exam: 5 Daily Preparation: 5 Daily Exams: 5 Activities: 5 Monthly Exams: 20 Total: 40 marks Final Exam: 60 marks
1 Learning and teaching resources
Curriculum and School Book by Dr. Dawood Abdul Salam –(Main References (Books Sabry and Zainab Hamza Raji Arabic Language, Its Curricula and Teaching Methods by Dr. Taha Hussein Al-Dulaimi and Suad Abdullah Abbas Al-Waili (.Supporting Sources and References (Educational Magazines, Reports, and Research

Course Description Form

1. Course Name:	
Electronics	
2. Course Code:	
UWA26-BEDU-SCI-315	
3. Semester / Year:	
6th semester / 2026	
4. Description Preparation Date:	
27-1-2026	
5. Available Attendance Forms:	
Classroom + laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
70 Hours/ 3 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lec. Masar abd kaood Email: Masar.Abd@uowasit.edu.iq	
8. Course Objectives	
Learn about ionic and thermal emission, which is concerned with the study of electronics that enables the relationship between binary and ternary, and study the importance of this science and the relationship of physics to other sciences, as well as learn about the types of donor and acceptor crystals that came as a result of discoveries, experiments and efforts of a large number of those working in science.	
9. Teaching and Learning Strategies	
Strategy	1-Developing students' positive attitudes towards the subject 2- Achieving the objectives of the educational content in identifying the ionic and thermal emission that is concerned with the study of electronics that enables the relationship between the diode and the triode and studying the importance of this science and the

	relationship of physics to other sciences
	3-Explaining the transistor and its types and the concept of its

1. Course Evaluation

Explaining the basic amplifiers

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	3	Ion emission	Ion emission	Discussion	questions and answers
3-4	3	Semiconductors	Semiconductors	Communicative + Practical laboratory	Oral Test
5-6	3	Transistors	Transistors	Discussion + Practical laboratory	First monthly exam
7-8	3	Feedback	Feedback	Communicative + Practical laboratory	Discussion
9-10	3	Wave Oscillations	Wave Oscillations	Communicative + Practical laboratory	Daily exam
11-12	3	Basic Amplifiers	Basic Amplifiers	Discussion + Practical laboratory	Second month exam
13-14	3	Electrical Conductivity	Electrical Conductivity	Discussion + Practical laboratory	Oral test
15	3				End of semester exam

Oral exam: 5
Daily preparation: 5
Conducting experiments and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main References (Books)
Electronics

Supporting sources and references (scientific journals, reports, etc.)

Course Description Form

1. Course Name:	
Solid State Physics	
2. Course Code:	
UWA26- BEDU- SCI – 316	
3. Semester/Year:	
Sixth semester/2026	
4. Description Preparation Date:	
2-2-2026	
5. Available Attendance Forms:	
Classroom and online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
45 hours / 3 units	
7. Course administrator's name (mention all, if more than one name)	
Prof. Dr. Ghazi Kamal Saeed Email: gkamal@uowasit.edu.iq	
8. Course Objectives	
• This program aims to teach students the fundamentals of solid-state physics: • Understanding crystalline and amorphous solids. • Identifying different crystalline systems	
9. Teaching and Learning Strategies	
Strategy	1. This program aims to teach students about crystalline and amorphous solids. 2. Types of bonding in solids. 3. Different crystalline systems. 4. Crystal defects.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	3	Introduction to Crystallography	- Intermolecular forces - Local energy - Types of crystalline solids	Discussion and dialogue	Questions and Answers
2	3	Crystalline and non-crystalline solids	- The difference between crystalline and amorphous materials. - Crystal structures and systems	Discussion, dialogue and illustrations	Questions and Answers
3	3	crystal structure	- The concept of crystal structure - Crystal patterns	Discussion, dialogue and homework	Questions and Answers
4	3	lattice translation vectors	- Fundamental vectors - Three-dimensional spatial structures	Daily discussion, dialogue and exam	Questions and Answers
5	3	Cell unit: Cell unit area and cell unit volume	-Definition of a cell unit -Calculating the area of a cell unit -Calculating the volume of a cell unit	Discussion, dialogue and homework	Questions and answers
6	3	Types of cell unit	Types of cell units based on differences in dimensions and angles	Discussion, dialogue and homework	Questions and answers, first month exam
7	3	crystal systems	- The seven crystal systems and how to distinguish between them - Bravias structures - Filling factor for different cubic states (sc, bcc, fcc)	Discussion, dialogue and homework	Questions and answers
8	3	Crystal defects: concept and types	Crystal defects: their concept, types, disadvantages, and benefits	Discussion, dialogue and homework	Questions and Answers
9	3	Point defects	Definition of point defects and their types: Frenkel defect, Schottky defect	Discussion, dialogue and homework	Questions and Answers
10	3	linear defects	- Identifying linear defects - Marginal dislocation - Spiral dislocation	Discussion, dialogue and homework	Questions and Answers
11	3	Surface defects and volumetric defects	-Definition of surface defects -Internal surface defects, grain boundaries, compaction errors -Volumetric defects, cracks, large voids (gaps)	Discussion, dialogue and homework	Questions and Answers
12	3	Diffusion in solids	- Definition of diffusion - Diffusion in solids - Causes of diffusion	Discussion, dialogue and homework	Questions and Answers
13	3	Ionic crystals, some types	- Explanation of Ionic Solid Crystals. - Types of Ionic Crystals - Expansion of the Sodium Chloride Crystal	Discussion, dialogue and homework	Questions and answers, second month exam
14	3	Covalent crystals, some types	- Explanation of covalent solid crystals - Types of covalent crystals - Expansion of the diamond crystal	Discussion, dialogue and homework	Questions and Answers
15	3	Miller Indices	- The purpose of Miller Indices - How to calculate Miller Indices - Numerous illustrative examples	Discussion, dialogue and homework	Questions, answers and review

11- Corse Assessment:

Oral Exam: 5 marks

Daily Preparation: 5 marks

Completion of Activities, Reports, and Attendance: 10 marks

Monthly Exams: 20 marks

- Total (Representing the Course): 40 marks

- Final Exam: 60 marks

12- Learning and teaching resources

Main References (Books)

- Modern Physics / Muhammad Ahmad Aboud Al-Jubouri, Dr. Kamal Nasr Abdul-Nour
- Foundations of Crystallography / Dr. Najah Sadiq Jamil
- Fundamentals of Solid State Physics / Dr. Raafat Kamel Wasef
- Introduction to Solid State Physics / Charles Kittel
- Internet Resources

Supporting sources and references (scientific journals, reports...)



Prof. Dr. Ghazi K. Saeed

Course Description Form

1. Course Name:	
Radioactivity	
2. Course Code:	
UWA26-BEDU-SCI-317	
3. Semester/Year:	
Sixth semester 2025- 2026	
4. Description Preparation Date:	
9-2-2026	
5. Available Attendance Forms:	
Classroom, laboratory and online classroom	
6. Number of Credit Hours (Total) /Number of Units (Total)	
45 hours / 3 units	
7. Course administrator's name (mention all, if more than one name)	
Asst. teacher. Rusul .H. Ahmed. Email: ralsady03@gmail.com	
8. Course Objectives	
1. Understand the concept of radiation and its types, natural and artificial. 2. Understand the basic concepts in radiation. 3. Derivative of the law of radioactive decay-decay constant- chronological age - age rate. 4. Identify nuclear rays (types and generation). 5. Identify nuclear reagents. 6. Distinguish between depleted and enriched uranium. 7. How to use nuclear energy.	
9. Teaching and Learning Strategies	
Strategy	1. Introduce students to the importance of radioactivity. 2. Develop and enabling students to understand the topics radioactivity and study its types. 3. Learn about the types of nuclear rays, nuclear , and how to use nuclear energy.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or Subject Name	Learning Method	Evaluation Method
1	3	Definition of radioactivity	Radioactivity	Definition of radioactivity	Questions and Answers
2	3	Types of radioactivity	Radioactivity	Discussion, dialogue and homework	Questions and Answers
3	3	Basic concepts in radioactivity	Radioactivity	Discussion, dialogue and homework	Questions and Answers
4	3	Nuclear energy between the components of the nucleus	Radioactivity	Discussion, dialogue and homework	Questions and Answers
5	3	Derivation of the law of radioactive decay – decay constant	Law of radioactive decay	Discussion, dialogue and homework	Questions and answers
6	3	Derivation of half-life and rate of life	Law of radioactive decay	Discussion, dialogue and homework	Questions and Answers
7	3	Nuclear rays and their types	Nuclear rays	Discussion, dialogue and homework	Questions and answers, first month exam
8	3	How to generate nuclear rays	Nuclear rays	Discussion, dialogue and homework	Questions and Answers
9	3	Nuclear reagents	Nuclear reagents	Discussion, dialogue and homework	Questions and Answers
10	3	Types of nuclear reagents	Nuclear reagents	Discussion, dialogue and homework	Questions and Answers
11	3	Depleted Uranium	Depleted and enriched uranium	Discussion, dialogue and homework	Questions and Answers
12	3	Enriched Uranium	Depleted and enriched uranium	Discussion, dialogue and homework	Questions and Answers
13	3	Peaceful applications of depleted Uranium	Depleted and enriched uranium	Discussion, dialogue and homework	Questions and Answers
14	3	Use of nuclear energy	Uses of nuclear energy	Discussion, dialogue and homework	Questions and answers, second month exam
15	3	Medical and military applications	Uses of nuclear energy	Discussion, dialogue and homework	Questions, answers and review
11- Course Assessment:					

Daily exams and activities: 20%

Monthly exams: 20%

Total: 40%

Final exam: 60%

12- Learning and teaching resources

Main References (Books)

1 – Atomic ... Dr. Abbas H

2 – Concepts in modern physics Translate by Dr. Moneim Sh. And Shaker J.Shaler

3- Nuclear physics Translate by Assem A.

Supporting sources and references (scientific journals, reports...)

Course Description Form

1. Course name	
Immunology	
2. Course code	
UWA26-BEDU-SCI-317	
3. the chapter/Year	
SIXTH Semester / 2025-2026 (Theory and practical)	
4. Date this description was prepared	
5-3-2026	
5. Available attendance forms	
Classroom	
6. Number of study hours (total) / Number of units (total)	
52 Hours / 3 Units	
7. Name of the course administrator (if more than one name is mentioned)	
Assist. Prof. Dr. Ali Saad Al-Budairi and Lecturer: Landa Khalaf Kanawi	
8. Course objectives	
At the end of the course, the student will be able to: 1. Recognize basic concepts such as immunity, antibodies, sera, and vaccines. 2. Explain the differences between the sections of the immune system. 3. Apply immunological tests such as ELISA and agglutination tests. 4. Analyze the cellular components involved in the primary immune response. 5. Evaluate the response and acceleration time of immune responses using scientific data. 6. Design a scientific poster illustrating immune responses.	
9. Teaching and learning strategies	
1. Lecture 2. Discussion 3. Problem-based learning 4. Project-based learning 5. Active learning activity cards 6. Six thinking hats strategy 7. Brainstorming	Strategy
10. Course structure	

Week	Hours	Intended Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1	4	The student understands the basic concepts of immunology	Introduction to Immunology Concepts	Lecture	Essay Tests
2	4	The student distinguishes between types of antibodies	Classification of Antibodies Based on Structure	Lecture, Discussion, Brainstorming	Performance Tests
3	4	The student analyzes biological fluids and determines appropriate immunological parameters related to diseases	Immunotherapy and Serological Tests	Active and Asynchronous Learning	Performance Tests
4	4	The student differentiates between microbial and autoimmune responses	Cancer Response and Origin of Immune Cells Involved in Responses	Lecture and Brainstorming	Performance Tests
5	4	The student identifies immune-generating tissues	Lymphoid Organs	Lecture and Problem-Based Learning	Essay Tests
6	—	—	First Monthly Exam	—	—
7	4	The student identifies the type of immunity stimulated against	Microbial Immunity	Lecture, Presentation, Discussion, Six Thinking Hats	Objective Tests

		microbes			
8	4	The student analyzes the immune response against fungi	Fungal Immunity	Lecture, Presentation, Discussion, Six Thinking Hats	Objective Tests
9	4	The student distinguishes the immune response against viruses	Viral Immunity	Lecture, Presentation, Discussion, Six Thinking Hats	Objective Tests
10	4	The student recognizes autoimmune immunity	Autoimmune Response	Discussion	Performance Tests
11	4	The student distinguishes cancer immunity	Cancer Immunity Response	Six Thinking Hats	Performance Tests
12	4	The student differentiates between types of immunity	Immune Responses	Brainstorming	Performance Tests
13	4	The student develops innovative thinking in immunology and molecular therapy	CRISPR Technology	Presentation	Thinking Cards
14	4	The student applies laboratory equipment in practice	Types of Antigens and Antibodies	Practical Application	Question Cards
15	—	—	Second Monthly Exam	—	—

11. Course Evaluation

Assessment Type

Marks

Monthly Exam	20
Practical Exams	10
Activities	5
Attendance	5
Total Continuous Assessment	40 Marks
Final Exam	60 Marks
Total Course Marks	100 Marks
12. Learning and teaching resources	
Immunology (Male, Brostoff, Roth & Roitt),2025	
thesourcesSupporting references (scientific journals, reports, etc.)	

Course Description Form

1. Course name	
Entomology	
2. Course code	
UWA26-BEDU-SCI-319	
3. the chapter/Year	
Sixth semester/2025-2026	
4. Date this description was prepared	
9-2-2026	
5. Available attendance forms	
Classroom	
6. Number of study hours (total) / Number of units (total)	
30 hours/ 3 lonliness	
7. Name of the course administrator (if more than one name is mentioned)	
Dr. Raad Saad Sultan	
8. Course objectives	
Understand the concept of Entomology especially of Arthropods and insects include body regions, head, thorax, abdomen, integument, metamorphosis and reproduction.	
9. Teaching and learning strategies	
1- Introducing students to the importance of arthropods structure . 2- Develop and enable students to understand life of insects. 3- Learn about the body regions, head, thorax, abdomen, integument, metamorphosis and reproduction .	Strategy
10. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Watches	The week
AskAndAnswersAnd viva voce	Discussion and dialogue	Arthropods	. Arthropods	4	First-Second
	Communication + Illustrations	insects	insects	4	Third-fourth
examFirst month	Discussion and discussionAre	body regions	body regions	4	Fifth-Sixth
AskAndAnswersAnd		head	head	4	Seventh-Eighth
	Communication + Illustrations	thorax	thorax	4	Ninth - Tenth
examdaily					
	Communication + Illustrations	abdomen	abdomen	4	Eleventh - Twelfth
Second month exam		integument	integument	4	
viva voce	Discussion and dialogue	metamorphosis	metamorphosis	4	Thirteenth - Fourteenth
End of term exam	Discussion and dialogue	reproduction	reproduction		fifteenth

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11. Course Evaluation

Daily preparation: 6

Daily exams:2 Activities: 2

Monthly exams: 30 Total: 40 degree

Final Exam: 60 marks

12. Learning and teaching resources

Main references (Books)

Entomology references

thesourcesSupporting references (scientific journals, reports, etc.)

Course Description Form

1. Course Name:

Plant Taxonomy

2. Course Code:

UWA26 – BEDU – SCI – 320

3. Semester / Year:

Six semester / 2026

4. Description Preparation Date:

3-3-2026

5. Available Attendance Forms:

Classroom

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

30 Hours/ 2 Units

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

Name: Lect. Dr. Hanan Hameed Atiyah AlQaragholy

Email: Hanan.Hamid@uowasit.edu.iq

8. Course Objectives

- The main goal of plant classification is to try to find a method or system for placing plants in groups based on the similarities and genetic relationships that link them to facilitate the task of studying them.
- Giving a scientific name for each new plant discovered, according to international rules of plant nomenclature.

9. Teaching and Learning Strategies

Strategy

- 1- Introducing students to the importance of plant classification.
- 2- Develop and enable students to know the types of plants and the systems used to group plants
- 3- What is the correct way to name plants and what is the relationship of plant taxonomy to other sciences.

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation
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		Outcomes			method
1-2	4	Taxonomy	Know the importance of plant taxonomy	Discussion and Communicative	questions and answers
3-4	4	Seed plants	Know the types of seed plants	Discussion and Communicative	Oral Test
5-6	4	Plant leaf, Leaf veining	Knowing the types of plant leaves, Knowing the types of venation in plant leaves	Discussion and Communicative	questions and answers
7-8	3	First monthly exam			First monthly exam
9-10	4	Flower	Know the types of flowers	Discussion and Communicative	Daily exam
11-12	4	Pollination , Fertilization	Knowing the types of pollination and the factors that help in pollination, How does the fertilization process occur in plants and what are the factors that help in the success of the process	Discussion and Communicative	
13-14	3	Second month exam			Second month exam
15	3				End of semester exam

1. Course Evaluation

Oral exam: 5
Daily preparation: 5
Daily exams and reports : 10
Monthly exams: 20
Total: 40 degrees
Final exam: 60 marks

2. Learning and teaching resources

Main references (books)

1- Dr . Areej Abdel Sattar

2- Dr . Please Fadel Hamdi

(Supporting sources and references (scientific journals, reports))