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

2024

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

Faculty/Institute: College of Education for Pure Science

Scientific Department: Biology

Academic or Professional Program Name: Bachelor

Final Certificate Name: Bachelor of Education in Biological Science

Academic System: Annual

Description Preparation Date: 2023–2024

File Completion Date: 2023–2024

Signature:

Head of Department Name:

Prof. Ali Hussein Shuaa

Date: 7/4/2024

Signature:

Scientific Associate Name:

Assist. prof. Mahdi Alwan Abood

Date: 7 / 4/ 2024

Assist Prof. Dr.Mahdi Alwan Al-Quraishi
Asst Dean for Academic Affairs
& Graduate Studies

The file is checked by: Lec. Saja Hussain Dilfy

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature: 7/ 4/ 2024

Prof.
Dr.Ali H. Shuaa Al-Taie
Dean of Education College
for Pure Science
7/ 4 / 2024

Approval of the Dean

Academic Program Description Form

University Name: **Wasit**

Faculty/Institute: **College of Education for Pure Science**

Scientific Department: **Biology**

Academic or Professional Program Name: **Bachelor**

Final Certificate Name: **Bachelor of Education in Biological Science**

Academic System: Annual

Description Preparation Date: **2023–2024**

File Completion Date: **2023–2024**

Signature:
Head of Department Name:
Prof. Ali Hussein Shuaa
Date:

Signature:
Scientific Associate Name:
Assist. prof. Mahdi Alwan Abood
Date:

The file is checked by: **Lec. Saja Hussain Dilfy**
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. Program Vision

The Mathematics Department aspires to leadership and excellence in various fields of mathematics, aiming to achieve quality standards and programmatic accreditation that distinguish it academically and scientifically at the local, Arab, regional, and global levels. It seeks to elevate the performance level across various fields of mathematics to rank among the top educational departments in Iraq in scientific analysis. Additionally, it is imperative to keep pace with the advancements in higher education by providing the best services and facilities for academic staff, offering training and development opportunities for technicians and administrators, and involving students in activities that enhance their skills, fostering creativity and innovation.

2. Program Mission

The Mathematics Department aims to prepare individuals to become educators and mentors equipped with theoretical and applied knowledge in various fields of mathematics, possessing critical thinking skills and scientific research abilities in different branches of mathematics to ensure sustainable human development in accordance with the requirements of the era.

The department seeks to produce graduates with logical scientific thinking and scientific research skills in various branches of mathematics. Additionally, it strives to provide nationally-supported outputs with sciences and knowledge contributing to the development of our beloved country. This is achieved through offering the best modern scientific techniques for educational services to students at the university and higher education levels, and working on developing skills that enable them to integrate into all fields quickly. Moreover, the department aims to enhance the level of educational and administrative processes by providing the

best performance, speed, and accuracy in achievement. It supports scientific research activities and cognitive interaction to maintain continuous communication with scientific and cultural developments worldwide, meeting the evolving needs of the community to achieve comprehensive human development.

3. Program Objectives

1. Preparing teaching staff to support middle, secondary, and preparatory schools, equipped with the necessary teaching skills for mathematics through departmental scientific programs and activities.
2. Training academic personnel in the field of postgraduate studies, specifically Master's degrees in various branches of mathematics, to meet the requirements of the job market and support the educational and pedagogical process in our beloved Iraq.
3. Preparing qualified students to teach students in middle and preparatory schools.
4. Equipping students with pedagogical methods specialized in teaching.
5. Ensuring that graduating students are proficient in the fundamental concepts of mathematics.
6. Ensuring that students are qualified to pursue higher studies to supply universities and institutes with teaching staff.
7. Activating mechanisms for mutual cooperation and openness to various local, regional, and international universities and educational institutions in a manner that encompasses all components of the educational system.

4. Program Accreditation

No

5. Other external influences

Is there a sponsor for the program?

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	39	190	%100	Specialized+optinal
College Requirements	15	52	%38.49	Specialized
Department Requirements	19	120	%48.7	Specialized+optinal
Summer Training	1	4	%2.56	Specialized
Other	1	4	%2.56	Specialized

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours		
			Theoretical	Practical	
first stage	B11	General Biology	2	2	
first stage	C11	Cell biology	2	2	
first stage	P11	Plant anatomy	2	2	
first stage	CH11	General Chemistry	1	2	
first stage	G11	Geology	1	--	
first stage	COMI47-1	Computer Science	--	2	
first stage	108CsEs	Educational Psychology	2	--	
first stage	110CsHr	Human rights	1	--	

first stage	107CsAl	Arabic language	1	--	
first stage	105CsBb	Foundation Education	2	--	
first stage	106CsEl	English Language	1	--	
Second stage	V22	Invertebrates	2	2	
Second stage	P22	Plant taxonomy	2	2	
Second stage	H22	Histology	2	2	
Second stage	E22	Embryology	2	2	
Second stage	CHBI22	Biochemistry	2	2	
Second stage	COMI47-2	Computer science	--	2	
Second stage	216CsEm	Secondary education And educational administration	2	--	
Second stage	S22	Biostatistics	1	2	
Second stage	217CsDp	Educational Psychology	2	--	
Second stage	215CsEl	English Language	1	--	
Second stage	221CsAl	Arabic Language	1	--	
Second stage	222CsBc	Baath Party crimes	1	--	
Third stage	O33	Ecology and pollution	2	2	
Third stage	133	Entomology	2	2	
Third stage	N33	Comparative anatomy of chordata	2	2	
Third stage	G33	Genetics	2	2	
Third stage	F33	Mycology	2	2	
Third stage	L33	Algae	2	2	
Third stage	323CsAp	Scientific research Curriculum and philosophy	2	--	
Third stage	324CsCt	Curriculum and methods of teaching	2	--	
Third stage	323CsMP	Educational counselor and Psychological health	2	--	
Fourth stage	R44	Parasitology	2	2	
Fourth stage	A44	Animal physiology	2	2	
Fourth stage	B44	Molecular Biology	2	2	
Fourth stage	P44	Plant physiology	2	2	
Fourth stage	M44	Microbiology	2	2	
Fourth stage	I44	Immunology	1	2	
Fourth stage	430CsPe	Viewing and application	2	--	
Fourth stage	428CsMe	Measuring and evaluation	2	--	
Fourth stage	429CsP	Scientific research Curriculum and philosophy	2	--	

8. Expected learning outcomes of the program

Knowledge	
A1: The student gets to know the biological scientific concepts of plants A2:For the student to become familiar with the biological scientific concepts of animals A3: For the student to become familiar with the behavioral scientific concepts associated with the learning process of microbiology	A1: Students should acquire in-depth knowledge in various fields of life sciences such as biology, genetics, botany, zoology, and microbiology. A2: Students must gain a deep understanding of how to utilize and utilize laboratory equipment A3: Students should become familiar with the behavioral science concepts associated with the learning process of immunity A4: Students must acquire the skills to conduct some laboratory analyses A5: Preparing trained and qualified cadres to work in educational institutions. A6: The student learns to use various methods in teaching.
Skills	
B1: Teaching skill in biology B2: The student must have the ability to describe models and laboratory environments. B3: The student should be able to understand the basics of the operation of laboratory equipment used in examination and evaluation. B4: The student must have the ability to link causes to natural causes. B5: The student's knowledge of measurement and evaluation methods and modern teaching methods in life sciences. In addition to enabling the student to know the theories related to the ages of students in the secondary school stage. B6: Knowing the goals and principles of the art of teaching life sciences.	
Ethics	
J1: Adherence to professional ethics. J2: Promoting innovation and creativity J3: Analytical thinking and problem solving J4: Communication and teamwork	J1: Students are encouraged to understand and apply professional ethical values in the field of information technology and computer science, such as honesty, respect, responsibility, privacy protection, and security. J2: Students are encouraged to innovate and create in the field of life sciences

	J3: Sstudent's must have the ability to understand the study material J4: Students should be able to communicate and collaborate effectively with other students and work in multidisciplinary teams effectively

9. Teaching and Learning Strategies

The strategies and teaching methods adopted in implementing the program include:

1.Active learning and participation.

2.Project learning.

3. Cooperative learning.

4- Problem-based learning.

5. Lecture method using technology for learning.

6. Stimulate curiosity and exploration.

7. Laboratory teaching strategies.

10. Evaluation methods

1. Monthly exams.
2. Daily quizzes.
3. Group projects.
4. Reports.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Akmam ali habeeb	Biology	Zoology			yes	
Alaa Naji Salih	Veterinary Medicine and surgery	Histology and Anatomy			yes	
Ali Fayyadh Bargooth	Veterinary Medicine	Animal Histology			yes	
Alyaa Abdukridha Hanash	Biology	zoology			yes	
Amjaad Majeed Ali	Biology	Medical Microbiology			yes	
Asia Naaji Obaid	Biology/ plant	Mycology			yes	
Duha Abdul Hadi Hamza	Biology	Zoology			yes	
Dunya talib mahdi al-rawdhan	Biology	Medical microbiology			yes	
Firas Rahi Handhal Al-Alhachami	Biology	Genetics			yes	
Firas Adnan Hussein	Biology	Microbiology			yes	
Haider Abbas Fadhel	Soil and water resources sciences	Soil Microbiology			yes	
Haider Ali Nasir	Veterinary Medicine	Embryo			yes	
Hawraa salah saad	Biology	zoology			yes	
Hayder Atta Abdul-Jabbar Hasan	Biology	Zoology			yes	
Hazim Jasib Sahaib	Teaching curricula and methods	Chemistry curricula and teaching methods			yes	

Huda Badr Hussein	Biology	Zoology			yes	
Huda Hadi Raheem	Biology	Zoology			yes	
Intisar Hussein Ahmed	Biology	Genetics			yes	
Israa Jalil Hussein	Biology/ Zoology	Zoology			yes	
Marwa Mahdi Khalaf	Zoology	Cytofentic			yes	
Marwa Thaer Abed	Biology	Zoology			yes	
marwan saleh mahdi	Biology	Biotechnology			yes	
Mazin Maky Thamer	Master of science/ Biology	Immunity			yes	
Mohammed jssim abd ulamer	Curricula and methods of teaching life sciences	Curricula and methods of teaching life sciences			yes	
Mustafa Kareem Qasim	Biology	Microbiology			yes	
Mustafa Naeem Nuhair AL_Sarray	Medical Microbiology	Immunology			yes	
Nabaa Abass Hasan	Biology	Zoology			yes	
Nasreen Habib Humaidan	biology	Animal physiology			yes	
Noor Naeem Shakir	Biology	Zoology /parasite			yes	
Rana Jaafar Abed	Biology Science	Zoology			yes	
Rawaa mohsin kuhdhair	Educational and psychology science	Education psychology			yes	
Rehab Abdulrazzaq Abdulhassan	Biology	Zoology			yes	
Riyadh Radhi Mohammed	Chimestry	Analysis Chimestry			yes	
Sada Jassim Abdul Ameer	Biotechnology	Cytogenetic			yes	
Saja Hussain Dilfy	Biology	Zoology/Histology			yes	

Sajjad jawad kadhim	Zoology	Histology			yes	
Shahad kadhim jaafar	Biology	Animal science			yes	
Shifaa Ali Abdulmohsin	Biology	Fungi			yes	
Suadad Breesam Khari	Biology	Zology			yes	
Tayseer shamran atheab	Biology	Zoology			yes	
Zafir Hassan Ghali	Biology	Molecular genetics			yes	
Zahra karem hady	Biology	Zoology			yes	
Zahraa Naeem khalaf	Biology	Zoology			yes	
Zahraa Eisaa Sadeq	Microbiology	Immunity			yes	
Zainab Kadhim Hashim	Biology	Parasitology			yes	

Professional Development

Mentoring new faculty members

1- Development and Training Programs

2- Guidance and Mentoring Programs

3- Participation in Professional Learning Communities

4- Academic Counseling

Professional development of faculty members

1- Needs Analysis

2- Implementation of Training Programs and Workshops

3- Application of Modern Teaching Strategies

4- Monitoring and Performance Evaluation

5- Feedback Evaluation and Support

12. Acceptance Criterion

1. **central admission**

2. **Parallel Admission**

3. **Admission for Top Teachers**

13. The most important sources of information about the program

- Sectorial Committee
- Ministerial Committees for Curriculum Development
- University and College Website
- Ministry of Higher Education and Scientific Research Website

14. Program Development Plan

Applying accreditation standards for educational colleges.

Program Skills Outline															
				Required program Learning outcomes											
Year/ Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First	B11	General Biology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	C11	Cell biology	Basic	√	√	√	√								
	P11	Plant anatomy	Basic	√	√	√	√					√	√	√	√
	CH11	General Chemistry	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	G11	Geology	Optional					√	√	√	√				
	COMI47-1	Computer Science	Optional	√	√	√	√								
	108CsEs	Educational Psychology	Basic	√	√	√	√								
	110CsHr	Human rights	Optional	√	√	√	√								
	107CsAl	Arabic language	Basic	√	√	√	√								
	105CsBb	Foundation Education	Basic	√	√	√	√								
	106CsEl	English Language		√	√	√	√								

Second	V22	Invertebrates	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	P22	Plant taxonomy	**Basic**	√	√	√	√	√	√	√	√	√	√	√	
	H22	Histology	**Basic**	√	√	√	√	√	√	√	√	√	√	√	
	E22	Embryology	**Basic**	√	√	√	√	√	√	√	√	√	√	√	
	CHBI22	Biochemistry	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	COMI47-2	Computer science	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	216CsEm	Secondary education And educational administration	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	S22	Biostatistics	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	217CsDp	Educational Psychology	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	215CsEl	English Language	**Optional**					√	√	√	√				
	221CsAl	Arabic Language	**Optional**					√	√	√	√				
	222CsBc	Baath Party crimes	**Optional**					√	√	√	√				
Third	O33	Ecology and pollution	**Basic**					√	√	√	√				

	133	Entomology	**Basic**					√	√	√	√				
	N33	Comparative anatomy of chordata	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	G33	Genetics	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	F33	Mycology	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	L33	Algae	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	323CsAp	Scientific research Curriculum and philosophy	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	324CsCt	Curriculum and methods of teaching	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	323CsMP	Educational counselor and Psychological health		√	√	√	√								
	R44	Parasitology	**Basic**	√	√	√	√								
	A44	Animal physiology	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	B44	Molecular Biology	**Optional**	√	√	√	√	√	√	√	√	√	√	√	√
	P44	Plant physiology	**Basic**									√	√	√	√
	M44	Microbiology	**Basic**									√	√	√	√

	I44	Immunology	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	429CsP	Viewing and application	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	428CsMe	Measuring and evaluation	**Basic**	√	√	√	√	√	√	√	√	√	√	√	√
	430CsPe	Scientific research Curriculum and philosophy	**Optional**	√	√	√	√								

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

Course Description Form

1. Course Name:	
General biology theoretical part	
2. Course Code:	
BIO11	
3. Semester / Year:	
2023-2024	
4. Description Preparation Date:	
2023-2024	
5. Available Attendance Forms:	
Actual mandatory attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
6. Number of study hours (60 hours) / Number of units (6 units) Two hours a week	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecturer Dr. Saja Hussain Dilfy Email: sdilfy@uowasit.edu.iq	
8. Course Objectives	
Course Objectives	1- The cognitive dimension: (a) It provides the student with ideas, information, data, and basic principles for the topics of this subject in terms of their emergence and role in improving and developing the teaching process.(b) That the student understands the concepts contained in this course and is able to apply them practically. 2- The emotional dimension: (a) Helping the student develop his abilities and inclinations towards understanding the topics of this study subject. (b) Developing the student's attitudes and interests towards understanding the basic principles of this academic subject and employing them in the field of education (teaching). 3- The psychomotor dimension (skills): (a) Developing the student's ability to master the skill of investigating the facts, basics and principles of this academic subject into practical performance practices that can be

	observed.(B): Training the student in the basic skills that enable him to invest and employ the concepts and principles of this subject in his field of work after graduation.

9. Teaching and Learning Strategies

Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Knowledge	Introduction to biology _Overview _The development of biology _The importance of biology _Branches of biology	Using the display screen and e-learning programs	Daily exam Oral and written
2	2	Knowledge	Attributes of life _Defining the characteristics of life _The main method of construction of living matter	Using the display screen and e-learning programs	Daily exam Oral and written
3	2	Knowledge	Attributes of life Skeletal system Dermalor Integumentary system	Using the display screen and e-learning programs	Daily exam Oral and written
4	2	Knowledge	Attributes of life Digestive system	Using the display screen and e-learning programs	Daily exam Oral and written
5	2	Knowledge	Attributes of life _Circulatory system	Using the display screen and e-learning programs	Daily exam Oral and written

6	2	Knowledge	Classification of living things _Historical stages _Classification systems _Basics of classification of plants and animals _ The concept of type	Using the display screen and e-learning programs	Daily exam Oral and written
7	2	Knowledge	Classification of living things Sections and phyla of the animal kingdom	Using the display screen and e-learning programs	Daily exam Oral and written
8	2	Knowledge	Reproduction and growth _Reproduction and growth in plants _Reproduction and growth in animals	Using the display screen and e-learning programs	Daily exam Oral and written
9	2	Knowledge	Hormonal coordination _the introduction _Coordination in animals and plants	Using the display screen and e-learning programs	Daily exam Oral and written
10	2	Knowledge	Development _Theories of evolution _The evolution of low animals _Evolution of vertebrates Behavior of living things _The nervous system and behavior _Innate and learned	Using the display screen and e-learning programs	Daily exam Oral and written

11	2	Knowledge	behavior _Hierarchical dominance in animal groups _Orientation in time and place _ Mass movement and migration	Using the display screen and e-learning programs	Daily exam Oral and written
12	2	Knowledge	Ecology _Some concepts about the environment and its sources of pollution _environmental system _Biogeochemical cycles _Energy flow _The food chain _food web _Aquatic and terrestrial biomes	Using the display screen and e-learning programs	Daily exam Oral and written

11.Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student
Quest 40
28 theoretical (daily attendance 2, daily exam 3, scientific reports 3, monthly exam 20)
12 practical
Final exam 60
Final grade 100

12.Learning and Teaching Resources

Required textbooks (methodology, if any)	Book of basics of zoology
Main references (sources)	Biology Part 1, Part 2: A committee from the Ministry of Higher Education and Scientific Research.
Recommended supporting books and references (scientific journals, reports)	-Elementary text-book of zoology -General part and special part :protozoa to insecta .by dr. C. Glaus, -Professor of zoology and comparative anatomy In university of vienna ; director of the Zoological stati

	at trieste. Mcgraw-hill Book company, inc.1948
Electronic references, Internet sites	https://www.muhadharaty.com/

Course Description Form

13. Course Name:	
Practical general biology	
14. Course Code:	
BIO11	
15. Semester / Year:	
2023-2024	
16. Description Preparation Date:	
2023-2024	
17. Available Attendance Forms:	
Actual mandatory attendance	
18. Number of Credit Hours (Total) / Number of Units (Total)	
6. Number of study hours (60 hours) / Number of units (6 units) Two hours a week	
19. Course administrator's name (mention all, if more than one name)	
Name: Lecturer Dr. Saja Hussain Dilfy Email: sdilfy@uowasit.edu.iq Name: Lecturer Rana Jaafar Abdul Email: rjaafar@uowasit.edu.iq	
20. Course Objectives	
Course Objectives	A- It provides the student with ideas, information, data, and the basic principles of this subject in terms of its emergence and its role in improving and developing the teaching process. B_ That the student understands the concepts contained in this subject and is able to apply them practically C- Helping the student to develop his abilities and inclination towards understanding the topics of this study subject The psychomotor dimension (skills) (a)

	Developing the student's ability to master the skill of investigating the facts, basics and principles of this subject Training the student on the basic skills that enable him to invest and employ the concepts and principles of this subject in his field of work after graduation

21. Teaching and Learning Strategies

Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

22. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Knowledge	Introduction to biology Tools and devices used in laboratories Chordates Invertebrates Histology Connective connective tissue Anatomy of a frog the plants	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
2	2	Knowledge	Taxonomy	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
3,4,5	2	Knowledge	Cell life cycle	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam

6,7	2	Knowledge	cell	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
8	2	Knowledge	Leaf formation in plants	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
9	2	Knowledge	Root	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
10	2	Knowledge	Plant growth	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
11	2	Knowledge	Performing a ritual	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
12	2	Knowledge	The fruits	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam

13	2	Knowledge	Skeletal system	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
14	2	Knowledge	Nerve cell	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam

23. Course Evaluation
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, discussing and evaluating research papers...etc.

24. Learning and Teaching Resources	
Book of basics of zoology	Plant physiology book Robert
Biology Part 1, Part 2: A committee from t Ministry of Higher Education and Scienti Research	Recommended books and supporting references (scientific journals, reports)
Electronic references, Internet sites	https://www.muhadharaty.com
Electronic references, Internet sites	

1. **Program Vision**
Program vision is written here as stated in the university's catalogue and website.

2. **Program Mission**
Program mission is written here as stated in the university's catalogue and website.

3. **Program Objectives**

4. **Program Accreditation**
Does the program have program accreditation? And from which agency?

5. **Other external influences**
Is there a sponsor for the program?

6. **Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements				
College Requirements				

Department Requirements		**4**		Fundamental
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	
2023-2024		**General chemistry**	**theoretical**	**practical**
1			**30**	**60**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Learning Outcomes Statement 1
Skills	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

10. Evaluation methods

Implemented at all stages of the program in general.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Lecturer	Chemistry	Analytical chemistry			*	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13. The most important sources of information about the program

State briefly the sources of information about the program.

14. Program Development Plan

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
2023-2024		General chemistry	Basic	The ability to use information in a practical way and use it in its appropriate place	The ability to put information together to form and conclude new information	The student can differentiate between scientific terms	The student's ability to distinguish between types of thinking	The student's reception and acceptance of the academic subject in its theoretical and practical branches	Developing the learner's ability to think scientifically	Analyze problems and find appropriate solutions	Testing a set of techniques to retrieve and use information	The student participates in explaining the scientific material and conducting laboratory experiments	The student was keen to attend scientific lectures as well as practical laboratories	The student's desire to study the scientific subject, both theoretical and practical	

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

Course Description Form

1. Course Name:
General chemistry
2. Course Code:
CH11
3. Semester / Year:
2023-2024
4. Description Preparation Date:
13 - 3 - 2024
5. Available Attendance Forms:
Direct attendance in the classroom and practical laboratories
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours + 60 practical hours
7. Course administrator's name (mention all, if more than one name)
Name: Riyadh Radhi Mohammed Emil: rmohammed@uowasit.edu.iq **Name: Marwan Saleh Mahdi Emil:**
8. Course Objectives

Course Objectives	1. Providing students with general information for general chemistry. 2. Introducing students to ways to express concentrations and their types. 3. Introducing students to acids, strong and weak bases, and their types Examples and definition of salts and their types with theoretical examples. 4. Introducing students to titration methods (acids and bases) in volumetric analysis. 5. Introducing students to the elements of the periodic table and the properties of the elements of the periodic table. 6. Introducing students to the law of mass action and the chemical equilibrium constant. 7. Introducing students to gravimetric chemical analysis, gravimetric coefficient, and mathematical calculations. 8. Introducing students to organic compounds and their types and studying the properties of the element carbon. 9. Students are introduced to the study of mechanical analysis, electromagnetic radiation, and law Lambert-Bear

9. Teaching and Learning Strategies	
Strategy	1- Introducing the student to laboratory techniques in chemistry. 2- Introducing the student to methods for preparing laboratory chemicals. 3 - Introducing the student to methods for calculating the acid function of salts and buffer solutions. 4- Introducing the student to laboratory risks. 5 - Training on solving mathematical problems related to methods of preparing solutions. 6- Training students to solve mathematical problems related to salts and their types regulated solutions and training the student on the types of corrections.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Periodic properties	Atoms Introduction to Chemistry	Data Show	Report + daily exam
2	1	Classification of Periodic	Properties Periodicity of atoms	=	=
3	1	calculations pH, pOH	Ionic equilibrium and the law of mass action	=	=
4	1	Salts	Ionic equilibrium and the law of mass action	=	=
5	1	Common ion	Ionic equilibrium and the law of mass action	=	=
6	1	Ways of expression About concentration	Volumetric analysis	=	=
7	1	Standard solutions	Volumetric analysis	=	=
8	1	Neutralization reactions	Volumetric analysis	=	=
9	1	Indicators	Volumetric analysis	=	=
10	1	Precipitation reactions	Volumetric analysis	=	=
11	1	Deposition	Volumetric analysis	=	=
12	1	Sedimentation curves	Volumetric analysis	=	=
13	1	Uses Volumetric analysis	Volumetric analysis	=	=
14	1	Theoretical exam	Exam	=	=
15	1	Deposition methods	Gravimetric analysis	=	=

16	1	Gravimetric factor	Gravimetric analysis	=	=
17	1	Beer-Lambert law	Spectroscopic analysis	=	=
18	1	Spectral analysis calculations	Spectroscopic analysis	=	=
19	1	The bonds Carbon chemistry	Organic Chemistry	=	=
20	1	Polarity	Organic Chemistry	=	=
21	1	Stereo chemistry	Organic Chemistry	=	=
22	1	Hydrocarbons	Organic Chemistry	=	=
23	1	Properties Physical and chemical	Organic Chemistry	=	=
24	1	Aromatic compounds	Organic Chemistry	=	=
25	1	Benzene	Organic Chemistry	=	=
26	1	Benzene derivatives	Organic Chemistry	=	=
27	1	Naming Benzene derivatives	Organic Chemistry	=	=
28	1	Interactions benzene	Organic Chemistry	=	=
29	1	Prepare Benzene derivatives	Organic Chemistry	=	=
30	1	Theoretical exam	Exam	=	=

Practical course structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation method
1	2	Safety instructions In the chemical laboratory	Learn teach other the basic Concepts To work inside the laboratory	Attendance in the laboratory	Conduct experiments Process + reports Daily exam
2	2	Laboratory instruments used in a general chemistry laboratory	Identify glassware and devices inside the laboratory	=	=
3	2	Standard solutions	Standard solution conditions, Evidence, ways to express focus	=	=
4	2	Warning about chemical hazards	Acids, alkalis, chlorates, cyanide	=	=
5	2	Treating damage resulting from the effects of chemicals	Treating skin contamination with harmful substances Treatment of eye contamination with harmful substances Treatment of chemical ingestion	=	=

6	2	Prepare a 0.1N solution of sodium hydroxide	Learn how to prepare	=	=
7	2	Prepare a 0.1 N solution of sodium carbonate and compare it with a solution of hydrochloric acid	Learn how to prepare	=	=
8	2	Prepare a solution of hydrochloric acid with different concentrations	Learn how to prepare	=	=
9	2	Determine the standard of sodium hydroxide using the secondary standard hydrochloric acid	Find the concentration of sodium hydroxide	=	=
10	2	Determination of the acidity of vinegar	Knowledge of the materials used in estimation	=	=
11	2	Measurement of melting point	Factors affecting the melting point	=	=
12	2	Practical Exam	Exam	=	=
13	2	Measure the boiling point	Factors affecting boiling point	=	=
14	2	Measure the boiling point	The method of work	=	=
15	2	Sublimation	Sublimation conditions	=	=
16	2	Sublimation	The method of work	=	=
17	2	Recrystallization	Crystal purification	=	=
18	2	Recrystallization	Solvent selection	=	=
19	2	Recrystallization	The method of work	=	=
20	2	Extraction	Purpose of extraction	=	=
21	2	Extraction	Important factors for good extraction	=	=
22	2	Extraction	The method of work	=	=
23	2	Distillation	Types of distillation	=	=
24	2	Distillation	Distillation device components	=	=
25	2	Distillation	How does distillation occur?	=	=
26	2	Distillation	The method of work	=	=
27	2	Determination of sodium chloride concentration (Moore's method)	The method of work	=	=
28	2	Determination of sodium chloride concentration (Moore's method)	Calculations	=	=
29	2	Spectroscopic methods	Introduction to single-beam spectroscopy, calculations and Beer-Lambert law	=	=
30	2	Practical Exam	Exam	=	=

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name: Plant Anatomy

2. Course Code: Bio 213

3. Semester / Year: Annul

4. Description Preparation Date: 2024

5. Available Attendance Forms: presence

6. Number of Credit Hours (Total) / Number of Units (Total) 30 hours \ 4 units

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

Name : Firas Rahi Handhal
fhandhal@uow.edu.iq

Name : Zahra Kareem Hady
Email : hsaad@uow.edu.iq

8. Course Objectives

This study is focusing on the internal structure and function of plant cells, tissue, and organs. This includes the problem of the use of external sources of matter and energy in the processes of metabolism, as well as the growth and development processes and their internal regulation. in addition, training students in the proper use of the compound light microscope and to give them experience in interpreting images that they see through the microscope in terms of how plant structure is related to function.

9. Teaching and Learning Strategies

Strategy	Developing the student's ability to know the different plant tissues, organs and cells and the functions they perform.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Memorize and understand the topic	Introduction to Plant Anatomy	Theoretical and practical	Exam and reports
2	4	Memorize and understand the topic	Plant Cell	Theoretical and practical	Exam and reports

3	4	Memorize and understand the topic	Components of a plant cell (living Things)	Theoretical and practical	Exam and reports
4	4	Memorize and understand the topic	Components of a plant cell (non living Things)	Theoretical and practical	Exam and reports
5	4	Memorize and understand the topic	Plant Tissue	Theoretical and practical	Exam and reports
6	4	Memorize and understand the topic	Epidermis	Theoretical and practical	Exam and reports
7	4	Memorize and understand the topic	Vascular or conductive tissue	Theoretical and practical	Exam and reports
8	4	Memorize and understand the topic	Phloem	Theoretical and practical	Exam and reports
9	4	Memorize and understand the topic	Xylem	Theoretical and practical	Exam and reports
10	4	Memorize and understand the topic	Secretory structures	Theoretical and practical	Exam and reports
11	4	Memorize and understand the topic	Types of roots and internal structure	Theoretical and practical	Exam and reports
12	4	Memorize and understand the topic	The stem and internal structure	Theoretical and practical	Exam and reports
13	4	Memorize and understand the topic	The leaf , external and internal structure	Theoretical and practical	Exam and reports
14	4	Memorize and understand the topic	Reproductive structures	Theoretical and practical	Exam and reports
15	4	Memorize and understand the topic	Drought plants and aquatic plants	Theoretical and practical	Exam and reports

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	الخزرجي، طالب عويد وزهراء بكر محمد . - 2013 . تشريح نبات مبادئ وتطبيقات .
Main references (sources)	العاني، بدري عويد و قيصر نجيب صالح. 1988 . اساسيات علم تشريح النبات
Recommended books and references (scientific journals, reports…)	**Anatomy of flowering plants - - Atlas of plant structure** **Journal of Botany INTERNATIONAL JOURNAL OF ADVANCED RESEARCH Advances in Bioresearch**
Electronic References, Websites	

Course Description Form

1. Course Name: Cell Biology

2. Course Code: C11

3. Semester / Year: Yearly

4. Description Preparation Date: 2024

5. Available Attendance Forms: Theory and practical

6. Number of Credit Hours (4) / Number of Units (6)

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

Name: Dr.Sada Jasim Abdulameer
Email: sabdulameer@uowasit.edu.iq

8. Course Objectives

Course Objectives Students learn about the structural and functional unit of living organisms. Students are able to use microscopes to help them study the cell and identify its internal components accurately. Know the chemical components of the cell. The cell has a group of genes that design and plan the construction of various compounds. The cell has fixed boundaries between it and other cells.

9. Teaching and Learning Strategies

Strategy	Style of thinking and discussion Using practical methods and methods in the laboratory Learning through exploratory lectures

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7	4 4 4 4 4 4		-Introduction to cell discovery Types of living cells -Cell chemistry -Cell wall -Nucleus -Network ER	Theory /practical	Examine and discussion

8 9 10 11 12 13 14 15 2	4 4 4 4 4 4 4 4		-mitochondrion -Golgi device -Isozymes First-month exam -Cell structure -Cell divisions - Mitotic -Cell cycle -Methods for detecting cell components Second month exam		

1-Jeff Hardin and Gregory Bertoni .(2016) Becker´s world of the cell.9th edition .Pearson
2. Stephen R. Bolsover, Jeremy S. Hyams, Elizabeth A. Shephard, Hugh A. White and Claudia G. Wiedemann. (2004) CELL BIOLOGY. A Short Course. 2nd edition WILEY-LISS AJOHN & SONS, INC
3. Alberts B., Johnson A., Lewis J., Raff M., Roberts K. and Walter P. (2002). Molecular biology of the cell .4th edition,
4 .Madigan MT, Martinko JM & Parker J (2000) Brock's Biology of Microorganisms, 9th edn. Englewood Cliffs, NJ: Prentice Hall. 5 .Yusupov MM , Yusupova GZ , Baucom A . et al. Crystal structure of the ribosome at

5.5Å resolution. Science. (2001);292:883–896 6 .Kendrick, Karolyn (1 January 2010). Chemistry in Medicine. Benchmark Education Company. p. 26
6.Griffiths, Anthony J.F.; Miller, Jeffrey H.; Suzuki, David T.; Lewontin, Richard C.; Gelbart, William M. (2000). "Bacterial conjugation". An Introduction to Genetic Analysis. 7th Edition.

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
geology
2. Course Code:
G11
3. Semester / Year:
Annual, First semester 2023, second semester 2024
4. Description Preparation Date:
2024/3/4
5. Available Attendance Forms:
attendance (theoretical)
6. Number of Credit Hours (Total) / Number of Units (Total)
1 hour per lecture 24 hours for the full academic year
7. Course administrator's name (mention all, if more than one name)
Name: Huda Ali sachit Haitham Abdel Kazem Razij Email: hshalbh@uowasit.edu.iq
8. Course Objectives

Course Objectives 1- Introducing the student to the importance of earth science and the most important sciences And the branches with which it overlaps 2- Informing students of the basic concepts that enable them to delve deeper, especially in their field of specialization 3- Search for modern sources related to the branches of geology 4- That the student realizes the economic importance of geology because its scientists and economists participate in the study Sources of natural resources, especially after technological progress, the importance of geology has increased and become The most important basic sciences in human life 5- That the student understands the nature of the events that the Earth has experienced and the conditions of life of plants and animals By studying fossils or fossils that preserve traces of living organisms found in rocks Crustal	....

9. Teaching and Learning Strategies

Strategy	Method of thinking and discussion, brainstorming strategy Cooperative education strategy

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction to general geology	heoretical	Discussion and tests
2	3		Earth's structure and structure	theoretical	=
3	3		The most important minerals found on Earth	theoretical	=
4	3		Rocks and their cycle in nature	theoretical	=
5	2		Weathering and erosion processes to which rocks are exposed	theoretical	=
6	2		Metamorphic rocks and metamorphic factors	theoretical	=
7	2		Water hydrochemistry	theoretical	=
8	2		Structural geology	theoretical	=
9	2		Earthquakes that the Earth is exposed to	Theoretica	=
10	2		Study of fossils		

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Sources:

Geology, Abdul Hadi Al-Sayegh, Farouk Sanalla, Ministry of Higher Education and Scientific Research, 1999
Basics of Geology, Michel Kamel Atallah, Amman - Jordan, Dar Al Masirah for Publishing and Distribution, 2009

Course Description Form

1. Course Name:
English language
2. Course Code:
220en
3. Semester / Year:
2023−2024
4. Description Preparation Date:
5/3/2024
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Lecturer Nagham Fadhil Hussein Email: nahussain@uowasit.edu.iq

8. Course Objectives

Course Objectives	**1−To enrich the students' knowledge about English language** **2− Improve students' ability in listening, speaking, reading and writing** **3−Mak the students feel with the English language in their study**

9. Teaching and Learning Strategies

Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-8	8	Acquire social manner, like introduction and greeting Know his environment as some cities, the phone numbers Know some information's about his identity	Unit one: Hello Unit 2: your world Unit3: All about you	Theoretical lectures ,	Examinations and daily activity
9-16	8	Know how to use the possessives Review Know some nationalities and countries, the present simple Know how to arrange the times and preference Review	Unit4: family and friends Exercises and solutions Unit 5: The way live Unit 6: Every day Exercises and solutions	Theoretical lectures	Examinations and daily activity
17-22	6	How to use pronouns and the questions word Know house parts and furniture Learn the past tense	Unit 7: My favorites Unit 8: Where I live Unit 9: Times past	Theoretical lectures	Examinations and daily activity
23-27	5	Know the importance of d homework and some sport Review Use the model verb can The present continues tense	Unit 10: We had a great time Exercises and solutions Unit 11: I can do that Unit:12 Please and thank you	Theoretical lecture	Examinations and daily activity

28-30	3	How to use means of trans portion Express with full sentences about good manner Review	Unit 13: Here and now Unit 14: It's times to go Exercise and solution	Theoretical lecture	Examinations and daily activity

11. Course Evaluation

- The 40th annual session is divided into
- 30 marks for the semester exams (at last two test in each semester0
-5 marks for participation, activities and homework

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	New Headway Pulse for Beginners, John and Liz Soars, Oxford

Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Arabic language
2. Course Code:
107CsAl
3. Semester / Year:
2023-2024
4. Description Preparation Date:
2024/3/ 13
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Lecturer Huda Hameed Naif Email: hnaif@uowasit.edu.iq

8. Course Objectives	
Course Objectives	1-Identifying the concept of grammar, language, and literature, and the surrounding concepts within the Arabic language. 2-Highlighting the study of the basics of the Arabic language and continuing to use it to maintain writing in a correct language free of errors. **3-** It is necessary to pay attention to the Arabic language to resist error and distortion, as well as collecting common errors and placing correct ones next to them to reduce errors in the language as much as possible.

9. Teaching and Learning Strategies	
Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-8	8	Grammatical axis Definition of grammar The word and its parts Definition of the noun, verb, letter and their signs The Arabized and the built Cases of construction of past tense, present .tense and imperative	Grammar	Theoretical lectures ,	Examinations and daily activity
9-16	8	Constructed nouns Parsing of Al-Muthanna and its appendix. Plural of the sound masculine and the attached to it Plural of the sound feminine and the attached to it Parsing the forbidden exchange.	Grammar	Theoretical lectures	Examinations and daily activity
17-22	6	Parsing the five names Parsing the five verbs The other defective parsing is from: nouns, the incomplete noun and the incomplete noun Irregular verbs (alif, waw, and yā'). tense	It is prohibited to exchange	Theoretical lectures	Examinations and daily activity

23-27	5	The Holy Qur'an, a staten of the artistic and aesth values in Surat Al-Kahf Surat Maryam. Literary axis, the poem Ghurabaa Nazik al-Malaika.	The Holy Qur'an	Theoretical lecture	Examinations and daily activity
28-30	3	A poem from ancient Arabic poetry in the Abbasid era (Antar bin Shaddad) Badr Shaker Al-Sayyab's poem is a stranger to the Gulf, and an explanation of its artistic and aesthetic value.		Theoretical lecture	Examinations and daily activity

11. Course Evaluation

- The 40th annual session is divided into
- 30 marks for the semester exams (at last two test in each semester0

-5 marks for participation, activities and homework	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Arabic language
Main references (sources)	abic language lessons written by a group of professors.
Recommended books and references (scientific journals, reports…)	How to learn to parse Youssef Atta Linguistic correction movement, Muhammad Dh Hammadi
Electronic References, Websites	

Course Description Form

1. Course Name:	
Microsoft Office Word	
2. Course Code:	
COMI47-1	
3. Semester / Year:	
2023-2024	
4. Description Preparation Date:	
2024/3/12	
5. Available Attendance Forms:	
Actual mandatory attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 practical hours	
7. Course administrator's name (mention all, if more than one name)	
Name: **Samar Kareem Tuama** Email: gl707@uowasit.edu.iq	
8. Course Objectives	
Course Objectives	1. Understanding the Interface: Familiarize students with the Word interfac including the Ribbon, Quick Access Toolbar, and various commands and tools. 2. Document Creation and Editing: Teach students how to create new documents, open existing ones, and edit text effectively using features like copy, paste, cut, and undo. 3. Formatting Text: Enable students to format text using features such as font styles, sizes, colors, alignment, indentation, and highlighting. 4. Paragraph Formatting: Teach students how to format paragraphs with features like line spacing, indentation, alignment, bullets, and numbering 5. Working with Styles: Introduce students to using styles to maintain consistency and efficiency in document formatting. 6. Inserting and Formatting Objects: Teach students how to insert and form objects such as images, shapes, tables, charts, and SmartArt graphics. 7. Document Organization: Show students how to organize documents effectively using features like headers, footers, page numbers, and sectio breaks. 8. Reviewing and Collaborating: Familiarize students with reviewing tools such as spell check, grammar check, track changes, and comments, as well as collaboration features like sharing and co-authoring.
9. Teaching and Learning Strategies	
Strategy	1. **Demonstrations and Hands-on Practice**: Begin by demonstrating key concepts and features of Microsoft Word through step-by-step instructio Allow students to follow along and practice these tasks in real-time. Provide opportunities for hands-on practice to reinforce learning.

	2. **Interactive Lectures**: Incorporate interactive lectures where you introdu new concepts, demonstrate features, and engage students through discussions, questions, and examples. Use multimedia presentations, screenshots, and live demonstrations to enhance understanding. 3. **Guided Tutorials**: Provide guided tutorials or worksheets that walk students through specific tasks or exercises in Microsoft Word. These tutorials can be designed to cover different aspects of Word, such as formatting text, creating tables, or using templates. 4. **Collaborative Projects**: Assign collaborative projects that require stude to work together to create documents using Microsoft Word. This can involve group assignments, peer review activities, or collaborative editin tasks where students collaborate on the same document. 5. **Case Studies and Real-world Scenarios**: Present case studies or real-world scenarios that demonstrate practical applications of Microsoft Wo in various professional contexts. Encourage students to analyze these scenarios, identify relevant features or tools, and propose solutions using Word. 6. **Problem-solving Exercises**: Assign problem-solving exercises that challenge students to apply their knowledge of Microsoft Word to solve specific problems or tasks. These exercises can range from simple formatting challenges to more complex document design projects. 7. **Self-paced Learning Resources**: Provide self-paced learning resources such as video tutorials, online courses, or interactive e-books that studen can access outside of class. These resources can supplement classroom instruction and cater to different learning styles. 8. **Formative Assessment**: Use formative assessment strategies such as quizzes, polls, or short assignments to gauge students' understanding of Microsoft Word concepts and identify areas for improvement. Provide timely feedback to guide their learning progress.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
		1. **Proficiency in Basic Functions**: Students should demonstrate proficiency in perform basic functions in Microsoft Word, such creating, opening, savi and printing document 2. **Text Formatting Skill** Students should be abl to format text effective using features like font styles, sizes, colors, alignment, indentation, and highlighting.	Microsoft Off Word program	Theoret lectu	1- Conducting theoretical tests (daily and quarterly)

		3. **Paragraph Formattin** Students should demonstrate the ability format paragraphs with features such as line spacing, indentation, alignment, bullets, and numbering.			
16-9	4	1. **Working with Styles**: Students should understand how to wor with styles to maintain consistency and efficiency in document formatting. 2. **Inserting and Formatting Objects**: Students should be abl to insert and format objects such as images, shapes, tables, charts, a SmartArt graphics with documents.	Microsoft Office W programme	Theor al lecture	2- Semin (assigning students to topi
-17	4	1. **Document Organization**: Student should know how to organize documents effectively using featur like headers, footers, p numbers, and section breaks. 2. **Reviewing and Collaborating**: Studen should be proficient in using reviewing tools such as spell check, grammar check, track changes, and comment as well as collaboration features like sharing an co-authoring.	Microsoft Office W program	Theor lectu	3-Using group systen complete m proje
23	4	1. **Advanced Features Proficiency**: Students should demonstrate	Microsoft Office W program	Theor lectu	4-Daily questi and discussi

		proficiency in advance features such as mail merge, macros, templa table of contents, cross references, footnotes, a endnotes. 2. **Document Design and Layout Skills**: Student should be able to desig and layout documents effectively, including elements such as margi page orientation, columns, and page breaks.			
-28	4	1. **Efficiency and Productivity**: Students should be able to utilize shortcuts, best practices, and efficiency tips to enhance their productivity when working with Microsoft Word. 2. **Troubleshooting Skills**: Students should demonstrate the ability to troubleshoot common issues and errors in Word documents and utilize help and support resources effectively. 3. **Professional Presentation Skills**: Students should be able to create professional-looking documents suitable for various purposes, including reports, letters, memos, resumes, and presentations.	Microsoft Office Word programme	Theoretical lectures	1- Conduct theoretical te (daily a quarte

11. Course Evaluation	
The annual course of 40 is divided into 15 marks for the practical subject and 25 marks for the theoretical subject, including 10 marks for the totals of projects and the daily. - Final out of 60	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**"Microsoft Office Word 2019 Comprehensive" b Misty E. Vermaat, Steven M. Freund, and Eric Schmieder**: This comprehensive textbook covers al the essential features of Microsoft Word 2019, providing step-by-step instructions, practice exercis and real-world examples.
Main references (sources)	1. **Official Microsoft Documentation**: Microsoft provides extensive documentation and resources for Microsoft Office Word on its official website This includes user guides, tutorials, how-to articles, and support forums. The Microsoft Offi support website is an invaluable resource for learning about Word's features and functionalitie 2. **Microsoft Office Specialist (MOS) Certificati Materials**: The Microsoft Office Specialist certification program offers training materials ar resources specifically designed to help individua prepare for certification exams in Microsoft Wo These materials cover a wide range of topics and provide comprehensive guidance on using Word effectively.
Recommended books and references (scientific journals, reports...)	1. **Microsoft Word 2019 Step by Step" by Joan Lambert and Curtis Frye**: This book, part of th Microsoft Step by Step series, offers a comprehensive guide to learning Word 2019. It provides hands-on exercises, practice files, and step-by-step instructions to help users become proficient in Word. 2. **"Microsoft Word 2019 Inside Out" by Joe Habraken**: With this book, users can delve deep into the features and functionalities of Microsoft Word 2019. It covers advanced techniques, tips, and best practices for maximizing productivity a efficiency.
Electronic References, Websites	1. **Microsoft Office Training Center**: Microsoft offers free online training courses for Microsoft Office applications, including Word. These cour cover a range of topics, from basic to advanced features, and include interactive tutorials, videos and downloadable resources. • Website: Microsoft Office Training Cent - Word 2. **LinkedIn Learning**: LinkedIn Learning (forme Lynda.com) offers a variety of video courses and

	tutorials on Microsoft Word. These courses are taught by industry experts and cover topics such document formatting, advanced features, and productivity tips. • Website: LinkedIn Learning - Word Courses

Course Description Form

1. Course Name:
Human rights and democracy
2. Course Code:
110CsHr
3. Semester / Year:
2023/2024
4. Description Preparation Date:
21/3/2024
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Name: Suhad Dawood Saiman Email: **suhaddawood2@gmail.com**
8. Course Objectives

Course Objectives	*Increasing the student's knowledge of the theoretical conceptual aspect and historical development of the subject of human rights and democracy. *Developing the student's analytical and analytical skills regarding the reality and future of human rights and democracy. *Training the student on the importance of active participation in aspects of public life, such as enhancing respect for general human rights principles and active participation in political and cultural life. * Enabling the student to understand the importance of education and its role in spreading the culture of human rights and democracy in building a civilized society based on good governance, the most

	important components of which are belief in human rig education on them, and active participation in governa through free and fair elections.

9. Teaching and Learning Strategies

Strategy	Giving lectures by giving logical explanations of the topic being taught Class participation through preparing reports related to the subject and discussing them Analysis of some issues related to human rights

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	1	Introducing the concept of hum rights	human rights	theoretical	Discussion/ questions and answers
3-4	1	Defining the concept and characteristics of human rights	Human rights	theoretical	Discussion/ questions and answers
5-6	1	Historical development of the concept of human rights	Human rights	theoretical	Discussion/ questions and answers
7-8	1	Human rights contents	Human rights	theoretical	Discussion/ questions and answers
9-10	1	Human rights in Greek civilization	Human rights	theoretical	Discussion/ questions and answers
11-12	1	Human rights in the Islamic perception	Human rights	theoretical	Discussion/ questions and answers
13-14	1	Promoting human rights (mechanisms and procedures)	Human rights	theoretical	Discussion/ questions

					and answers
15-16	1	A comparison between human rights in Islam and in statutory documents	Human rights	theoretical	Discussion/ questions and answers
17-18	1	Basic rights and acquired rights	Human rights	theoretical	Discussion/ questions and answers
19-20	1	Universal Declaration of Human Rights	Human rights	theoretical	Discussion/ questions and answers
21	1	First semester exam	Human rights		
22-23	1	Historical development of the concept of democracy	Human rights	theoretical	Discussion/ questions and answers
24-25	1	Pictures of democracy	Human rights	Theoretical	Discussion/ questions and answers
26	1	Characteristics of the democratic system and its components	Human rights	theoretical	Discussion/ questions and answers
27	1	The concept of elections and its legal adaptation	Human rights	theoretical	Discussion/ questions and answers
28	1	Second semester exam	Human rights		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1 - Hadi Riad Aziz/Human rights (its development, contents, and protection) 2- Sindhi Naz Badrakhan/Human Rights and Democracy
Main references (sources)	Hafez Alwan Al-Dulaimi/ A contemporary reading

	of the human rights issue
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Methods of teaching human rights, published on the Internet

Course Description Form

1. Course Name: invertebrate
2. Course Code: v22
3. Semester / Year: year
4. Description Preparation Date:2024
5. Available Attendance Forms: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total) 4/6
7. Course administrator's name (mention all, if more than one name)
Name :Noor Naeem Shakir **Email: nshakir@uowasit.edu.iq** : **Name:Zainab Kadhim Hashim** **Email:zhashim@uowasit.edu.iq**
8. Course Objectives

Course Objectives	Identify the group of lower and primitive animals known as invertebrates • Its distinctive characteristics and the development of the invertebrate animal group in terms of complexity in systems or in body symmetry and the formation of the body cavity. • In addition to the environment, behavior and reproduction of these animals • And the development of systems such as the circulatory, nervous, digestive, and excretory systems
9. Teaching and Learning Strategies	
Strategy	Style of thinking and discussion Learning through exploratory lectures Using practical methods and methods in the laboratory

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1.	8	Theoretical + practical	Introduction to invertebrates How to use microscope	Use the whiteboard and data show	Daily and oral exam questions
2.	8	Theoretical + practical	Kingdom	Use the whiteboard and data show	Daily and oral exam questions
3.	8	Theoretical + practical	Kingdom: Protista	Use the whiteboard and data show	Daily and oral exam questions
4.	8	Theoretical + practical	Excretion & Osmoregulation	Use the whiteboard and data show	Daily and oral exam questions
5.	8	Theoretical + practical	Sample of protozoa Class= Phytomastigophora	Use the whiteboard and data show	Daily and oral exam questions
6.	8	Theoretical + practical	Class= Zoomastigophora)Zooflagellates(	Use the whiteboard and data show	Daily and oral exam questions
7.	8	Theoretical + practical	A. proteus& Pelomyxa	Use the whiteboard and data show	Daily and oral exam questions
8.	8	Theoretical + practical	Monocystis morphology and life style	Use the whiteboard and data show	Daily and oral exam questions
9.	8	Theoretical + practical	Plasmodium species that infect humans, the severity of malaria, and its life cycle	Use the whiteboard and data show	Daily and oral exam questions
10.	8	Theoretical + practical	Phylum Porifera	Use the whiteboard and data show	Daily and oral exam questions
11.	8	Theoretical + practical	Structure and Form of Porifera	Use the whiteboard and data show	Daily and oral exam questions
12.	8	Theoretical +	Phylum: Cnidaria	Use the whiteboard	Daily and oral exam questions

		practical		and data show	
13.	8	Theoretical + practical	Nematocysts and Cnidocytes/ class hydrozoa	Use the whiteboard and data show	Daily and oral exam questions
14.	8	Theoretical + practical	Class Anthozoa	Use the whiteboard and data show	Daily and oral exam questions
15.	8	Theoretical + practical	Formation of corals and coral reefs	Use the whiteboard and data show	Daily and oral exam questions
16.	8	Theoretical + practical	Phylum Platyhelminthes	Use the whiteboard and data show	Daily and oral exam questions
17.	8	Theoretical + practical	Phylum Ascheiminthes	Use the whiteboard and data show	Daily and oral exam questions
18.	8	Theoretical + practical	Phylum Nematoda	Use the whiteboard and data show	Daily and oral exam questions
19.	8	Theoretical + practical	Phylum Annelinde	Use the whiteboard and data show	Daily and oral exam questions
20.	8	Theoretical + practical	Class :Oligochaeta	Use the whiteboard and data show	Daily and oral exam questions
21.	8	Theoretical + practical	Class :Hirudinea	Use the whiteboard and data show	Daily and oral exam questions
22.	8	Theoretical + practical	Phylum Onychophora	Use the whiteboard and data show	Daily and oral exam questions
23.	8	Theoretical + practical	Phylum Arthopoda	Use the whiteboard and data show	Daily and oral exam questions
24.	8	Theoretical + practical	Types of crustacean larvae	Use the whiteboard and data show	Daily and oral exam questions
25.	8	Theoretical + practical	Class :Arachnida	Use the whiteboard and data show	Daily and oral exam questions
26.	8	Theoretical + practical	Genus :Buthus & Argiope Phylum Clamellae	Use the whiteboard and data show	Daily and oral exam questions
27.	8	Theoretical + practical	Phylum :Mollusca	Use the whiteboard and data show	Daily and oral exam questions
28.	8	Theoretical + practical	Anodonata &helix Phylum Echinodermata	Use the whiteboard and data show	Daily and oral exam questions

n

11. Course Evaluation

12. Learning and Teaching Resources	
Required textbooks (curricular books, if	Zoology 2007 . Dorna, Rober L; Walker jr, Warren F.;Barnes ,Rober Invertebrat Zoology 2007 . Ruppert Edward E.
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Distributing the score out of 1
Electronic References, Websites	ttp://digitalcommons.unl.edu/onlinedictinvertzology

Course Description Form

1. Course Name:
Embryology
2. Course Code:
E22
3. Semester / Year:
2023-2024
4. Description Preparation Date:
13 - 3 - 2024
5. Available Attendance Forms:
Direct attendance in the classroom and practical laboratories
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours + 60 practical hours
7. Course administrator's name (mention all, if more than one name)
Name: Haider Ali Naser **Emil: ALHamltashy H.A. @uowasit.edu.iq**
8. Course Objectives

Course Objectives	1. Providing students with general information for general Embryology. 2. Introducing students to ways to types of embryos . 3. Introducing students to different of types. 4. Introducing students to morale stage. 5. Introducing students to blastula stage . 6. Introducing students to gastrula stage. 7. Introducing students to development of embryo . 8. Introducing students to development of embryo in frogs . 9. Introducing students to development of embryo in birds.
9. Teaching and Learning Strategies	
Strategy	1- Introducing the student to laboratory techniques in embryo. 2- Introducing the student to methods for preparing of embryos in laboratory. 3 - Introducing the student to methods of different of embryo's types 4- Introducing the student to laboratory risks. 5 - methods of preparing solutions for save of embryos . 6- Training students to and training the student on the types of preparing of samples .

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2 2	terms	Introduction to Embryology Anatomical expressions for embryology	Data Show	Report + daily exam
2	2 2	Classification of embryos types	Male reprod. system Formation of sperm and eggs	= Use a microscope	= Discussion
3	2 2	=	Female reprod. system Cellular division	= Use a microscope	= daily exam
4	2 2	=	=	=	=
5	2 2	terms	Ferti station Ovarian installation	= Use a microscope	= daily exam
6	2 2	=	Cell divition Embryonic formation in the Amphioxus	= Use a microscope	=
7	2 2	=	2 cell stage s Stages of hemorrhoids in The Amphioxus	= Use a microscope	= daily exam
8	2 2	=	4 cell stage s Blastula stage	= Use a microscope	=
9	2 2	=	8 cell stage s Gastrula stage	= Use a microscope	=
10	2 2	=	16 cell stage s **Larval stage**	= Use a microscope	= daily exam
11	2 2	=	32 cell stage s Nervous system deveopment	= Use a microscope	= Discussion
12	2	=	64 cell stage s	=	=

	2			Use a microscope	Discussion
13	2 2	=	Moral stage Digestive system development	= Use a microscope	=
14	2 2	=	Blastula stage Mesoderm layer	=	=
15	2 2	=	Gastrula stage	= Use a microscope	=
16	2 2	=	3rd layers stage Fertilization in amphibians	=	=
17	2 2		Sea embryology Fertilization in amphibians	=	=
18	2 2	=	Nervous system development 33h development	=	= Discussion
19	2 2	=	Digestive system development Organ formation in amphibian embryos	= Use a microscope	=
20	2 2	=	Frog embryology	= Use a microscope	=
21	2 2	=	Nervous system deveopment	=	=
22	2 2	=	Digestive system deveopment	=	= Discussion
23	2 2	=	Other Organic system	=	=
24	2 2		Bird embryology 18 h development	=	=
25	2		Nervous system	=	=

	2		deveopment 19 h development		
26	2 2		Digestive system deveopment 24h development	=	=
27	2 2		Muscular system deveopment	=	=
28	2 2		16 h development 33h development	=Use a microscope	=
29	2 2		18 h development 48h development	= Use a microscope	=
30	2 2		24 h development 33-55 h deveopment	= Use a microscope	=

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Name of the course: Statistics

2. Course Code : **S22**

3. Trimester /Year : Annual

4. Date of preparation of this description : 2024

5. Available Attendance Forms: Mandatory (Attendance)

6. Number of units

One hours / weak

7. Course administrators name

Name: Aqeel Rahm Hassoun Email : ahassoon@uowasit.edu.iq
Name : Rawa Mohammed Kazem

8. Course objectives:

Objectives of the course :	**1- Definition of biostatistics** **2- Collecting samples and simplifying data collected** **3- Enabling students to express facts i numerical way**

9. TEACHING AND LEARNING STRATEGIES

Strategy	Discussion Strategy Using Practical Methods and Methods in the Statisti Computing Laboratory Learning by Theoretical Lectures

10. 10. Course Structure

Week	Hours	Learning outcomes required for the	Unit or Topic Name	Learning method	Valuation Method

		program*			
First	2	2The student sho	Introduction - T	Diction a	
		what is the science	definition of statistics	Interrogation	
		statistics and	important		
Second	2	importance		Diction a	Exam a
			Variable Statis	Interrogation	participation
The th	2	Student defines	Concepts and Types	Diction a	
		variable a		Interrogation	
		determines the inp		Diction a	
Fourth	2		Descriptive statistics	Interrogation	
		Enabling students	its type and distributio		Homework
		know statistics			
The Fi	2				
Sixth	2	Student learns how	NUMBER	Diction,	
7	2	disaggregate data	CLASSESIdentify the	Interrogation	
Eight.	2		Length	and	Homework
Ninth	2	1st Month		Interrogation	
tenth		Shows the measu			
Eleven	2	of the cent	Measures of cent		
	2	tendency and expla	tendency Arithme		Exam a
Second		the relationship w	mean – median – mode	interrogation,	Participant
... ten.		the type of variable	Range – Variance	interrogatory,	
3 rd,		Shows	Standard Deviation	question,	school wo
th, a		relationship betwe	Moderate deflect	examination,	ought, du
15 th		scatterometers	dispersion gauges	inquest, inqu	onus, mu
		Second month		investigation,	task, tru
		Explains		probe	imperative,
		measures	Pearson correlat	Diction	obligation,
		dispersion	coefficient	Diction and	office
		Chapter One		Interrogation	
			Spearman Sc		
		Explains correlat		Diction a	Reports a
		and regression	The limits of trust	Interrogation	Duty
		Slope	bearings		and
			Normal distribution		participation
		Explains the limits			exam
		trust			
		bearings			
		Normal distributio			

11. Course evaluation

Distribution of the score of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly and written examinations, discussion and evaluation of research papers.... etc.

12. Learning and Teaching Resources

Required textbooks (methodology if any)	
Key References (Sources)	1- Principles of General Statistics, I Ahmed Abdel Sami Taiba , Dar Al-Biday

	First Edition, Amman 2008 2- Introduction to General Statistic Muhammad Subhi Abu Saleh et al ., Dar Al-Yazouri for Printing, Amman 2000 3- Book of Life Statistics, Dr. Abdul Khaleq Abdul Jabbar Al-Naqeeb, Dar Al-Yazouri for Printing Amman 2006
Recommended supporting books and references (scientific journals, reports…)	
E−References , Websites	

10. Course Structure

Week	Hours	Learning Outcomes	Unit or Topic Name	teaching method	Valuation Method
First	2 Hours	Introduction to Statistics	Practical statistics	Diction	
Second	2 Hours	The student learns how to enter the Excel program	How to get into Excel	Diction	Question and Answer
Third	2 Hours	Teaching the student how to collect statistical data	How to collect statistical data	Diction	Question and Answer
Fourth	2 hours	Teaching students classified as Book in Excel	Book workbook in Excel	Diction	Koz Discussion and Examination
Fifth	2 Hours	Teaching students to run Excel in the	Run Excel in Calculator	Diction	Discussion between the professor

		calculator			
Sixth	2 Hours	How to make a schedule in the program	How to make a schedule in the program	Diction	Discussion between the professor
7	2 Hours	Teaching students to use sheet in Excel	Teaching students to use sheet in Excel	Diction	
Eighth	2 Hours	How to use calculations	How to use calculations	Diction	debate, dispute, argumentation, discussion, talk
Ninth	2 Hours	How to extract the highest and lowest value in several ways	How to extract the highest and lowest value in several ways	Diction	debate, dispute, argumentation, discussion, talk
Tenth	2 Hours	First Semester			First Semester
Eleventh	2 Hours	Teaching the student the measure of the central tendency of unclassified data (arithmetic mean - median – mode)	The measure of the central tendency of unclassified data (arithmetic mean - median – mode)	Diction	Discussion + some questions
Twelveth	2 Hours	Teaching students how to draw graphs of unclassified data (columns – circle)	Drawing graphs of unclassified data (columns – circle)	Diction	Discussion + students follow up drawing on the calculator

Thirteen	2 Hours	Teaching students how to include functions as a measure of dispersion in unclassified data (range and standard deviation)	Inclusion of scatterometer functions in unclassified data (range and standard deviation)	Diction	Discussion + students follow up drawing on the calculator + guiding questions
fourteenth	2 hours	Curriculum Review		Diction	Discussion + Quiz
fifteenth	2 Hours	End of second semester exam			End of second semester exam

Course Description Form

1. Course Name:	
Animal histology	
2. Course Code:	
H22	
3. Semester / Year:	
Yearly	
4. Description Preparation Date:	
2024	
5. Available Attendance Forms:	
Multiple	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: ali fayadh bargooth Email:afayadh@uowasit.edu.iq	
8. Course Objectives	
Course Objectives	• Identify the components of animal cells and basic tissues • Identify the histological structures of different body organs • Learn how to cut tissues and use various types of microscopes
9. Teaching and Learning Strategies	
Strategy	It is the transition of students from the stage of focusing on skills in elementary grades to the stage of focusing on Contents of all secondary grades, where you find that students face many demands in order to Reading information through textbooks and also writing down notes during lectures Work is done independently alongside education, whether it is about understanding written structures or paper tests On the other hand, you find that there are students who will not be able to acquire important academic skills But you find that there are many students who have a problem with learning, including students who face Difficulties in learning, but through teaching and learning strategies, the individual can achieve.The success he wants to achieve is through knowledge and skills

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1					

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
First	6	Learn about histology	Introduction of histology	Giving of lecture	
Second	6	The student learns the structure of the cell using an optical and electron microscope	Cell structure using optical and electron microscopy	Giving of lecture	Daily exam
Third	6	The student classifies tissues	Epithelial tissue	Giving of lecture	Daily report and examination
Fourth	6	The student explains the glandular tissue	Glandular epithelial tissue definition and classification	Giving of lecture	duty
Fifth	Examination				
Sixth	6	The student learns about connective tissue	Connective tissue and its classification features	Giving of lecture	Participation - Reports
Seventh	6	Skeletal tissue cartilage and bone	Special connective tissues	Giving of lecture	Participation - Reports
Eighth	6	The blood and lymph	Special connective tissues	Giving of lecture	Participation - Reports
Ninth	6	The student compares smooth muscle, skeletal muscle, and cardiac muscle	Muscle tissue smooth muscle skeletal muscle cardiac muscle	Giving of lecture	Participation - Reports
Tenth	Examination				
Eleven	6	Explains how the heart muscle works	Complementary to the muscular system is the cardiac muscle, Purkinje fibers and the differences between them	Giving of lecture	Participation

Twelve	6	The student enumerates the types of nerve cells	Nervous tissue, nerve cells and their types, glial cells and their types	Giving of lecture	Daily exam
Thirteen	6	The student learns about the nerve ganglion and its types	The nerve ganglion and its types	Giving of lecture	Participation
Fourteen	6		Review the above material and conduct daily exams	Interrogation	Participation
Fifteen	6		Scientific discussions	Interrogation	
Sixteen	Examination				
Seventeen	6	The student learns about the lymphatic organs	Lymphatic organs (lymph nodes, spleen, thyroid)	Giving of lecture	Participation
Eighteen	6	The student learns about the circulatory system	Circulatory system: arteries, veins, and capillaries	Giving of lecture	Participation
Nineteen	6	The student lists the components of the integumentary system	Integumentary system Skin Hair Nail	Giving of lecture	Participation - Reports
Twenty	6	The student learns about the components of the digestive system	Digestive system: lip, tongue, cheek and teeth	Giving of lecture	Duty
Twenty one	Examination				
Twenty two	6	The student learns about the digestive tract	Esophagus, stomach and intestines	Lecture	Daily exam and participation
Twenty three	6	The student explains the structure and function of the liver	Liver	Giving of lecture	Participation
Twenty four	6	The student explains the structure and function of the pancreas	Pancreas	Giving of lecture	Participation
Twenty five	6	The student learns about the most important features of the respiratory system	Respiratory system ,Trachea and Lung	Giving of lecture	Duty
Twenty six	Examination				
Twenty seven	6	The student enumerates the endocrine glands	Endocrine	Presentation and lecture method	Report and duty
Twenty eight	6	The student explains how the sense organs work	Sense organs	Presentation and lecture method	Report
Twenty nine	6	The student learns about the reproductive system	Reproductive system	Presentation and lecture method	Report

11- Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as dailypreparation, daily oral, monthly, or written exams, reports ..... etc	
Required textbook	1- histology (Part One) / University of Baghdad / 2000 2- histology (Part Two) / University of Baghdad / 2000 Ministry of Higher Education and Scientific Research - University of Baghdad 3- Principles of practical histology / University of Baghdad / 1984
Main References (sources)	Basic histogy atlas and text..jungueirn 2003
Recommended books and references	Theses, dissertations and scientific journals
Electronic References, Websites	Edus.uowasit.edu.iq Uowasit.edu.iq http://www.iasj.net

Thirty	Examination				

Course Description Form

1. Course Name:
Plant taxonomy
2. Course Code:
P22
3. Semester / Year:
2023-2024
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
4/ 6
7. Course administrator's name (mention all, if more than one name) Dr. Asia Naji Obiad asia @uowasit.edu.iq
8. Course Objectives

Course Objectives	study morphological characteristics 0f plants, classificatiön systems and scientific nomenclacture. Study characteristics of some flower plant families
Taxonomy is concerned with studying plants, naming their degree of similarity, as well as identifying their vegetative and reproductive parts.them, and dividing them into groups .	

9. Teaching and Learning Strategies	
Strategy	Method of thinking and discussion by presenting models of the studied plant and identifying its parts

10. Course Structure

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

	2	Knowledge	Introduction , Definition of taxonomy and its interests.	Whiteboard and data show	Testing and discussion
	2	Knowledge	History of taxonomy.	Whiteboard and data show	Testing and discussion
	2	Knowledge	Seed Plants.	Whiteboard and data show	Testing and discussion
	2	Knowledge	Vegetative organ and their origin root and steam.	Whiteboard and data show	
	2	Knowledge	The Leaves.	Whiteboard and data show	Testing and discussion
	2	Knowledge	The Leaves.	Whiteboard and data show	Testing and discussion
	2	Knowledge	Reproductive characters (Flower)	Whiteboard and data show	Testing and discussion
	2	knowledege	Flower structure and variations.	Whiteboard and data show	Testing and discussion
	2	Knowledge	Floral systems.	Whiteboard and data show	Testing and discussion
	2		The Fruits.		
	2	Knowledge	The Seeds.	Whiteboard and data show	Testing and discussion
	2	Knowledge	Floral formula.	Whiteboard and data show	Testing and discussion
	2	Knowledge	Pollen grains and Pollination,	Whiteboard and data show	Testing and discussion
	2		Criteria of classification .	Whiteboard and data show	
	2	Knowledge	Systems of Classification.	Whiteboard and data show	
	2	Knowledge	Plant Kingdom.	Whiteboard and data show	Testing and discussion

		2	Knowledge	Evolutionary trends in flowering plants.	Whiteboard and data show	Testing and discussion
		2	Knowledge	Scientific clotureature and its rules.	Whiteboard and data show	Testing and discussion
		2	Knowledge	Characters some of flowering plants families.	Whiteboard and data show	Testing and discussion
		2	Knowledge	Some of flowering plants families.	Whiteboard and data show	Testing and discussion
		2		Some of flowering plants families.	Whiteboard and data show	Testing and discussion
		2	Knowledge	ThePlant migration.	Whiteboard and data show	Testing and discussion
		2	Knowledege	Endemism, Poisonous plants and medicinal plants.		Testing and discussion

11.Course Evaluation

istributing the score out of 100 according to the tasks assigned to the student such as daily oral , monthly,written exams.

12 Resources

1 -Al-Mousawi. Ali Hussein (1987) Plant Taxonomy.
2- ALKatib . Youssef Mansour (1988) Taxonomy of Flowering plants.
3- net-work & websites .

Course Description Form

1. Course Name:
Computer basics
2. Course Code:
COMI47-2
3. Semester / Year:
2023-2024 year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
binding
6. Number of Credit Hours (Total) / Number of Units (Total)
60hours
7. Course administrator's name (mention all, if more than one name)
Name: Ali Najm Abd Email: alinajm32@gmail.com ....
8. Course Objectives

Course Objectives Objectives of the study subject	
9. Teaching and Learning Strategies	
Strategy	Presenting the material in the form of educational films requires the student to do research and reports on the importance of using computers in our lives and using means of communication among themselves, and to make simple films about that as well and discuss the reports.

10. Course Structure

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

first	2	Shows the student an introduction to computer components	introduction	Presentation and interrogation	discussion - questions General
Second	2	The student becomes familiar with the Microsoft environment	Microsoft office 2010	Presentation and interrogation	discussion - questions General
Third	2	The student learns how to deal with Microsoft software	Microsoft office 2010	Presentation and interrogation	discussion - questions General
fourth	2	The student learns how to open the basics of Microsoft Excel	Microsoft office 2010	Blackboard and datashow	Exam - participation - reports
Fifth	2	Exam	Exam	Exam	Exam
sixth	2	The student learns how to enter texts into cells	Introduction to Excel + explanation of the window Excel + enter text into the cell +Enter data into a range of cells	Blackboard and datashow	Exam - participation - reports

Seventh	2	Introduce the student to how to identify cells Moving between work papers and saving files	Select cells + modify contents Cells + Navigate between worksheets +Rename worksheets +Save Excel file	Blackboard and datashow	Exam - participation - reports
Eighth	2	Teach the student how to open a file It is located in Excel and close the file Exit Excel	Open an existing file in Excel +Preview and print the worksheet +Close file and exit Excel +Format numbers	Blackboard and datashow	Exam - participation - reports
Ninth	2	Teach the student how to adjust the volume Rows, columns and alignment Cell contents and adding and deleting cells Rows, columns, moving, copying and erasing Cell content	Adjust row size And the columns erase + remove the cell contents +Conditional formatting search Replacement is adding and deleting cells Rows and columns + move, copy and erase Cell content	Presentation and interrogation	Exam - participation - reports
tenth	2	Exam	Exam	Presentation and interrogation	Exam - participation - reports

eleventh	2	The student learns how to format text, format numbers as currency, add borders to cells, add shadows to cells, and merge cells.	Text formatting + Number formatting as currency +Copy formatting, add borders to cells	Blackboard and datashow	Exam - participation - reports
twelveth	2	Teach the student how to add a header Footer to cells and change margins Page and adding and deleting breaks Pages and other options for printing	Add header and footer to cells +Change Page margins	Blackboard and datashow	Exam - participation - reports
Thirteenth	2	Teach the student how to hide and show Rows, data cleansing and working with Created charts	Hide and show rows And columns + freeze rows And columns + adding and deleting worksheets From Excel file + data cleansing	Presentation and interrogation	Exam - participation - reports
Fourteenth	2	Introducing the student to the types of charts Move, reduce, enlarge and delete The chart, change the chart title, and add	Types of charts: Move, reduce, enlarge and delete the chart	Presentation and interrogation	Exam - participation - reports

		Addresses to the axes			
Fifteenth	2	Exam	Exam	Exam	Exam
Sixteen	2	Teach the student how to configure Mathematical equations, copy and edit And use the sum and auto-sum function And use the command to insert a use function Serial numbers	Formation of mathematical equations + copy Mathematical equations	Presentation and interrogation	discussion - questions General
seventeenth	2	Teach the student how to use the average function	Formation of mathematical equations + copy Mathematical equations	Blackboard and datashow	discussion - questions General
eighteen	2	Introducing the student to how to use mathematical functions, the fact and log function.	Formation of mathematical equations + copy Mathematical equations	Blackboard and data show	discussion - questions General

Nineteenth	2	Introducing the student to how to use mathematical functions, power, sqrt function	Formation of mathematical equations + copy Mathematical equations	Presentation and interrogation	discussion - questions General
twenty	2	Exam	Exam	Exam	Exam
Twenty-one	2	Teach the student how to use the date and time function	Formation of mathematical equations + copy Mathematical equations	Presentation and interrogation	Exam - participation - reports
twenty two	2	PowerPoint program, program interfaces, and file tab	Power point	Presentation and interrogation	Exam - participation - reports
twenty three	2	Open a presentation file and save a new one Save a stock presentation as Other	Power point	Presentation and interrogation	Exam - participation - reports
twenty four	2	Open a stock presentation, close the presentation, and print the slides on Paper and the Home tab	Power point	Blackboard and data show	Exam - participation - reports

twenty five	2	Exam	Exam	Exam	Exam
twenty-sixth	2	Page setup, theme and background set Slideshow tab	Power point	Blackboard and data show	Exam - participation - reports
Twenty-seventh	2	View tab and Views group Presentation and presentation set Main	Power point	Presentation and interrogation	discussion - questions General
Twenty-eighth	2	Insert objects, add animations, add shapes and groups Drawing and editing	Power point	Presentation and interrogation	discussion - questions General
Twenty-ninth	2	Add animation to slides and objects The Transitions tab and the Preview group Transfer the group to a slice	Power point	Presentation and interrogation	discussion - questions General
thirty	2	Exam	Exam	Exam	Exam

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

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

12.learninig and teaching resources

Required textbooks(curricular books, if any)	Computer basics and office applications / Microsoft Office 2010 Ministry of Higher Education and Scientific Research A. M. Ziad Muhammad Abboud, A. Ghassan Hamid Abdel Majeed, Dr. Mustafa Diaa Al-Hassani
Main reference (sources)	Modern Institute of Technology Microsoft Office Excel Excel Office M Microsoft PowerPoint 2010 Step by Step(448 pages; Print
Recommended books and reference (scientific journals, reports…)	Explanation of the PowerPoint 2010 program. The book is in Arabic. A complete explanation of the program in the English interface, with a practical exercise on creating presentations - Written by: Eng. Muhammad Abu Al-Al http://download-internet-pdf-ebooks.com/12082-free-book
Electronic Reference ,websites	Educational websites

Course Description Form

1. Course Name: Developmental psychology

2. Course Code: **217CsDp**

3. Semester / Year: yearly

4. Description Preparation Date: 27/2/2024

5. Available Attendance Forms: daily

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

2hour

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

Name: Noora Karim Saleh
Email: nsalih@uowasit.edu.iq

8. Course Objectives

Course Objectives ... Increasing the student's understanding of the educational and social reality throughout the ages, realizing the educational process at its utmost necessity, and understanding educational theories on various peoples, ancient and modern. Interpreting the educational process from a historical and philosophical point of view 0 Shedding light on upbringing and education, highlighting the importance of the role of social pedagogical upbringing institutions and helping students to train and feel the importance of the educational process. It is also a science that describes and explains the impact of educational systems on determining the educational reality revealed by schools Historical reality, past and present Philosophical education, defining the goals of community education, and applying educational concepts	• ..... • ..... • .....

9. Teaching and Learning Strategies	
Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-8	2	Growth and maturity Life stages and developmental demands Research methods in psychology Growth Factors affecting growth Maturity and learning Deprivation Developmental psychology theories			
9-16	2	The child's physical development The child's linguistic development The child's mental development The child's motor development The child's emotional development Congenital development of the child			
17-22	2				

20-27	2	Moral standards Conscience formation Ideals Social development of the child Means of socialization adolescence The nature of adolescence, the stages of adolescence Physical development of the adolescent Mental development moral development Social growth Family patterns			
28-30	2	School problems, tendencie and trends Choosing a profession Adolescent and school Adolescents and peers Adolescents and the media The importance of teenage work			
11. Course Evaluation					

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Developmental Psychology
Main references (sources)	Developmental Psychology
Recommended books and references (scientific journals, reports…)	Jamal Hussein Al-Alusi Umaima Ali Khan Psychology of childhood and adolescence Ahmed Abdel Latif Abu Saad, Developmental Psychology, Hisham Ahmed Ghorab, Developmental Psychology
Electronic References, Websites	

Course Description Form

1. Course Name:
Biochemistry
2. Course Code:
CHBI22
3. Semester / Year:
2023-2024
4. Description Preparation Date:
13 - 3 - 2024
5. Available Attendance Forms:
Direct attendance in the classroom and practical laboratories
6. Number of Credit Hours (Total) / Number of Units (Total)
60 theoretical hours + 60 practical hours
7. Course administrator's name (mention all, if more than one name)
Name: Riyadh Radhi Mohammed Emil: rmohammed@uowasit.edu.iq **Name: Marwan Saleh Mahdi Emil:**
8. Course Objectives

Course Objectives	1. Providing students with general information for the subject of biochemistry. 2. Introducing students to the basics of biochemistry and its chemical structure. 3. Introducing students to carbohydrates and their importance to the human body. 4. Introducing students to amino acids, their types, and the composition of proteins. 5. Study of enzymes and the mechanism of action of these enzymes. 6. Introducing students to water-soluble and fat-soluble vitamins. 7. Introducing students to nucleotides, their importance, existence, properties, and composition. 8. Study of the Krebs cycle and aerobic and anaerobic glycolysis. 9. Students learned about the respiratory chain, its importance, and the process of electron transfer.

9. Teaching and Learning Strategies	
Strategy	1- Introducing the student to laboratory techniques in the subject of biochemistry. 2- Introducing the student to performing color tests, such as Molsch, Bendeken, Selivanov, etc. 3 - Introducing the student to how to detect fats and find the iodine number. 4- Introducing the student to laboratory risks. 5- Estimating the amount of cholesterol in the blood. 6 - Diagnosis of an unknown sugar. 7- Estimating the amount of protein using the Biuret method.

Theoretical course structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Carbohydrates	Their prevalence, importance and properties	Data Show	Report + daily exam
2	2	Types of sugars	Monosaccharides, disaccharides and polysaccharides	=	=
3	2	Types of sugars	Amino sugars, glycogen and starch	=	=
4	2	Fats	Its composition, classification, and characteristics	=	=
5	2	Fatty acids Saturated and non-radioactive	Neutral fats Phospholipids Glycolytic fats	=	=
6	2	Proteins	Its importance, existence and general characteristics	=	=
7	2	Amino acids	Essential Non-Essential Conditional Essential	=	=
		Purification	Quantitative	=	=

8	2	methods	methods And measure the molecular weight		
9	2	Diagnosis of amino acids	Types of proteins	=	=
10	2	Theoretical exam	Theoretical exam		
11	2	Enzymes	Naming enzymes	=	=
12	2	Enzymes	Kinetics of enzymes	=	=
13	2	Enzymes	Enzyme mechanism of action	=	=
14	2	Enzymes	Synthesis of enzymes	=	=
15	2	Vitamins	Vitamins And enzyme conjugates	=	=
16	2	Types of vitamins	Vitamins dissolved in water	=	=
17	2	Types of vitamins	Vitamins dissolved in fats	=	=
18	2	Nucleotides	The importance of its existence And its installation	=	=
19	2	Nucleic acids	DNA	=	=
20	2	Nucleic acids	RNA	=	=
21	2	Nucleic acids DNA	Characteristics of the Watson and Crick model	=	=
22	2	Nucleic acids RNA	Types of acid Nuclear RNA	=	=
23	2	Metabolism	Catabolism of carbohydrates	=	=
24	2	Carbohydrate Metabolism	Glycolysis	=	=
25	2	Fat Metabolism	Krebs cycle	=	=
26	2	Alcoholic fermentation	Pentose phosphate pathway	=	=
27	2	Respiratory Chain	Its components and importance	=	=
28	2	Respiratory Chain	Transmission process Electrons	=	=
			Catabolism of acids	=	=

29	2	Respiratory Chain	Amino composition of urea Catabolism of fatty acids		
30	2	Theoretical exam	Exam	=	=
Practical course structure					
Week	**Hours**	**Required Learning**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Carbohydrates	Classification of carbohydrates	Attendance in the laboratory	Conduct experiments Process + reports Daily exam
2	2	Carbohydrates	Carbohydrate-specific interactions	=	=
3	2	Carbohydrates	Molisch Test	=	=
4	2	Carbohydrates	Seliwanoff Test	=	=
5	2	Carbohydrates	Bial Test	=	=
6	2	Carbohydrates	Reducing properties of sugars	=	=
7	2	Carbohydrates	Benedict Test	=	=
8	2	Carbohydrates	Barfoed Test, Picric Acid Test	=	=
9	2	Practical Exam	Exam	=	=
10	2	Osazone	Osazone Formation	=	=
11	2	A) The reaction of an aldehyde sugar, such as glucose, with phenylhydrazine	Condensation process, process Oxidation, a second condensation process	=	=
12	2	Reaction of the ketone sugar (fructose) with phenylhydrazine:	Condensation process, process Oxidation, a second condensation process	=	=
13	2	Polysaccharide screenings	Iodine detection	=	=
14	2	Fat	classification of fats	=	=
15	2	Fat tests detect unsaturation,	Iodine detection, detection Copper acetate	=	=
16	2	Soap	decomposition of soap, soap precipitation, Soap separation	=	=
17	2	Soap	Determine the sonication coefficient:	=	=

18	2	Determine the acid number of rancid fats	the rancidity of hydrolysis, Oxidative rancidity	=	=	
19	2	Acrolein test To detect cholesterol	The method of work	=	=	
20	2	Lieberman revealed cholesterol	The method of work	=	=	
21	2	Iodine factor	The method of work	=	=	
22	2	Proteins	amino acids	=	=	
23	2	Proteins	Structural structure of proteins	=	=	
24	2	Detection of proteins	ninhydrin detection, Xanthoprotic reaction	=	=	
25	2	Detection of proteins	Hopkinscoll revealed For tryptophan	=	=	
26	2	Detection of proteins	Mellon revealed, Zakakuji revealed	=	=	
27	2	Detection of proteins	Detection of unstable sulfur and acid reaction	=	=	
28	2	Detection of proteins	Biuret detection	=	=	
29	2	Precipitation of proteins, Diagnosis of amino acids by paper chromatography	Protein precipitation methods, Descending chromatography Rising chromatography	=	=	
30	2	Practical Exam	Exam	=	=	

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
English language
2. Course Code
11Den
3. Semester / Year:
2023-2024
4. Description Preparation Date:
20/9/2023
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Lecturer Nagham Fadhil Hussein Email: nahussain@uowasit.edu.iq

8. Course Objectives	
Course Objectives	**1- To enrich the students' knowledge about English language** **2- Improve students' ability in listening, speaking, reading and writing** **3-Mak the students feel with the English language in their study**

9. Teaching and Learning Strategies	
Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-8	8	Tenses, Questions, using bilingual dictionary, part of speech, words with more one meaning Present simple, present continuous, using have got &has got describing countries Past simple, past continuous, irregular verb, making connections, suffixes to make different words& negatives Review	Unit 1: Getting to know Unit 2: The way we live Unit3: It all went wrong Exercises and solutions	Theoretical lectures ,	Examinations and daily activity
9-16	8	Quantity (much, many), some and any (someone, anyone, somewhere, anywhere…), learning buying things Review Verb patterns1, future intentions, hot verbs (have, go and come) What's like, comparative & superlative adjectives, talking about cities, synonyms and antonyms Present perfect and past simple ,for and since tense revision, past participle, adverbs and words pairs.	Unit4: Lets go shopping Exercises and solutions Unit 5: What do you want to do Unit 6: Tell me what's like Exercises and solutions Unit 7: Fame	Theoretical lectures	Examinations and daily activity

17-22 23-27 28-30	6 5 3	Review Obligation (have(got), should& must) jobs, words that go together and compound nouns Time and conditional clauses, hot verbs (take, get, do and make) Verb patterns2 infinitive purpose , describing feelings and situations Review Passive, verbs and participles, verbs and nouns go together second conditional, might, phrasal verbs present perfect and present perfect continuous, word formation and adverbs past perfect, reported statement, hot verbs (bring, take, go and come)	Exercises and solutions Unit 8: Do's and don't Unit 9: Going places Unit 10: Scared to death Exercises and solutions Unit 11: Thing that changed the world Unit:12 Dreams and reality Unit13: Earning a living Unit 14: Family ties	Theoretical lectures Theoretical lecture Theoretical lecture	Examinations and daily activity Examinations and daily activity Examinations and daily activity

11. Course Evaluation

- The 40th annual session is divided into
- 30 marks for the semester exams (at last two test in each semester0
-5 marks for participation, activities and homework

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	New Headway Pulse for Pre-Intermediate, John and Liz Soars, Oxford
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Arabic language
2. Course Code
221CsAl
3. Semester / Year:
2023-2024
4. Description Preparation Date:
2024/3/ 13
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Lecturer Huda Hameed Naif Email: hnaif@uowasit.edu.iq

8. Course Objectives	
Course Objectives	**1- Identifying the concept of grammar, language, and literature, and the surrounding concepts within the Arabic language.** **2- Highlighting the study of the basics of the Arabic language and continuing to use it to maintain writing in a correct language free of errors.** **3- It is necessary to pay attention to the Arabic language to resist error and distortion, as well as collecting common errors and placing correct ones next to them to reduce errors in the language as much as possible.**

9. Teaching and Learning Strategies	
Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-8	8	Sentence in the Arabic language Noun phrase The subject and the predicate Actual sentence Verb: past, present and imperative. Cases of construction of the past tense Cases of constructing present tense verbs Cases of imperative .verb construction	Grammar	Theoretical lectures ,	Examinations and daily activity
9-16	8	the subject Deputy actor How to convert a verb from active voice to passive voice. Imperfect verbs was and her sisters Anne and her sisters. Positions of breaking the hamza inn.	Grammar	Theoretical lectures	Examinations and daily activity
17-22	6	The literary axis, studying the farewell sermon and explaining its artistic and aesthetic value. A poem from ancient Arabic poetry in the Abbasid era (Al-Mutanabbi)	The literary axis,	Theoretical lectures	Examinations and daily activity

23-27	5	Badr Shaker Al-Sayy poem is a stranger to the C and an explanation of artistic and aesthetic value. A poem from modern Ar poetry: 1-The will to live, Al-Qasim Al-Shabbi. E-Prose: presentation	Badr Shaker Al-Sayy	Theoretical lecture	Examinations and daily activity
28-30	3	From the book: The Book of Misers by Al-Jahiz Quranic expression, Fadel Al-Samarrai punctuation marks Differentiating between ḍād and dha Differentiating between ha and ta Hamza in Arabic.	From the book:	Theoretical lecture	Examinations and daily activity

11. Course Evaluation

- The 40th annual session is divided into
- 30 marks for the semester exams (at last two test in each semester0
-5 marks for participation, activities and homework

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Arabic language
Main references (sources)	abic language lessons written by a group of professors.
Recommended books and references (scientific journals, reports…)	How to learn to parse Youssef Atta Linguistic correction movement, Muhammad Dh Hammadi
Electronic References, Websites	

Course Description Form

1. Course Name:
The crimes of the Baath regime in Iraq
2. Course Code:
222CsBc
3. Semester / Year:
2023/2024
4. Description Preparation Date:
21/3/2024
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Name: Suhad Dawood Saiman Email: **suhaddawood2@gmail.com**
8. Course Objectives

Course Objectives	**The student learns about the topics of the course that shed light on the crimes committed by the previous regime in Iraq through clarification The concept of crime in general in terms of its types and types, an explanation of the violations that have affected human rights, and also an explanation of environmental problems Which Iraq faced because of this system.**

9. Teaching and Learning Strategies	
Strategy	*Giving lectures by giving logical explanations of the topic being taught *Class participation through preparing reports related to the subject and discussing them

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or	Learning	Evaluation method

			subject name	method	
1	1	The concept of crime (definition - types -its sections)	Baath crimes	theoretical	Discussion/questions and answers
2	1	Crimes ofthe Baath regime (international crime - its types)	Baath crimes	theoretical	Discussion/questions and answers
3	1	Decisions issued by the court The Iraqi Supreme Criminal Court	Baath crimes	theoretical	Discussion/questions and answers
4	1	Psychological crimes (mechanism and consequences)	Baath crimes	theoretical	Discussion/questions and answers
5	1	Social crimes (militarization of society)	Baath crimes	theoretical	Discussion/questions and answers
6	1	The Baath regime's position on religion	Baath crimes	theoretical	Discussion/questions and answers
7	1	Violating Iraqi laws	Baath crimes	theoretical	Discussion/questions and answers
8	1	First semester exam	Baath crimes		
9	1	Pictures of human rights violations	Baath crimes	theoretical	Discussion/questions and answers
10	1	Decisions on political and military violations of the Baath regime	Baath crimes	theoretical	Discussion/questions and answers
11	1	Prison and detention places of the Baath regime	Baath crimes	theoretical	Discussion/questions and answers
12	1	Environmental crimes of the Baat regime	Baath crimes	theoretical	Discussion/questions and answers
13	1	Military and radioactive contamination and mine explosio	Baath crimes	theoretical	Discussion/questions and answers
14	1	Bombing the city of Halabja with chemical weapons	Baath crimes	theoretical	Discussion/questions and answers
15	1	Destruction of cities and villages (scorched earth policy)	Baath crimes	theoretical	Discussion/questions and answers
16	1	Bombing of holy shrines, mosque and Husseiniyas	Baath crimes	theoretical	Discussion/questions and answers
17	1	Drying the marshes	Baath	theoretical	Discussion/questions

			crimes		and answers
18	1	Razing palm groves, trees and crops	Baath crimes	theoretical	Discussion/questions and answers
19	1	Mass grave crimes	Baath crimes	theoretical	Discussion/questions and answers
20	1	The events of 1963 and their relationship to mass graves	Baath crimes	theoretical	Discussion/questions and answers
21	1	Events extending from (1979 -2003) and their relationship In mass graves	Baath crimes	theoretical	Discussion/questions and answers
22	1	Chronological classification of genocide graves in Iraq	Baath crimes	theoretical	Discussion/questions and answers
23	1	Genocide graves related to the Iraq War Iranian (1980-1988)	Baath crimes	theoretical	Discussion/questions and answers
24	1	Graves of the 1983 Barzanian Kurdish genocide	Baath crimes	theoretical	Discussion/questions and answers
25	1	Genocide graves for the victims o the Anfal massacre for the perioc (1987-1988)	Baath crimes	theoretical	Discussion/questions and answers
26	1	Genocide graves for victims of tl Shaabaniya uprising For the year 1991	Baath crimes	theoretical	Discussion/questions and answers
27	1	Limiting the three ruling power: to the Baath Party	Baath crimes	theoretical	Discussion/questions and answers
28	1	Violation of the right to party pluralism by the Baath regime	Baath crimes	theoretical	Discussion/questions and answers
29	1	Violation of international law (the first and second Gulf wars). - International blockade 1990	Baath crimes	theoretical	Discussion/questions and answers
30	1	The impact of the transitional period on combating authoritaria politics Law No. 32 of 2016 banni the Baath Party	Baath crimes	theoretical	Discussion/questions and answers
31	1	Second semester exam	Baath crimes		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports ....etc *Semester/30% *Daily preparation, activities and attendance/10% *Final exam/60%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	The crimes of the Baath regime in Iraq
Main references (sources)	1 - The Permanent Iraqi Constitution of 2005 2- A law prohibiting the Baath Party, entities, parties , and racist, terrorist, and takfiri activities No. 32 of 2016 3- General principles in the Iraqi Penal Code / Prof. Dr. Ali Hussein Al-Khalaf, Prof. Dr. Sultan Abdul Qadir
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Baath crimes documentaries on the Internet

Course Description Form

1. Course Name: General entomology

2. Course Code: 133

3. Semester / Year: Annul

4. Description Preparation Date: 2024

5. Available Attendance Forms: presence

6. Number of Credit Hours (Total) / Number of Units (Total) 30 hours \ 4 units

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

Name : Firas Rahi Handhal
Email : Fhandhal@uow.edu.iq

8. Course Objectives

Introduction to entomology and how to prepare and stain samples and microscopic slides and prepare them for microscopic examination.

9. Teaching and Learning Strategies

Strategy	Developing the student's ability to know the different Insect , organs and cells and the functions they perform.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Memorize and understand the topic	Introduction to entomology (general characteristics, importance and damage)	Theoretical and practical	Exam and reports
2	4	Memorize and understand the topic	Insect body areas (head and appendages, types of mouth parts)	Theoretical and practical	Exam and reports

3	4	Memorize and understand the topic	The chest and its appendages	Theoretical and practical	Exam and reports
4	4	Memorize and understand the topic	The abdomen and its appendages	Theoretical and practical	Exam and reports
5	4	Memorize and understand the topic	Metamorphosis and its types, larvae and its types	Theoretical and practical	Exam and reports
6	4	Memorize and understand the topic	Digestive system (its components and parts)	Theoretical and practical	Exam and reports
7	4	Memorize and understand the topic	Digestion and excretion	Theoretical and practical	Exam and reports
8	4	Memorize and understand the topic	Respiratory system-structure and function	Theoretical and practical	Exam and reports
9	4	Memorize and understand the topic	Circulatory system – structure and function	Theoretical and practical	Exam and reports
10	4	Memorize and understand the topic	The nervous system – structure and function	Theoretical and practical	Exam and reports
11	4	Memorize and understand the topic	The excretory system - the excretory organs and their functions	Theoretical and practical	Exam and reports
12	4	Memorize and understand the topic	Male and female reproductive system	Theoretical and practical	Exam and reports
13	4	Memorize and understand the topic	Morphological transformation	Theoretical and practical	Exam and reports
14	4	Memorize and understand the topic	Classification of insect groups	Theoretical and practical	Exam and reports
15	4	Memorize and understand the topic	review	Theoretical and practical	Exam and reports

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	اساسيات في تصنيف الحشرات رضوان محمد توفيق2010
Main references (sources)	كتاب علم الحشرات العام سعادة الأستاذ الدكتور / أسامه باحارث جامعة أ م القرى .
Recommended books and references (scientific journals, reports…)	المراجع الخاصة بعلم الحشرات
Electronic References, Websites	المكتبة الالكترونية للحشرات .

Course Description Form

1. Course Name:Genetics
2. Course Code:G33
3. Semester / Year:2024
4. Description Preparation Date:14/3/2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
4 hours/week/6 credits
7. Course administrator's name (mention all, if more than one name)
Name:Prof .Dr.Intisar Hussein Ahmed Emial:ihusian@uowasit.edu.iq Name:Assistant lecturer .Zainab Kadhim Hashim Emial: zhashim@uowasit.edu.iq .....
8. Course Objectives

Course Objectives	Knowledge of the principles of Mendelian genetics and the inheritance of traits Gene interaction and its various mechanisms •

9. Teaching and Learning Strategies

Strategy	Cognitive strategy

10. Course Structure

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

First	4 (4hours per week)	Knowledge and understanding (for all weeks)	Introduction to Genetics and Mendelism	Theoretical+ Practical (for all weeks)	Exam grades (for all weeks)
Second Third			Mendelian crosses Gene interactions and deviations from Mendelian ratios		
Fourth			Mendel's laws and their deviations		
Fifth			Simple Mendelian inheritance in man		
Sixth			Linkage crossing-over and chromosome mapping		
Seventh			Multiple alleles and pseudoalleles		
Eighth Ninth Tenth			Sex-linked inheritance Determination of sex		
Eleventh			Mutations, their mechanisms		
Twelfth			Chromosomal aberrations in man		
Thirteenth			Cytoplasmic inheritance in animals		
Fourteenth			Population genetics and Hardy-Weinberg law		
Fifteenth			Animal breeding types and their applications		
Sixteenth			Quantitative genetics		
Seventeenth			DNA structure		
Eighteenth			DNA replication		
Nineteenth			Gene expression		
Twenty					
Twenty one			Genomics		
Twenty two					
			Genetics and evolution		
			Lineage records		
			Probabilities and chi-square		

Course Description Form

1. Course Name: Theoretical comparative anatomy of chordates

2. Course Code: **N33**

3. Semester / Year:

year

4. Description Preparation Date:21/2/2024

5. Available Attendance Forms: Is mandatory

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

4 Number of hours 6 Number of units

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

Alaa najee salih

alaanaji@uowasit.edu.iq

8. Course Objectives

Course Objectives	· Knowledge of the emergence and development of body systems in different chordates, with a structural and functional comparison

9. Teaching and Learning Strategies

Strategy	Teaching strategies are the transition of students from the stage of focusing on skills in the primary grades to the stage of focusing on the contents of all secondary grades. You find that students face many demands in order to read information from textbooks, and they also take notes during lectures, Work is also done independently, in addition to expressing understanding, whether through written structures or paper-and-pencil tests. On the other hand, you find that there are students who will not be able to acquire important academic skills, and this results in a lack of mastery of the content that leads to failure.

10. Course Structure

Week	Hours		Outcomes Required Learning	Unit or subject name	Learning method	Evaluation method
			Theory	Practical		
1	4	Knowledge	**Origin & general characters of chordates**	Classification of Chordates (1)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
2	4	Knowledge	**Classification of Chordates (1)**	Classification of Chordates (2)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
3	4	Knowledge	**Classification of Chordates (2)**	Classification of Chordates (3)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
4	4	Knowledge	**Integumentary system (1)**	Comparative Study of skin (1)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
5	4	Knowledge	**Integumentary system (2)**	Comparative Study of skin (2)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
6	4	Knowledge	**Skin Derivatives**	Skin Derivatives (1)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
7	4	Knowledge	**Muscular system (1)**	Skin Derivatives (2)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
8	4	Knowledge	**Muscular system (2)**	Amphioxus anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
9	4	Knowledge	**Digestive system (1)**	Lamrey anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
10	4	Knowledge	**Digestive system (2)**	Dog fish anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
11	4	Knowledge	**Digestive glands**	Circulatory system	Delivering, using teaching aids and discussion	Tests, class participation, attendance
12	4	Knowledge	**Respiratory system (1)**	Bony fish anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
13	4	Knowledge	**Respiratory system (2)**	Circulatory system	Delivering, using teaching aids and discussion	Tests, class participation, attendance
14	4	Knowledge	**Respiratory system (3)**	Frog Anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
15	4	Knowledge	**Theory & Practical Examination**	Circulatory system	Delivering, using teaching aids and discussion	Tests, class participation, attendance
16	4	Knowledge			Delivering, using teaching aids and discussion	Tests, class participation, attendance
			Half break			
17	4	Knowledge	**Excretory system (1)**	Turtle Anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
18	4	Knowledge	**Excretory system (2)**	Circulatory system	Delivering, using teaching aids and discussion	Tests, class participation, attendance
19	4	Knowledge	**Excretory system (3)**	Pigeon Anatomy	Delivering, using teaching aids and discussion	Tests, class participation, attendance
20	4	Knowledge	**Genital system (1)**	Circulatory system	Delivering, using teaching aids and discussion	Tests, class participation, attendance
21	4	Knowledge	**Genital system (2,3)**	Comparative Brain study (1)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
22	4	Knowledge	**Circulatory system.**	**Comparative Brain study (2)**	Delivering, using teaching aids and discussion	Tests, class participation, attendance
23	4	Knowledge	Heart/comparative	Skeletal system (1)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
24	4	Knowledge	Aortic arches /discuss	Skeletal system (2)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
25	4	Knowledge	Nervous system	Skeletal system (3)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
26	4	Knowledge	Brain and peripheral nerves	Skeletal system (4)	Delivering, using teaching aids and discussion	Tests, class participation, attendance

27	4	Knowledge	**Skeletal system (1)**	Skeletal system (4)	Delivering, using teaching aids and discussion	Tests, class participation, attendance
28	4	Knowledge	**Skeletal system (1)**	Skeletal system (5)	Delivering, using teaching aids and discussion	Tests, class participation, attendance

2. Learning and teaching resources

Comparative anatomy For chordate. Muhammad Abdel Hadi Ghali and Hussein Abdel Moneim, second edition 2014.

1.Comparative anatomy, function, evolution. Kardong, K. V. (2012).

2. Comparative anatomy of the vertebrates.Kent, G. C. and Carr, R. K. (2001).

Course Description Form

1. Course Name:
Curricula and teaching methods
2. Course Code:
324CsCt
3. Semester / Year:
2024-2023
4. Description Preparation Date:
15- 3 – 2024
5. Available Attendance Forms:
Mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Muhammad Jassim Abdul Amir
8. Course Objectives

Course Objectives	**Enabling the student to use modern education in his daily educational life**

9. Teaching and Learning Strategies	
Strategy	style of thinking and discussion

10. Course Structure

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

1	**3**	Bachelor's degree in Life Sciences Education	Introduction to the application of teaching methods	Lecture, discussion and questioning	Written and oral achievement tests
2	**3**	Bachelor's degree in Life Sciences Education	Types of teaching aids and means of viewing	Lecture, discussion and questioning	Written and oral achievement tests
3	**3**	Bachelor's degree in Life Sciences Education	The educational equation in practical education	Lecture, discussion and questioning	Written and oral achievement tests
4	**3**	Bachelor's degree in Life Sciences Education	The role of educational methods in perception and learning in application and viewing	Lecture, discussion and questioning	Written and oral achievement tests
5	**3**	Bachelor's degree in Life Sciences Education	Teaching aids for science in application	Lecture, discussion and questioning	Written and oral achievement tests
6	**3**	Bachelor's degree in Life Sciences Education	Technical characteristics in educational education for viewing and application	Lecture, discussion and questioning	Written and oral achievement tests
7	**3**	Bachelor's degree in Life Sciences Education	Situations that require the use of educational methods in application	Lecture, discussion and questioning	Written and oral achievement tests
8	**3**		Exam		
9	**3**	Bachelor's degree in Life Sciences Education	Standards for how to use teaching methods	Lecture, discussion and questioning	Written and oral achievement tests

10	**3**	Bachelor's degree in Life Sciences Education	Traditional methods and their importance in preparing a successful teacher	Lecture, discussion and questioning	Written and oral achievement tests

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
Theoretical mycology
2. Course Code:
F33
3. Semester / Year:
annual
4. Description Preparation Date:
21/2/2024
5. Available Attendance Forms:
Is mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
4 hours 6 units
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Professor Doctor Alyaa Abdel Al-Ridha Hanash **E-mail: alalqurashy@uowasit.edu.iq**
8. Course Objectives

Course Objectives	• Identify the foundations and classification systems of fungi and their environments • The types of fungi • Reproduction methods
9. Teaching and Learning Strategies	
Strategy	Teaching strategies are the transition of students from the stage of focusing on skills in the primary grades to the stage of focusing on the contents of all secondary grades. You find that students face many demands in order to read information from textbooks, and they also take notes during lectures, Work is also done independently, in addition to expressing understanding, whether through written structures or paper-and-pencil tests. On the other hand, you find that there are students who will not be able to acquire important academic skills, and this results in a lack of mastery of the content that leads to failure. But you find that there are many students who have a problem with learning, including students who face difficulties in learning, but through education strategies the individual can achieve the success he desires to achieve, and that is through knowledge as well as skills.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	4	Knowledge	Introduction to fungi, General features, physical structure	Delivering, using teaching aids and discussion	Tests, class participation, attendance
2	4	Knowledge	Methods of nutrition and growth in Fungi occurrence and methods of reproduction	Delivering, using teaching aids and discussion	Tests, class participation, attendance
3	4	Knowledge	The importance of fungi and their ecological relationships	Delivering, using teaching aids and discussion	Tests, class participation, attendance
4	4	Knowledge	New classification of fungi And the principles used in classification	Delivering, using teaching aids and discussion	Tests, class participation, attendance
5	4	Knowledge	Kingdom: Protista	Delivering, using teaching aids and discussion	Tests, class participation, attendance
6	4	Knowledge	Phylum: Myxomycota	Delivering, using teaching aids and discussion	Tests, class participation, attendance
7	4	Knowledge	Studying the general features, classes, orders, models of these fungi and their life cycle	Delivering, using teaching aids and discussion	Tests, class participation, attendance
8	4	Knowledge	Phylum: Plasmodiphoromycota	Delivering, using teaching aids and discussion	Tests, class participation, attendance
9	4	Knowledge	Class: Plasmodiophoromycetes	Delivering, using teaching aids and discussion	Tests, class participation, attendance
10	4	Knowledge	Study of their characteristics and examples of some fungi and their life cycles	Delivering, using teaching aids and discussion	Tests, class participation, attendance
11	4	Knowledge	Kingdom: Stramenopila	Delivering, using teaching aids and discussion	Tests, class participation, attendance
12	4	Knowledge	Phylum: Oomycota	Delivering, using teaching aids and discussion	Tests, class participation, attendance
13	4	Knowledge	Study their characteristics and	Delivering, using teaching aids and discussion	Tests, class participation, attendance

			classify them into important orders and families		
14	4	Knowledge	Order: Saproleginales Study its features, importance and life cycle	Delivering, using teaching aids and discussion	Tests, class participation, attendance
15	4	Knowledge	With a study of the characteristics of common fungi and a study of the principles used for their classification	Delivering, using teaching aids and discussion	Tests, class participation, attendance
16	4	Knowledge	Order: Peronosporales 1-Family: Pythiaceae	Delivering, using teaching aids and discussion	Tests, class participation, attendance
17	4	Knowledge	Study its characteristics and life cycle and give examples	Delivering, using teaching aids and discussion	Tests, class participation, attendance
18	4	Knowledge	Family: Peronosporaceae Downy mildew fungi	Delivering, using teaching aids and discussion	Tests, class participation, attendance
19	4	Knowledge	Study its characteristics and life cycle and give examples	Delivering, using teaching aids and discussion	Tests, class participation, attendance
20	4	Knowledge	Family: Albuginaceae Its characteristics, life cycle, and examples	Delivering, using teaching aids and discussion	Tests, class participation, attendance
21	4	Knowledge	Kingdom: Fungi	Delivering, using teaching aids and discussion	Tests, class participation, attendance
22	4	Knowledge	Phylum: Chytridiomycota	Delivering, using teaching aids and discussion	Tests, class participation, attendance
23	4	Knowledge	Its features and importance, giving an example of it and its life cycle	Delivering, using teaching aids and discussion	Tests, class participation, attendance
24	4	Knowledge	Phylum: Zygomycota	Delivering, using teaching aids and discussion	Tests, class participation, attendance

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
Environmental and pollution
2. Course Code:
O33
3. Semester / Year:
The third stage
4. Description Preparation Date:
13/3/2024
5. Available Attendance Forms:
mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)/
2/week (theory)
7. Course administrator's name (mention all, if more than one name)
Name: Asst.prof.dr.Tayseer Shamran Email tshamran@uowasit.edu.iq
8. Course Objectives
Course Objectives • The student learns about the components of the environment and ecosystem •Preserving the environment • Learn about the effect of plants on the environment and the effect of the environment on living organisms
9. Teaching and Learning Strategies

Strategy	Teaching and learning strategies include discussions, cooperative learning, critical thinking techniques, project-based learning, active learning, effective use of technology, and time and task management.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1	2	Introduction to Ecology and Ecosystem 1-Meaning of Ecology 2- Ecology has complex roots 3- Ecology has strong ties to other sciences			
Week 2	2	4- Ecosystems 5- Components of an ecosystem			
Week 3	2	6- Functions of ecosystem 7- Types of ecosystems			
Week 4	2	Ecosystem structure: A biotic environmental factors 1- Introduction 2- Principles of Limiting factors			
Week 5	2	3- Liebig's Law of the minimum 4- Shelford,s law of tolerance			
Week 6	2	1- The physical factors as limiting factors 2- Temperature 3- Animal thermal regulation Animals			
Week 7	2	4- The ecological rules			
Week 8	2	1- Light 2- Light and animal navigation 3- Biological clocks 4- Bioluminescence			
Week 9	2	1- Water 2- : Maintenance of water balance for terrestrial animals			
Week 10	2	3- Atmospheric gases 4- Biogenic salts 5- Currents and pressure 6- Ecological indicators			
Week 11	Exam				
Week 12	2	1- Ecosystem structure: Biotic components of ecosystems 2- Population			
Week 13	2	3- Properties of population 4- Population density			

Week 14	2	5- Natality 6- Mortality 7- Population age distribution
Week 15	2	8- Population dispersal 9- Animals dispersal mechanisms 10-Internal distribution patterns
Week 16	2	1- Population growth models 2- Reproductive strategies 3- Semelparity and Iteroparity
Week 17	2	Biotic community 1- Meaning of biotic community 2- Concept of ecological dominance 3- Ecotone 4- Ecological Succession 5- Pioneer species
Week 18	2	6- Primary ecological succession and secondary ecological succession 7- Climax Community 8- Habitat and the ecological Niche
Week 19	2	1- Ecosystem function– Energy flow through ecosystem 2- Food Chain 3- Food web
Week 20	2	4- Ecological pyramids 5- Productivity of ecosystem 6- Primary productivity
Week 21	2	7- Secondary productivity 8- Net Productivity
Week 22	2	1- Ecosystem function– Biogeochemical cycles 2- Gaseous cycles 3- Carbon cycle 4- Photosynthesis 5- Respiration
Week 23	2	6- Decomposition 7- Combustion 8- Impact of human activities
Week 24	Exam	

Week 25	2	1- Nitrogen cycle 2- Nitrogen fixation 3- Nitrification 4- Assimilation 5- Ammonification 6- Denitrification
Week 26	2	7- Sedimentary cycles 8- Phosphorus cycle
Week 27	2	Ecosystem diversity: Freshwater ecosystems 1- Introduction 2- Lentic systems (standing water)
Week 28	2	3- Classification of Lakes 4- Light penetration and thermal stratification 5- Lotic systems (running water)
Week 29	2	6- Lotic Communities 7- Plankton 8- Animals
Week 30	2	Environmental pollution Enumeration of types Learn about the types of environmental pollutants Learn about soil pollution
Week 31	2	Processing methods Explaining the phenomenon of global warming/ozone layer Learn about radioactive contamination
Week 32	2	Explaining treatment methods for radioactive contamination
Week 33	2	Exam

The practical part	
Week 1	Definition of ecology Ecosystem Basic physical and chemical measurements The most important environmental factors measured in the field are:

	The most important environmental factors measured in the laboratory are: Environmental factors and devices used in environmental studies
Week 2	Biotic Factors Equipment used to collect aquatic environment samples Equipment used to collect land environment samples
Week 3	Devices and equipment used in studying non-biological environmental factors Temperature Thermometers Types of thermometers Device operation principle
Week 4	Humidity Hygrometers Types of devices used to measure relative humidity Psychrometer Device operation principle
Week 5	Wind Hand-held anemometer Laboratory anemometer Device operation principle Atmospheric Pressure Barometers Devices for measuring atmospheric pressure Light Devices for measuring light intensity and transmittance
Week 6	The Soil Components of Soil Types of Soil Soil Texture Determining Soil Texture Field determination of soil texture Laboratory determination of soil texture
Week 7	Soil Porosity Method of operation Measuring Soil Moisture Method of operation Determining Soil Color Method of operation Determining Soil Carbonate Content Method of operation Measuring Soil pH

	Method of operation
Week 8	Population Estimations Field Study Laboratory Study Laboratory Work Method
Week 9	Environmental Pollution Natural Pollution Major natural pollutants Artificial Pollution Major industrial pollutants Nature of Pollutants
Week 10	Primary Classifications of Water Pollutants Oxygen-Demanding Wastes Pathogens Nutrients Thermal Pollution Heavy Metals
Week 11	Biological Oxygen Demand (BOD) Requirement Determination Factors influencing BOD How to determine BOD Chemical Oxygen Demand (COD)
Week 12	Measuring Acidity and Alkalinity of Water Samples Conducting the Experiment Alkalinity Measurement Conducting the Experiment
Week 13	Acid Rain Effects of Acid Rain Experiment to determine the impact of acid rain on plants
Week 14	Determining Water Hardness Types of Water Hardness Classification of water according to hardness standard Factors affecting water hardness Calculating water hardness Method of operation

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

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

-12

(Requrid textbook)

1- Al-Hajami, Muhammad Abdel-Wali. (2016). Animal Physiology
(1 and 2) - Practical Experiments Guide. Sana'a University.
2- Al-Hajami, Muhammad Abdel-Wali. (2016). General Biology (1) - Practical Experiments Guide. Sana'a University.
3- Al-Tarrawah, Hanan Hamad; Al-Muqaimi, Saleh bin Ahmed. (2009).
Biology Laboratory Manual. Amman, Dar Al-Manhaj for Publishing and Distribution.
4- Shaheen, Jamil Noman. (2008). Biology Laboratory - Scientific Methods Series in Educational Laboratories (3rd ed.), Amman, Dar Al-Manhaj for Publishing and Distribution.
5- Al-Alawji, Sabah Nasser. (2007). Science and sects of organs.
Dar Al-Fikr for Printing, Publishing and Distribution, second edition. Ammaan Jordan.
6- Al-Alawji, Sabah Nasser. (2014). Science and sects of organs.
Dar Al-Fikr Al-Fikr for printing, publishing and distribution, third edition. Ammaan Jordan.
7- Ashir, Abdul Rahim Muhammad (1982). Basics of animal physiology. Ministry of Higher Education and Scientific Research, Baghdad.
8- Al-Taie, Nada Saad Naji; Al-Saeedi, Muhammad Khalil Ibrahim. 2016. Guide to laboratory experiments - animal environmental physiology. Ministry of Higher Education and Scientific Research, Al-Qasim Green University, Iraq.
9- Physiology of animal environment/adaptation to environmental conditions. Ibrahim Bishara Muhammad, University of Kordofan - Faculty of Natural Resources and Environmental Studies.
Knut Schmidt-Nielsen. Animal Physiology: -10
Adaptation and Environment. (5th edition).
Cambridge University Press, 1997

Course Description Form

1. Course Name:
algae
2. Course Code:
L33
3. Semester / Year:
2024
4. Description Preparation Date:
2024-3-4
5. Available Attendance Forms:
Mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
4 hours 6 units
7. Course administrator's name (mention all, if more than one name)
Akmam Ali aakmam141 @gmail.com
8. Course Objectives

Course Objectives	•Identify the foundations and systems of plant classification, environments and types of algae And arch cones • gymnosperms
9. Teaching and Learning Strategies	
Strategy	Teaching strategies are the transition of students from the stage of focusing on skills in the primary grades to the stage of focusing on the contents of all secondary grades You will find that many students face many demands in order to read information in textbooks, and they also take notes during lectures, and they also work independently in addition to expressing understanding, whether through written structures or

	paper-and-pencil tests

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical	Understanding and knowledge	Classification of plant groups	Delivering, using teaching aids and discussion	Tests, class participation and attendance
2	2 Theoretical	Understanding and knowledge	Blue-green algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
3	2 Theoretical	Understanding and knowledge	Blue-green algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
4	2 Theoretical	Understanding and knowledge	green algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
5	2 Theoretical	Understanding and knowledge	green algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
6	2 Theoretical	Understanding and knowledge	Euglena algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
7	2 Theoretical	Understanding and knowledge	Golden algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
8	First month exam				

9	2 Theoretical	Understanding and knowledge	Brown algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
10	2 Theoretical	Understanding and knowledge	Peruvian algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
11	2 Theoretical	Understanding and knowledge	Raid algae	Delivering, using teaching aids and discussio	Tests, class participation and attendance
12	2 Theoretical	Understanding and knowledge	Mosses	Delivering, using teaching aids and discussio	Tests, class participation and attendance
13	2 Theoretical	Understanding and knowledge	Ferns	Delivering, using teaching aids and discussio	Tests, class participation and attendance
14	2 Theoretical	Understanding and knowledge	Seeds	Delivering, using teaching aids and discussio	Tests, class participation and attendance
15	2 Theoretical	Understanding and knowledge	Seeds	Delivering, using teaching aids and discussio	Tests, class participation and attendance

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
Counseling and Mental Health
2. Course Code:
E22
3. Semester / Year:
2024-2023
4. Description Preparation Date:
18- 3 – 2024
5. Available Attendance Forms:
Mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours / 60 practical hours
7. Course administrator's name (mention all, if more than one name)
Ali Enad Zamel : iq.edu.uowasit@a a
8. Course Objectives

Course Objectives	**1"Providing students with general information about the goals of counseling and mental health** **2" Practical advantages of counseling and mental health**

9. Teaching and Learning Strategies	
Strategy	style of thinking and discussion

10. Course Structure

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

1	2	Understanding and knowledge	The emergence of student counseling and guidance	Data show	Daily exams
2	2	Understanding and knowledge	The importance of educational guidance	Data show	Daily exams
3	2	Understanding and knowledge	Professional, academic and social development	Data show	Daily exams
4	2	Understanding and knowledge	Psychological, philosophical, religious and moral foundations	Data show	Daily exams
5	2	exams			
6	2	Understanding and knowledge	Individual and group counseling	Data show	Daily exams
7	2	Understanding and knowledge	Direct and indirect guidance	Data show	Daily exams
8	2	Understanding and knowledge	Guidance, education, counselling, and meeting	Data show	Daily exams
9	2	Understanding and knowledge	Psychological, religious and vocational guidance	Data show	Daily exams
10	2	Exams			

11	2	Understanding and knowledge	Trait focus theory	Data show	Daily exams
12	2	Understanding and knowledge	Personal theory and self theory	Data show	Daily exams
13	2	Understanding and knowledge	Behavioral theory	Data show	Daily exams
14	2	Understanding and knowledge	Behavioral theory	Data show	Daily exams
15	2	exams			
16	2	Understanding and knowledge	The nature of the counseling process	Data show	Daily exams
17	2	Understanding and knowledge	Characteristics of the educational guide	Data show	Daily exams
18	2	Understanding and knowledge	Ethics of the counseling profession	Data show	Daily exams
19	2	Understanding and knowledge	Ethics of the counseling profession	Data show	Daily exams
20	2	Exams			

21	2	Understanding and knowledge	The role of the mentor in dealing with special needs	Data show	Daily exams
22	2	Understanding and knowledge	Students who have difficulty learning	Data show	Daily exams
23	2	Understanding and knowledge	Motivations in the educational guidance process	Data show	Daily exams
24	2	Understanding and knowledge	Guidance in the academic stages	Data show	Daily exams
25	2	exams			
26	2	Understanding and knowledge	Student problems and the role of the educational advisor	Data show	Daily exams
27	2	Understanding and knowledge	Types of problems faced by schools	Data show	Daily exams
28	2	Understanding and knowledge	The most prominent problems faced by educational institutions	Data show	Daily exams
29	2	Understanding and knowledge	Cheating in exams or skipping school	Data show	Daily exams
30	2	Exams			

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
Curricula and teaching methods
2. Course Code:
CsAp323
3. Semester / Year:
2024-2023
4. Description Preparation Date:
15- 3 – 2024
5. Available Attendance Forms:
Mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
30 theoretical hours
7. Course administrator's name (mention all, if more than one name)
Muhammad Jassim Abdul Amir
8. Course Objectives

Course Objectives	**Enabling the student to achieve scientific research using technologies**

9. Teaching and Learning Strategies	
Strategy	style of thinking and discussion

10. Course Structure

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

1	**3**	Bachelor's degree in Life Sciences Education	Introduction to educational technology for scientific research	Lecture, discussion and questioning	Written and oral achievement tests
2	**3**	Bachelor's degree in Life Sciences Education	Types of modern methods for scientific research	Lecture, discussion and questioning	Written and oral achievement tests
3	**3**	Bachelor's degree in Life Sciences Education	The role of educational media in perception and learning	Lecture, discussion and questioning	Written and oral achievement tests
4	**3**	Bachelor's degree in Life Sciences Education	Types of scientific research methods	Lecture, discussion and questioning	Written and oral achievement tests
5	**3**	Bachelor's degree in Life Sciences Education	Teaching methods for science, not alternatives	Lecture, discussion and questioning	Written and oral achievement tests
6	**3**	Bachelor's degree in Life Sciences Education	Educational technical characteristics	Lecture, discussion and questioning	Written and oral achievement tests
7	**3**	Bachelor's degree in Life Sciences Education	Situations that require the use of methods and statistics	Lecture, discussion and questioning	Written and oral achievement tests
8	**3**		Exam		
9	**3**	Bachelor's degree in Life Sciences Education	Criteria and methods for choosing methods and preparing scientific research in the Life Sciences Department	Lecture, discussion and questioning	Written and oral achievement tests
10	**3**	Bachelor's degree in Life Sciences Education	Traditional methods and their importance in the development of	Lecture, discussion and questioning	Written and oral achievement tests

			scientific research		

11. Course Evaluation

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

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name: Immunology
2. Course Code: L 44
3. Semester / Year: annually
4. Description Preparation Date:14/3/2024
5. Available Attendance Forms: presence
6. Number of Credit Hours (Total) / Number of Units (Total)88/4 units
7. Course administrator's name (mention all, if more than one name)
Name: Huda Bader Hussein Email:hudaalsafi208@gmail.com Name: Mustafa Naeem Nuhair mnuhair@uowasit.edu.iq
8. Course Objectives

Course Objectives	• Learn about the immune system, its cells and components, in addition to disease that occur as a result immune disorders . • At the end of the year, the student can realize and understand the concept of natural and acquired immunity, humoral factors and cellular factors. • Mechanism of laboratory diagnosis and identification of some disease that rely on immunological laboratory diagnosis.

9. Teaching and Learning Strategies	
Strategy	Theoretical and practical lectures and the adoption of video lectures to increase knowledge and develop the students ability to know the components of the immune system and the function of each of them.

10. Course Structure

Week	Hours	Theoretical Subject/unit names	Required learning outcomes	Learning method	Evaluation method

1	4	A historical overview of immunology	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
3,4,5	4	Physical, chemical and biological barriers. innate or non-specific immune system	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
6,7	4	Acquired or specific immune system	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
8	4	Antigen and immunogen	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
9	4	Cytokines	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
10	4	phagocytosis	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
11	4	inflammation	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
12	4	Acute phase response	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
13	4	Complement system	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
14	4	Lymphatic tissues &organs	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
15&16	4	Major histocompatibility complex	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
17	4	Kinetics of immune response Regulating the immune response	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
18	4	Primary &secondary immune response Activation T cells and B cells	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
19	4	Immune tolerance	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
20	4	Autoimmune disease	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
21	4	Cancers and immunity	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance
22	4	Vaccines and vaccination	Memorize and understand the topic	Theoretical+ practical	Exam+Quizzes+daily attendance

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	عبد الله عبدالله طاهر.2012.تبسيط علم المناعة
Recommended books and references (scientific journals, reports…)	Clinical immunity/lippincote Immunology/kuppi
Electronic References, Websites	

Course Description Form

1. Course Name: Molecular biology

2. Course Code:B44

3. Semester / Year:2024

4. Description Preparation Date:14/3/2024

5. Available Attendance Forms:

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

4 hours/week/6 credits

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

Name: Prof. Dr. Zafir Hassan Ghali Email: thhasan@uowasit.edu.iq

Name: Mazin Maky Thamer Email: mazin.maky@uowasit.edu.iq

8. Course Objectives

Course Objectives	• The study of principal molecular events of cells incorporating DNA Replication, Transcription, and Translation in prokaryotic as well as eukaryotic organisms, understanding and performing isolation, extraction, and evaluation of DNA, and the practical use of molecular laboratory equipment.

9. Teaching and Learning Strategies

Strategy	Cognitive strategy

10. Course Structure

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

First Second Third Fourth Fifth Sixth Seventh Eighth Ninth Tenth Eleventh Twelfth Thirteenth Fourteenth Fifteenth Sixteenth Seventeenth Eighteenth	2 hours per week	Knowledge and understanding (for all weeks)	Introduction to molecular biology Nucleic acids Properties of nucleic acids Chromosome and packaging of DNA Eukaryotic chromosome , telomeres and genome DNA replication Mutagenesis and mutations DNA damage and repair mechanisms Gene expression:Transcription Translation Transcription regulation in prokaryotes RNA polymerases in eukaryotes Mechanism of transcription in eukaryotes DNA cloning Cloning vectors Eukaryotic vectors Genomic libraries Polymerase chian reaction	Thinking style(for all weeks)	Exam grades (for all weeks)
First Second Third Fourth	2 Hours per week	Knowledge and understanding (for all weeks)	Introduction to Molecular Biology Lab safety Experiment (1): Extraction of Genomic DNA from Rat Blood	Thinking style (for all weeks)	Exam grades (for all weeks)

Fifth			Experiment (2): Genomic DNA Extraction from Plant Tissue		
Sixth			Experiment (3): Characterization of DNA by Spectrophotometric Assay and Melting Temperature (Tm)		
Seventh					
Eighth			Experiment (4): Agarose Gel Electrophoresis		
Ninth					
Tenth			Experiment (5): Polymerase Chain Reaction (PCR)		
Eleventh					
Twelfth			Experiment (6): Optimization of Annealing Temperature		
Thirteenth			Experiment (7): PCR Troubleshooting		
Fourteenth			Experiment (8): Digestion of DNA with Restriction Enzymes		
Fifteenth			Experiment (9): Sanger Sequencing		

11. Course Evaluation

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

12. Learning and Teaching Resources

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

CourseDescriptionForm

1. CourseName: Parasitology
2. CourseCode: R44
3. Semester/Year: year
4. DescriptionPreparationDate:2024
5.AvailableAttendanceForms: Is mandatory
6.NumberofCreditHours(Total)/NumberofUnits(Total) 60 hour
7.Courseadministrator's name (mentionall,if morethanone name)
Name: suadd bresm khiri Huda Hadi Raheem Huda_h_r@uowasit.edu.iq
8. Course Objectives

Course Objectives	• Introducing student to parasitology • Being able to identify the important types of parasites • Students know the extent of the parasite's effect on the host

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

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

First	2	Definition of parasitology Number of types of parasites Mention the types of hosts	Parasitology and an overview of it Types of parasites and hosts Infection methods Methods of prevention Lab : diagnosis of parasite and microscopic examination	show style And the lecture	Surprise exam
Second	2	Enumerate the phyla of primary animals	Protozoa phylum Lab: Sarcodina: *Entamoeba histolytica*	/	/
three	2	Identify amoeba parasitic on humans	Entamoeba histolytica Entamoeba coli Lab : *Entamoeba coli* *Entamoeba gingivalis*	Presentation and interrogation	Lecture discussion
fourth	2	Identify the features of dinoflagellates The student learns about the flagellates of the intestine and the galls	Flagellates parasitizing humans Lab: flagellata Luminal flagellates	Presentation	Share
fifth	2	Compare blood and tissueflagellates	Blood and tissue flagellates Leishmania Lab : Blood and tissue flagellates Leishmania	Presentation	Share
sixth		Exam	Lab : Exam		
seventh	2	Explaining the mechanism of	Tissue flagellates Trypanosoma	Presentation	Share

		action of the flagellates of blood and tissue Trypanosoma	Lab: Tissue flagellates Trypanosoma		
eighth	2	Enumerate the genera of spores	Class sporozoa Lab : ciliophora Balantidium coli	Presentation	Share
ninth	2	Genus of ciliata	Intestinal ciliate Balantidium coli Lab : sporozoa	Presentation	Share
tenth	2	Distinguish the phylum Flatworms and their characteristics	Platyhelminthes Class pseduophyllidae Lab: Platyhelminthes Liver Trematoda	Presentation	Share
eleventh	2	Compares the genera of leaf tapeworms	Class cycllophyllidae Lab: intestinal flukes Blood flukes	Presentation	Surprise exam
twelveth		Exam	Lab : Exam		
Thirteenth	2	Identifies the genera of false tapeworms	Pseduphyllidae Lab : cestoda	Presentation	Surprise exam
fourteenth	2	Identify trematodes	Class Trematoda Lab: *Diphyllobothrium latum* *Echinococcus*	Presentation and interrogation	Share
Fifteenth	2	Identify schistosoma	Genus Schistosoma Lab : dwarf tapeworm Rat tapeworm *Cat tapeworm*	Presentation	Exam
sixteen	2	phasmedia	Phasmedia Lab : Nematoda ***Enterobius vermicularis***	Presentation	Share

			Ascaris lumbricoides		
Seventeenth Eighteenth Nineteenth The twentieth 21 st 22 st	Application				
twenty third	2	Exam	Exam		
twenty fourth	2	Explains the growth of nematodes	Nematodes Lab: **hookworms**	Diction	Interrogationt
Twenty five	2	Shows the importance of studying worms of medical importance	Worms of medical importance Lab: ***Wuchereria bancrofti***	Presentation and lecture	Reports
Twenty six	2	Explains the study of worms present in Iraq that transmit and cause diseases (lice, fleas, mosquitoes, monkeys, and mites)	Worms found in Iraq that transmit diseases Lab:arthropoda parasite	Presentation	Report
Twenty seven		Exam	Exam		

11. Course Evaluation

Distributingthescoreoutof100accordingtothetasksassignedtothestudentsuchasdailypreparation,dailyoral,monthly,orwrittenexams,reports .....etc

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:
Animal physiology
2. Course Code:
A44
3. Semester / Year:
yearly
4. Description Preparation Date:
2023-2024
5. Available Attendance Forms:
Actual mandatory attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
6. Number of study hours (60 hours) / Number of units (6 units) Two hours week
7. Course administrator's name (mention all, if more than one name)
Name: Pro.Dr Nisreen Habib Email: haidera.f@uowasit.edu.iq
8. Course Objectives

Course Objectives	Giving the student the ability to understand the functions and physiology of his body's various systems . • Providing the student with the ability to draw blood samples and perform various blood analyses. • Providing the student with the ability to dissect laboratory animals . • Giving the student the ability to evaluate an individual's health through his ability to read various tests.

9. Teaching and Learning Strategies

Strategy	Theoretical lectures and group discussions for the purpose of facilitating the explanation of material, addition to use of diagrams and illustrations.

10. Course Structure

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

1		Knowledge	physiology	Principles of physiology	exams And direct questions
2 2	4	Knowledge	Endocrinology	The blood	=
3		Knowledge	Urinary system physiology	Blood film	=
4	4	Knowledge			=
5	4	Knowledge	Physiology of circulatory system		=
6	4	Knowledge	physiology of respiratory system		=
7	4	Knowledge	Digestive system	Measurement (Hb,ESR)	=
8	4	Knowledge		=	=
9	4	Knowledge	Physiology of nervous system	=	=
10	4	Knowledge	Muscular system physiology Animal histology Cellular respiration and energy release Physiological effect of temperature and its regulation Electricity and depolarization Synapses and transmission of	OF test, blood pressure	=

			nerve impulses		
11	4	Knowledge	physiology	=	=
12	4	Knowledge	Endocrinology		=
13	4	Knowledge	Urinary system physiology	White blood cells count	=
14	4	Knowledge			=
15	4	Knowledge	Physiology of circulatory system	Differential white cell count	exams And direct questions
16		Knowledge	physiology of respiratory system		
17	4	Knowledge	Digestive system	Blood group	
18		Knowledge			
19	4	Knowledge	Physiology of nervous system	Anatomy of the endocrine system	=
20	4	Knowledge	Muscular system physiology Animal histology Cellular respiration and energy release Physiological effect of temperature and its regulation Electricity and depolarization Synapses and transmission of nerve impulses		=

21	4	Knowledge	physiology	Elisa and minividas	Daily and electronic exam

11. Course Evaluation
Distribution of the grade out of 100 according to the tasks assigned to the student Quest 40 28 theoretical (daily attendance 2, daily exam 3, scientific reports 3, monthly exam 20) 12 practical Final exam 60 Final grade 100

12. Learning and Teaching Resources	
Required textbooks (methodology, if any)	Plant physiology book robert
Main references (sources)	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Dr. Hanaa Fadel
Recommended supporting books and references (scientific journals, reports)	Plant physiology book robert
Electronic references, Internet sites	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Hanaa Fadel

Course Description Form

13. Course Name:
Plant physiology, practical part
14. Course Cod
P44
15. Semester / Year:
2023-2024
16. Description Preparation Date:
2023-2024
17. Available Attendance Forms:
Actual mandatory attendance
18. Number of Credit Hours (Total) / Number of Units (Total)
6. Number of study hours (60 hours) / Number of units (6 units) Two hours a week
19. Course administrator's name (mention all, if more than one name)

Name: Lecturer: Haider Abbas Fadhel
Email: haidera.f@uowasit.edu.iq
Name: Assist. Lecturer: Hayder Atta Abdul-Jabbar
Email: hayder-a.b@uowasit.edu.iq
Name: Assist. Lecturer: Nabaa Abbas Hasan
Email: nahassan@uowasit.edu.iq

20. Course Objectives

Course Objectives	**1- Teaching students the basics of plant physiology.** **2- Recent scientific discoveries to develop this material.** **3- Teaching students about the developments related to this subject to enable them to teach the topics of this subject in middle and middle school.**

21. Teaching and Learning Strategies

Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Solutions, their types, and preparation methods: Molarity	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
2	2	Knowledge	Solutions, their types, and preparation methods: Molality	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
	2	Knowledge	Solutions, their types, and	Using the display screen and e-learning	Daily and electronic

3			preparation methods: Normality	programs Conducting laboratory tests and experiments	exam
4	2	Knowledge	Acids, Bases, and Salts: Buffer Solutions	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
5	2	Knowledge	Acids, Bases, and Salts: Buffer Solutions	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
6	2	Knowledge	Colloid system	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
7	2	Knowledge	Water relations: Diffusion	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
8	2	Knowledge	Water relations: Osmosis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
9	2	Knowledge	Water relations: Water potential	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
10	2	Knowledge	Plasmolysis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
11	2	Knowledge	Transpiration	Using the display screen and e-learning programs	Daily and electronic

				Conducting laboratory tests and experiments	exam
12	2	Knowledge	Mineral nutrition	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
13	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
14	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
15	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
16	2	Knowledge	Respiration	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
17	2	Knowledge	Respiration	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
18	2	Knowledge	Plant enzymes	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
19	2	Knowledge	Plant enzymes	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam

20	2	Knowledge	Tropes: phototropism, Geotropism	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
21	2	Knowledge	Plant hormones: Gibberellin	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
22	2	Knowledge	Plant hormones: Chitin	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam

23. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student
Quest 40
28 theoretical (daily attendance 2, daily exam 3, scientific reports 3, monthly exam 20)
12 practical
Final exam 60
Final grade 100

24. Learning and Teaching Resources

Required textbooks (methodology, if any)	Plant physiology book robert
Main references (sources)	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Dr. Hanaa Fadel
Recommended supporting books and references (scientific journals, reports)	Plant physiology book robert
Electronic references, Internet sites	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Hanaa Fadel

Course Description Form

1. Course Name:	
Plant physiology, theoretical part	
2. Course Code:	
P44	
3. Semester / Year:	
2023-2024	
4. Description Preparation Date:	
2023-2024	
5. Available Attendance Forms:	
Actual mandatory attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
6. Number of study hours (60 hours) / Number of units (6 units) Two hours week	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecturer Haider Abbas Fadhel Email: haidera.f@uowasit.edu.iq	
8. Course Objectives	
Course Objectives	**1- Teaching students the basics of plant physiology.** **2- Recent scientific discoveries to develop this material.** **3- Teaching students about the developments related to this subject to enable them to teach the topics of this subject in middle and middle school.**
9. Teaching and Learning Strategies	
Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	A general introduction to plant physiology	Using the display screen and e-learning programs	Daily and electronic exam
2 ٢	2	Knowledge	Solutions And colloidal systems	Using the display screen and e-learning programs	Daily and electronic exam
3	2	Knowledge	Water relations For plant	Using the display screen and e-learning programs	Daily and electronic exam
٤	2	Knowledge	Osmotic and water potential And pressure And the relationship between them	Using the display screen and e-learning programs	Daily and electronic exam
5	2	Knowledge	absorption Water and its transport In the plant	Using the display screen and e-learning programs	Daily and electronic exam
6	2	Knowledge	Transpiration	Using the display screen and e-learning programs	Daily and electronic exam
7	2	Knowledge	Mineral nutrition	Using the display screen and e-	Daily and electronic

				learning programs	exam
8	2	Knowledge	Effective absorption	Using the display screen and e-learning programs	Daily and electronic exam
9	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs	Daily and electronic exam
10	2	Knowledge	Light interactions	Using the display screen and e-learning programs	Daily and electronic exam
11	2	Knowledge	Darkening reactions	Using the display screen and e-learning programs	Daily and electronic exam
12	2	Knowledge	Phloem transport	Using the display screen and e-learning programs	Daily and electronic exam
13	2	Knowledge	Breathing	Using the display screen and e-learning programs	Daily and electronic exam
14	2	Knowledge	Plant growth and formation	Using the display screen and e-learning programs	Daily and electronic exam
15	2	Knowledge	the growth And plant hormones	Using the display screen and e-learning programs	Daily and electronic exam

16	2	Knowledge	Gibberellins and cytokines	Using the display screen and e-learning programs	Daily and electronic exam
17	2	Knowledge	EPSCC and ethylene	Using the display screen and e-learning programs	Daily and electronic exam
18	2	Knowledge	Photoperiod	Using the display screen and e-learning programs	Daily and electronic exam
19	2	Knowledge	Phytochrome	Using the display screen and e-learning programs	Daily and electronic exam
20	2	Knowledge	Plant movements	Using the display screen and e-learning programs	Daily and electronic exam
21	2	Knowledge	Seed germination and latency	Using the display screen and e-learning programs	Daily and electronic exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student
Quest 40
28 theoretical (daily attendance 2, daily exam 3, scientific reports 3, monthly exam 20)
12 practical
Final exam 60
Final grade 100

12. Learning and Teaching Resources

Required textbooks (methodology, if any)	Plant physiology book robert
Main references (sources)	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Dr. Hanaa Fadel
Recommended supporting books and references (scientific journals, reports)	Plant physiology book robert
Electronic references, Internet sites	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Hanaa Fadel

Course Description Form

13. Course Name:
Plant physiology, practical part
14. Course Cod
P44
15. Semester / Year:
2023-2024
16. Description Preparation Date:
2023-2024
17. Available Attendance Forms:
Actual mandatory attendance
18. Number of Credit Hours (Total) / Number of Units (Total)
6. Number of study hours (60 hours) / Number of units (6 units) Two hours a week
19. Course administrator's name (mention all, if more than one name)
Name: Lecturer: Haider Abbas Fadhel Email: haidera.f@uowasit.edu.iq Name: Assist. Lecturer: Hayder Atta Abdul-Jabbar Email: hayder-a.b@uowasit.edu.iq Name: Assist. Lecturer: Nabaa Abbas Hasan Email: nahassan@uowasit.edu.iq
20. Course Objectives

Course Objectives	**4- Teaching students the basics of plant physiology.** **5- Recent scientific discoveries to develop this material.** **6- Teaching students about the developments related to this subject**

	to enable them to teach the topics of this subject in middle and middle school.

21. Teaching and Learning Strategies

Strategy	Discussion and ask questions, giving the chance to students to participate by speaking, reading and translation.

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Solutions, their types, and preparation methods: Molarity	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
٢	2	Knowledge	Solutions, their types, and preparation methods: Molality	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
3	2	Knowledge	Solutions, their types, and preparation methods: Normality	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
٤	2	Knowledge	Acids, Bases, and Salts: Buffer Solutions	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
5	2	Knowledge	Acids, Bases, and Salts: Buffer Solutions	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam

6	2	Knowledge	Colloid system	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
7	2	Knowledge	Water relations: Diffusion	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
8	2	Knowledge	Water relations: Osmosis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
9	2	Knowledge	Water relations: Water potential	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
10	2	Knowledge	Plasmolysis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
11	2	Knowledge	Transpiration	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
12	2	Knowledge	Mineral nutrition	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
13	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
14	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs Conducting laboratory	Daily and electronic exam

				tests and experiments	
15	2	Knowledge	Photosynthesis	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
16	2	Knowledge	Respiration	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
17	2	Knowledge	Respiration	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
18	2	Knowledge	Plant enzymes	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
19	2	Knowledge	Plant enzymes	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
20	2	Knowledge	Tropes: phototropism, Geotropism	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
21	2	Knowledge	Plant hormones: Gibberellin	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
22	2	Knowledge	Plant hormones: Chitin	Using the display screen and e-learning programs Conducting laboratory tests and experiments	Daily and electronic exam
23. Course Evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student					

Quest 40
28 theoretical (daily attendance 2, daily exam 3, scientific reports 3, monthly exam 20)
12 practical
Final exam 60
Final grade 100

24. Learning and Teaching Resources

Required textbooks (methodology, if any)	Plant physiology book robert
Main references (sources)	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Dr. Hanaa Fadel
Recommended supporting books and references (scientific journals, reports)	Plant physiology book robert
Electronic references, Internet sites	M. Devlin Francis Witham Translated by Dr. Edited by Ramadan and Hanaa Fadel

Course Description Form

1. Course Name: microbiology

2. Course Code: m44

3. Semester / Year: Annul

4. Description Preparation Date:2024

5. Available Attendance Forms: presence

6. Number of Credit Hours (Total) / Number of Units (Total) 30 hours \ 4 units

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

Name: Firas Adnan Hussein
Email: fadnanh@uow.edu.iq
Donia Talib Mahdi
Mustafa Kareem

8. Course Objectives

Introduction to microbiology and how to prepare and stain samples and microscopic slides and prep them for microscopic examination

9. Teaching and Learning Strategies

Strategy	Developing the student's ability to know the different Insec organs and cells and the functions they perform.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Know	Learn about microbiology a	Presentat and lectu	Exam and reports

		microbiology and list famou scientist	historical overview of the subject	method	
2	2	Explain theor of evolution	theories of evolution	lecture	Exam and reports
3	2	Explain the spread of microorganis	spread of microorganism	lecture	Reports
4	2	Classified microorganis	Classification microorganism Basis Classification	Presentat and lectu method	Quiz
5	2	Exam			
6	2	Identify the shape of bacte	shape of bacter characteristics bacteria and th locations	Presentat and lectu method	Participation and Reports
7	2	Recognize the anatomy of bacteria and characterize t bacteria cell w	anatomy of bacteria cell wa	Lecture	Participat and Repo
8	2	list the stage c bacteria production	flagella, spores bacteria production, bacterial testin method	Presentat and lectu method	Quiz
9	2	Understandin the cycle of biochemistry	bacterial growt and stage	Lecture	Participat and Repo
1	2	Exam			
1	2	Explain the physiology of microorganis	physiology of microorganism	Lecture	Participat and Repo
1	2	Explain the importance of microbial genetics	microbial gene	Lecture	Exam
1	2	Recognize the morphology a cultural characteristic on petri dishe	study morphology and cultural characteristics on petri dishes	Lecture	Exam And Repo
1	2	Student learn the laws that limit control c the microorganis	control on the microorganism	Presentat and lectu method	Quiz
1	2	Explain the importance of antibiotics on	types of antibiotics and their effect on microbial	Presentat and lectu method	Quiz

		microbial			
1	2				
		Exam			
1	2		microorganism in air,	Lecture	Exam
		Identify the	water, sewage, soil		And Repo
		microorganisı	and microorganism	Presentat	Participat
			un dairy and food	and lectu	and Repo
1	2	Explain the	viruses their general	method	
		mechanism of	specification		
		replication in	chemical		
		viruses	composition types		
			and reproductions		
1					
2		application			
2					
2					
2	2	distinguishes	preparation	Lecture	Exam
		simple	unpainted simple		And Repo
		pigmentation	pigmentation		
2	2	compare			
		between	differential and	Presentat	Participat
		differential ar	specific pigmentation	and lectu	and Repo
		specific		method	
		pigmentation			
2	2	learn how to	cultivation	Presentat	Quiz
		cultivation	microorganism	and lectu	
		microorganisı		method	
2	2				
		Exam			
2	2	Explain the growth	growth of	Presentat	Reports
		of microorganism	microorganism	and lectu	
2	2	Know	reproduction of	method	Reports
		microorganisı	microorganism	Presentat	
		and how to		and lectu	
		control them		method	
2	2	Explain the growth	Know growth and	Lecture	Reports
		and reproduction of	reproduction		
		microorganism			
3	2	Explain	cell division	Presentat	Quiz
		mechanism o		and lectu	
		cell division		method	

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Basics of microbiology
Main references (sources)	Microbiology
Recommended books and references	

(scientific journals, reports…)	
Electronic References, Websites	Electronic library

Course Description Form

1. Course Name:
Educational measurement and evaluation
2. Course Code:
3. Semester / Year:
2023/ 2024
4. Description Preparation Date:
21/2/2024
5. Available Attendance Forms:
Self-attendance
6. Number of Credit Hours (Total) / Number of Units (Total) :
60 hours per year and 30 units per week
7. Course administrator's name (mention all, if more than one name)
Name: HAZM JASM SEHEEB Email: hsheab@uowasit.edu.iq
8. Course Objectives

Course Objectives	**This course aims to provide the student with basic information, spread the culture of student evaluation systems, raise awareness of the importance of evaluation in all aspects of the student's personality (cognitive – emotional – skills), prepare questionnaires and opinion polls for the student's evaluation of the professor, the course, and the exam, and train students to perform course evaluations.**
9. Teaching and Learning Strategies	
Strategy	**This course aims to provide the student with basic information, spread culture of student evaluation systems, raise awareness of the importa of evaluation in all aspects of the student's personality (cognitive emotional – skills), prepare questionnaires and opinion polls for student's evaluation of the professor, the course, and the exam, and t students to perform course evaluations.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student learns what was presented in the lecture	Development of measurement and evaluation	Using the pen and board and data show	Exams and quick exams and assignments
2	2	The student learns what was presented in the lecture	Test concept	Using the pen and board and data show	Exams and quick exams and assignments
3	2	The student learns what was presented in the lecture	The concept of evaluation and evaluation	Using the pen and board and data show	Exams and quick exams and assignments
4	2	The student learns what was presented in the lecture	The concept of measurement and evaluation	Using the pen and board and data show	Exams and quick exams and assignments
5	2	The student learns what was presented in the lecture	The relationship between measurement, testing and evaluation	Using the pen and board and data show	Exams and quick exams and assignments
6	2	The student learns what was presented in the lecture	Psychometric properties	Using the pen and board and data show	Exams and quick exams and assignments
7	2	The student learns what was presented in the lecture	Types of calendar	Using the pen and board and data show	Exams and quick exams and assignments
8	2	The student learns what was presented in the lecture	Measuring scales	Using the pen and board and data show	Exams and quick exams and assignments
9	2	The student learns what was presented in the lecture	The role of evaluation in improving the educational process	Using the pen and board and data show	Exams and quick exams and assignments
10	2	The student learns what was presented in the lecture	Teaching objectives	Using the pen and board and data show	Exams and quick exams and assignments
11	2	The student learns what was presented in the lecture	Measurement and evaluation and its relationship to goal levels	Using the pen and board and data show	Exams and quick exams and assignments
12	2	The student learns what was presented in the lecture	Achievement test	Using the pen and board and data show	Exams and quick exams and assignments
13	2	The student learns what was presented in the lecture	Steps for constructing the achievement test	Using the pen and board and data show	Exams and quick exams and assignments

14	2	The student learns what was presented in the lecture	Preparing a table of specifications	Using the pen and board and data show	Exams and quick exams and assignments
15	2	The student learns what was presented in the lecture	Statistical analysis of paragraphs	Using the pen and board and data show	Exams and quick exams and assignments
16	2	The student learns what was presented in the lecture	Statistical analysis of the essay test	Using the pen and board and data show	Exams and quick exams and assignments
17	2	The student learns what was presented in the lecture	Types of achievement tests	Using the pen and board and data show	Exams and quick exams and assignments
18	2	The student learns what was presented in the lecture	Essay tests	Using the pen and board and data show	Exams and quick exams and assignments
19	2	The student learns what was presented in the lecture	Objective tests	Using the pen and board and data show	Exams and quick exams and assignments
20	2	The student learns what was presented in the lecture	Classification of tests according to method of interpretation	Using the pen and board and data show	Exams and quick exams and assignments
21	2	The student learns what was presented in the lecture	Debug keys	Using the pen and board and data show	Exams and quick exams and assignments
22	2	The student learns what was presented in the lecture	Good test specifications	Using the pen and board and data show	Exams and quick exams and assignments
23	2	The student learns what was presented in the lecture	Honesty and its types	Using the pen and board and data show	Exams and quick exams and assignments
24	2	The student learns what was presented in the lecture	Reliability and calculation methods	Using the pen and board and data show	Exams and quick exams and assignments
25	2	The student learns what was presented in the lecture	Clarity and objectivity	Using the pen and board and data show	Exams and quick exams and assignments
26	2	The student learns what was presented in the lecture	Evaluation other than achievement tests	Using the pen and board and data show	Exams and quick exams and assignments
27	2	The student learns what was presented in the lecture	Cumulative record	Using the pen and board and data show	Exams and quick exams and assignments
28	2	The student learns what was presented in the lecture	Note	Using the pen and board and data show	Exams and quick exams and assignments
29	2	The student learns what was presented in the lecture	Checklists and checklists	Using the pen and board and data show	Exams and quick exams and assignments

30	2	The student learns what was presented in the lecture	the interview	Using the pen and board and data show	Exams and quick exams and assignments

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Measurement and evaluation references
Main references (sources)	Measurement and Evaluation book by Dr. Abdel Salam Jawdat
Recommended books and references (scientific journals, reports…)	The book of educational measurement and evaluation by Dr. Shaima Sobhi Abu Shaaban and Asaad Hussein Atwan
Electronic References, Websites	