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

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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 ٣/٢٩٠٦ on ٣/٥/٢٠٢٣ regarding the programs that adopt the Bologna Process as the basis for their work.

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: ..Diyala.....

Faculty/Institute: .. College of Education for Pure Sciences.....

Scientific Department: ..Biology.....

Academic or Professional Program Name: . Bachelor's degree. biology Education.....

Final Certificate Name: .... Bachelor's degree in biology.....

Academic System: ....annual .....

Description Preparation Date: 2023/2024

File Completion Date: 2024/ 3 /18

Signature:

Head of Department: Thekra A. Ibrahim

Date:

Signature:

Deputy dean: khansaa S. farman

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department: Noor hasan hassoon

Date:

Signature:

College of Education for Pure Science

CLEANARY

Approval of the Dean

Ghalib A. Atiya

1. **Program Vision**
Diyala University seeks scientific leadership, excellence and creativity in the fields of higher education and scientific research to serve the community and enhance its local, regional and international standing to reach the highest levels of quality and international accreditation.

2. **Program Mission**
Providing effective academic university education through continuous development of academic programs in many specializations in light of the requirements of development plans to serve the labor market and contribute to promoting sustainable development.

3. **Program Objectives**
1- Explaining the chemical properties of atoms and elements 2- Explaining chemical equilibrium 3- Developing students' knowledge of the types of chemical reactions 4- Introducing students to volumetric and weight analysis 5- Introducing students to stereochemistry

4. **Program Accreditation**
No, it has not yet received accreditation.

5. **Other external influences**
There is no sponsor to the program.

6. **Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	1	2		
College Requirements	1	2		
Department Requirements	1	2		
Summer Training	0	0		
Other	**Basic**			

* 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 CH11**	**General Chemistry CH11**	**theoretical**	**practical**
			42	**22**

8. Expected learning outcomes of the program	
Knowledge	
1-Learning Outcomes	A- Cognitive objectives 1- Enabling students to obtain knowledge through understanding general chemistry 2- Enabling students to obtain knowledge through external sources A3- Enabling

	students to obtain knowledge through preparing scientific reports 4- Enabling students to obtain knowledge by following the latest scientific publications and research
Skills	
2-Learning Outcomes	B - The skills objectives of the course. 1- Teaching students how to prepare solutions 2 - Enabling students to determine the weight of solutions and compounds 3 - Enabling students to prepare alkynes 4- Enabling students to understand organic chemistry and its compounds
- General and qualifying transferable skills (other skills related to employability and personal development). 1- Using modern sources while studying. 2- Benefiting from research centers 3- Developing students' skills to use libraries and the Internet 4- Benefiting from libraries	1- Cognitive objectives 2- The basic concepts of analytical and organic chemistry. 3- Enabling students to obtain knowledge and understanding of general chemistry. 3- Acquiring theoretical and practical skills in general chemistry

Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. **Teaching and Learning Strategies**
Developing learning outcomes in various areas of learning for each of the learning areas shown below 1- It provides a quick summary of the knowledge or skills that the course seeks to develop. 2- Description of the teaching strategies used in the course in order to develop that knowledge or skills. 3- The methods used to evaluate the student in the course to evaluate the learning outcomes in this field of study.

10.Evaluation methods
1- Oral questions during the lesson 2- Daily tests 3-Monthly tests

11. Faculty					
Faculty Members					
Academic Rank	**Specialization**		**Special Requirements/Skills (if applicable)**	**Number of the teaching staff**	
	General	**Special**		**Staff**	**Lecturer**

An assistant Lecturer	Chemistry	Physical Chemistry	□Teaching Experience at the chemistry department in the College of Education and Pure Science-University of Diyala •Because I graduated with honor (with the highest average marks among my colleagues), I was employed in the same college that I graduated from. •Over 10 years of chemistry undergraduate laboratory teaching. •Lab Courses that I taught: Introduction		1	

			to Chemistry, College Chemistry Laboratory I, Organic laboratories for (level I, II, III, IV), Analytical laboratories for (level I, II, IV), and Physical laboratories for (level II, III). •In addition, assisting professors with pre-lab lectures, instructive handouts, and quizzes along with grading the lab reports and weekly quizzes, mid-term and final examinations. •Assisting and monitoring			

			undergraduate students performing various instructive experiments.			

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**
(central admission)

13. **The most important sources of information about the program**
Organic chemistry for life sciences students. (Dr. Fahd Ali Hussein)

14. Program Development Plan
- Using computers in studies

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

1 stage

1. Course Name:
English language
2. Course Code:
EN11
3. Semester / Year:
Annual
4. Description Preparation Date:
2023-2024

5. Available Attendance Forms:
Imperative
6. Number of Credit Hours (Total) / Number of Units (Total)
60 h/2U
7. Course administrator's name (mention all, if more than one name)
Name: lecturer. Dr. Antsar Ahmed Abbas Email: intisarm1978@yahoo.com
8. Course Objectives

Course Objectives	● **Enabling students to know the tenses and how deal with them.** ● **The student is able to understand English vocabulary in addition to being able to express in English language.** ● **Enabling students by preserving scientific terminology.**
9. Teaching and Learning Strategies	
Strategy	**• Applying the theoretical aspect to reality through examples, group discussion and dialogue, as well as the preparation of daily and monthly Reports and tests.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2-3	2	The student understands what he received with the lecture	Reading: How to read	Presentation and lecture	Class questions
4-5-6	2	The student understands what he received with the lecture	Daily Routine: Work and Stress Anticipate and guess content. And quick reading to get the general idea of the topic	Presentation and lecture	Class questions
7		exam			
8-9-10	2	Learn about how form correct sentences by using the pattern.	Grammar: -present simple tense. -the present progressive.	Presentation and lecture	Class questions

11-12-13	2	The student understands what he received with the lecture.	People and Environment: How to read. Meaning of conjecture content for new vocabulary	Presentation and lecture	Class questions
14	2	Exam			
15-16-17	2	The student understands what he received with the lecture	Architecture: - The work of observations of intensive study. - Preparing and naming scientific charts. - Find information	Presentation and lecture	Class questions
18-19-20	2	The student understands what he received with the lecture.	Education: -Expect and guess content. -Connecting ideas	Presentation and lecture	Class questions
21		Exam			
22-23-24	2	Learn about how form correct sentences by using the pattern	Grammar: -the past simple tense. -the past continuous tense	Presentation and lecture	Class questions

25-26-27	2	The student understands what he received with the lecture	Technology: - Obtaining information from websites. - Work a summary of information by quick reading. - Use visuals on websites to obtain expanded information through charts and images.	Presentation and lecture	Class questions
28-29	2	The student understands what he received with the lecture	Some scientific definitions of biology.	Presentation and lecture	Class questions
30		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)	Headway: academic skills: Reading writing

	and study skills, level 1
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	websites

Arabic language

1. Course Name:
Arabic language
2. Course Code:
108 GAR
3. Semester / Year:
I
4. Description Preparation Date:
2024-2023
5. Available Attendance Forms:
My attendance is mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours/4 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Muhammad Jassim Nasser

Email: mohammednaser @uodiyala.edu.iq	
8. Course Objectives	
Course Objectives	**- Enabling students to understand the concept of speech and speech** **- Distinguishes name signs** **- 3- Distinguish the signs of the verb** **- 4- Understands letter signs** **- 5- He explains the Farewell Pilgrimage sermon**
9. Teaching and Learning Strategies	
Strategy	- Learning strategy until mastery. - How to solve problems. - Inductive method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Enabling students to become familiar with the mother tongue	Introduction to the Arabic language	Presentation and interrogation	Discussion
2	2	He learns how to read the Qur'an correctly and adjust the end of it	Reading the Holy Quran	Presentation and interrogation	Daily exam
3	2	Enabling students to concept of the know the word	Word concept	Presentation and interrogation	report
4	2	Recognizes the concept of speech	Concept of speech	Presentation and interrogation	Daily exam
5	Exam				
6	2				Share

7	2	Can divide speech	Sections of speech	Presentation and interrogation	-Discussion report
8	2	The student understands name signs	Name tags	Presentation and interrogation	Daily exam
9	2	Can divide speech	Sections of speech	Presentation and interrogation	Discussion
10	2	Exam			
11	2	Enabling students to igneous rocks know	prepositions -Vowels	Presentation and interrogation	Share
12	2	Enabling students to know punctuation marks	punctuation marks	Presentation and interrogation	Daily exam
13	2	The student learns how to express	Parsing	Presentation and interrogation	Discussion
14	2	The student learns how to write a composition and what are the main rules for writing it	Construction	Presentation and interrogation	Share
15	2	Explain what the letter signs are	Character signs	Presentation and	Discussion

				interrogation	
16	2	Exam			
17	2	2	Enabling students to know punctuation marks	punctuation marks	Presentation and interrogation
18	2	2	The student learns how to express	Parsing	Presentation and interrogation
19	2	2	The student learns how to write a composition and what are the main rules for writing it	Construction	Presentation and interrogation
20	2	The The student knows concept of Arabic literature	The concept of Arabic literature	Presentation and interrogation	
21	2	The importance of metamorphic rocks	Departments of Arabic Literature	Presentation and interrogation	
22	2	The student learns about examples of metamorphic rocks	Farewell Hajj sermon	Presentation and interrogation	
23	2	The student knows the and its components soil	hair the	Presentation and interrogation	Daily exam

24	**2**	**Explains the life of Ibn Khaldun**	**Ibn Zaydoun, his life**	**Presentation and interrogation**	**Share**
25	**2**	**Explains the life of Ibn Khaldun**	**Ibn Zaydoun, his life**	**Presentation and interrogation**	**Discussion**
26	**2**	**Exam**			
27	**2**	**The student gets to know the similar tools**	**Its simile tools and sections**	**Presentation and interrogation**	**Share**
28	**2**	**The student gets to The most know prominent Arabic proverbs**	**Proverbs and rulings and their impact on Arabic literature**	**Presentation and interrogation**	**Discussion**
29	**2**	**The student compares the solar and lunar letters**	**Solar and lunar lam**	**Presentation and interrogation**	**Discussion**
30	**2**				**exam Daily**

11. Course Evaluation

-25 marks for the monthly exam, first semester
-25 marks for the monthly exam, second semester
- 50 marks for the final exam.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Explanation of Ibn Aqeel, History of Ara Literature, Shawqi Deif**
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Website of Iraqi scientific academic journals http://www.iasj.net
Electronic References, Websites	website of the Central Library - University Diyala. https://uodiyala.edu.iq

Cell biology

13. Course Name: Cell biology	
14. Course Code: C11	
15. Semester / Year:Yearly	
16. Description Preparation Date: 2023-2024	
17. Available Attendance Forms: Mandatory	
18. Number of Credit Hours (Total) / Number of Units (Total) 60 hours	
19. Course administrator's name (mention all, if more than one name)	
Name: Dr. Ali Jaffar Saleem Email: ali.saleem@uodiyala.edu.iq	
20. Course Objectives	
Course Objectives	**Understand the concept of cell science** **Methods used in studying the cell** **Understand the functions of components**
21. Teaching and Learning Strategies	

Strategy	Problem solving method Inductive method Self-learning method

22. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Learn about the basics of cell scien	General introductio	Diction and	Oral test
2	2	Understanding cellular theory and development	cell theory	Questioning In all lectures	Preparing repor Homework
3	2	The difference between prokary and eukaryotic	prokaryotic eukaryotic		In all lectures
4	2	Understanding viruses	viruses		
5	2	Identify the chemical components the cell	chemical compone of the cell		
6	2	Learn about the role of water in	water		
7	2	cell	amino acids, prote		
8	2	Identify amino acids, proteins enzymes	and enzymes carbohydrates and f		
9	2	Identify carbohydrates and fats	cell membrane		
10	2	Understand the structure and functi of the cell membrane	vacuoles		
11	2	Knowing the types of cell vacuoles	mitochondria		
12	2	Knowing of the structure	plastids		

		functions of mitochondria			
13	2	Knowing of the structure, functi	ribosomes		
		and types of plastids	endoplasmic reticul		
14	2	Understanding the role of riboso	cellular		
15	2	and the endoplasmic reticulum	transport		
16	2	Learn about cellular transport meth	Exam		
17	2	Exam	cell study		
18	2	Learn about cell study methods	methods		
		Know the types of microscopes			
19	2	Knowing of the cell nucleus and	cell nucleus		
20	2	function			
21	2	Know the contents of the nucleus	nucleus		
22	2	Comparison between mitosis	structure		
23	2	meiosis	mitosis and		
24	2	How are genetic traits transmitted?	meiosis		
25	2	Learn about the basics of	genetic traits		
		applications	bio applications		
26	2	Knowing of biotechnology	biotechnology		
		Learn about genetic engineering	genetic		
27	2	Learn about some applications	engineering		
28	2	genetic engineering	applications of gen		
		Distinguishing between live cells	engineering		
29	2	dead cells	live cells and d		
30	2	How to prepare the swab	cells		
		Learn about modern methods			

		studying the cell General Review Exam	prepare the swab modern methods studying the cell General Review Exam		

23. 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 25% written exams 5% daily oral 4% reports 16% lab 50% final written exam	
24. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Cell biology(1989) Saad Taj Al-Din
Main references (sources)	Introduction to essential cell biology(20 Ckreoconnor
Recommended books and references (scientific journals, reports...)	Theses and scientific journals
Electronic References, Websites	IraqiAcademi Scientific Jour https://www.iasj.net/

Giology

13. Course Name:	
Giology	
14. Course Code:	
G11	
15. Semester / Year:	
annual	
16. Description Preparation Date:	
2023−2024	
17.Available Attendance Forms:	
mandatory	
18.Number of Credit Hours (Total) / Number of Units (Total)	
60 h/4 U	
19. Course administrator's name (mention all, if more than one name)	
Name: Asst. Asst. Dr. Hind tahir qadir Email: hind.tahir.qadir@uodiyala.edu.iq	
20. Course Objectives	
Course Objectives	−1 Enabling students to know igneous, sedimentary and metamorphic rocks 2-Enabling students to know the Earth's covers 3-Students' knowledge of the importance of studying fossils 4- Students' knowledge of the Earth's movements and the theories that explain the Earth's movement 5- Students' knowledge of minerals, their origin and classification *Enabling students to know igneous, sedimentary and metamorphic rocks *Enabling students to know the Earth's covers *Students' knowledge of the importance of studying fossils *Students' knowledge of the Earth's movements and the theories that

	*explain the Earth's movement *Students' knowledge of minerals, their origin and classification

21. Teaching and Learning Strategies

Strategy	• **Conduct a set of daily and monthly tests to evaluate the student's understanding** • **Asking students to make reports on the study material**

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Enabling students to know the basics of earth science Explains the branches of earth science	ntroduction to earth science Earth science / branches of earth science	Presentation and lecture	Class questions
2	2	Enabling students to know the most important divisions and covers of the Earth	Land/Earth Covers - Land divisions	Presentation and lecture	Class questions
3	2	The student knows metals	Components of the Earth's crust - minerals	Presentation and lecture	Class questions
4	2	Enabling students to know the physical and chemical nature of the Earth	Chemical and physical components of the Earth's crust	Presentation and lecture	Class questions
5	2	Exam			
6	2	Students understand the importance of water and how to preserve the secret of life	Physical properties of minerals	Presentation and lecture	Class questions
7	2	The student distinguishes between carbohydrates and amino acids	Complementary physical attributes	Presentation and lecture	Class questions
8	2	Enabling students to know igneous rocks	Rocks/igneous rocks	Presentation and lecture	Class questions
9	2	Enabling students to	sedimentary	Presentation and	Class

		know sedimentary rocks	rocks	lecture	questions
10	2	Exam			
11	2	Enabling students to know sedimentary rocks	Sedimentary rock supplement	Presentation and lecture	Class questions
12	2	Enabling students to distinguish sedimentary rocks	Examples of sedimentary rocks	Presentation and lecture	Class questions
13	2	The student compares sedimentary and igneous rocks	Comparison between sedimentary and igneous rocks	Presentation and lecture	Class questions
14	2	he student knows metamorphic rocks	Metamorphic rocks	Presentation and lecture	Class questions
15	2	Exam			
16	2	**Presentations**		Presentation and lecture	Class questions
17	2	The importance of metamorphic rocks	Metamorphic rock supplement	Presentation and lecture	Class questions
18	2	The student learns about examples of metamorphic rocks	Examples of metamorphic rocks	Presentation and lecture	Class questions
19	2	The student knows the soil and its components	Soil/soil components	Presentation and lecture	Class questions
20	2	The student understands the movement of the earth	Earth's movement	Presentation and lecture	Class questions
21	2	Exam			
22	2	Understands the movement of the Earth	Ground movement	Presentation and lecture	Class questions
23	2	The student learns the importance of fossils and fossils	Fossils and fossils and their importance	Presentation and lecture	Class questions
24	2	Factors affecting terrain and its origin	Climate, air, water and wind	Presentation and lecture	Class questions
25	2	The student learns the basic information about earthquakes and their causes	Earthquakes/their causes	Presentation and lecture	Class questions
26	2	Exam			
27	2	The student learns about earthquakes, faults, and joints The student compares the intensity and strength of	Earthquakes/faults/breaks The difference between the intensity and strength of earthquakes	Presentation and lecture	Class questions

		earthquakes			
28	2	The student learns about the factors of soil formation	the process of moving rock into soil	Presentation and lecture	Class questions
29	2	Biological factor or living organisms	The influence of living organisms on soil formation and formulation of its characteristics	Presentation and lecture	Class questions
30	2	Exam			

23. 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

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Earth science geology. Muhammad Reda Ibrahim
Main references (sources)	nternet sites, the website of the College of Education for Pure Sciences www.puresci.uodiyala.edu.iq The website of the Central Library, University of Diyala, http://www.uodiyala.edu.iq Iraqi academic journals website http://www.iasj.net
Recommended books and references (scientific journals, reports…)	websites
Electronic References, Websites	nternet sites, the website of the College Education for Pure Sciences www.puresci.uodiyala.edu.iq The website of the Central Libra University of Diya http://www.uodiyala.edu.iq

General Chemistry

25. Course Name: General Chemistry CH11	
26. Course Code: General Chemistry CH11	
27. Semester / Year:2023-2024	
2023-2024	
28. Description Preparation Date:	
1/9/2023	
29. Available Attendance Forms: Attendance	
Attendance	
30. Number of Credit Hours (66) / Number of Units (2)	
31. Course administrator's name (mention all, if more than one name)	
Name: Mustafa Khalid Mohammed Email: mostafa.khalid.mohammed@uodiyala	
32. Course Objectives	
Course Objectives	**- Explaining the chemical properties of atoms and elements** **2- Explaining chemical equilibrium** **3- Developing students' knowledge of types of chemica reactions** **4- Introducing students to volumetric and weight analysi** **5- Introducing students**

	stereochemistry

33. Teaching and Learning Strategies

Strategy	Developing learning outcomes in various areas of learning for each of the learning areas shown belo 1- It provides a quick summary of the knowledge skills that the course seeks to develop. 2- Description of the teaching strategies used the course in order to develop that knowledge skills. 3-The methods used to evaluate the student the course to evaluate the learning outcomes this field of study. 4- Evaluation is done through extracurricul activities, written exams, oral exams, a reports, and the lecture method is used teaching.

34. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
The first week	2	Enabling students to know the most important chemists ar	Introduction to chemistry Periodic properties of atoms	Presentatio and interrogatio Presentatio and	

		their history		interrogatio	
secon week the third week fourth week The fifth week the sixth week The seven week The eighth week	2 2 2 2 2 2 2 2	Enabling students to know the properties c atoms Enable students to know how t read the periodic table Enabling students to understand how to arrange electrons Exam Enabling students to know ionic balance Enabling students to know ionic balance and	Classification of items inPeriodic Table Electron arrangement in the periodic tabl Exam Chemical equilibrium and the law of mass action Ionic balance pH function calculations Common ion action - buffer solution pH calculation	Presentatio and interrogatio Presentatio and interrogatio Exam Presentatio and interrogatio Presentatio and interrogatio Presentatio and interrogatio Exam	

	2	perform the	Exam		
The		necessary		Presentatio	
ninth		dilutions	Volumetric	and	
week	2		analysis	interrogatio	
		Enabling	Ways to express		
The	2	students to	focus	Presentatio	
tenth		know ways		and	
week	2	of expressi	Standard	interrogatio	
		Concentrati	solutions,		
The		n and	standard materia		
elever		calculation		Presentatio	
h wee	2	of buffer		and	
		solution	Neutralization	interrogatio	
The			reactions and	Presentatio	
twelft		Exam	indications used	and	
week			Exam	interrogatio	
	2	Understand			
The		the	Review the end		
thirtee		characterist	the first semeste		
th wee		s of	Weight-factor		
		aggregate	analysis	Exam	
The	2	analysis			
fourte				Review the	
nth		Enumerates	Weight and	end of the	
week	2	ways to	calculations	first semest	
		express foc	Spectroscopy -		
			Lambert's law		
the week		Detects	Organic	Presentatio	
Fiftee		standard	Chemistry -	and	
h	2	solutions	Introduction	interrogatio	
			Chemical bondi		
		Interprets	of carbon	Presentatio	
		interactions	compounds	and	

	2	using the evidence us	Exam Stereochemistry	interrogatio	
	2	Exam	Organic compounds	Presentatio and	
	2	Review the end of the first semest	Alkanes - Alken - Their preparation	interrogatio	
	2	Enabling students to interpret	Alkanes - Alken - Physical properties -		
	2	weight analysis	Alkanes - Alken -	Presentati on and	
	2	Enabling students to know spectroscop	Their interaction Conducting experiments for students to gain an understandin	interrogati on Presentati	
	2	and Lambert's law	of chemical processes Exam	on and interrogati on	
	2	Enabling students to know what organic chemistry i	Aromatic hydrocarbons Benzene derivatives and their reactions	Presentati on and interrogati on	
	2	Enabling students to know the connection	Spectroscop - Lambert's law Organic Chemistry -	Presentati on and	
	2	Chemistry	Introductio	interrogati	

	2	and polar molecules Exam Knows stereochem try Enable students to name organ compounds Enable students to name organ compounds Characteriz the physica properties o organic compounds Shows the reactions of organic compounds Conducting experiment for students		Chemical bonding of carbon compounds Exam Stereochem try Organic compounds Alkanes - Alkenes - Their preparation Alkanes - Alkenes - Physical properties - Alkanes - Alkenes - Their interactions Conducting experiment for students to gain an understandi g of chemic processes Exam Aromatic hydrocarbo Benzene derivatives	on Exam Presentati on and interrogati on Presentati on and interrogati on Presentati on and interrogati on	

	2 2	to gain an understandi g of chemic processes Exam Students identify wh hydrocarbo are Enable students to name Benzene derivatives and the reactions	and the reactions	Exam Presentati on and interrogati on Presentati on and interrogati on Presentati on and interrogati on Presentati on and interrogati on Exam Review the end of second semester	
35. Course Evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation = 5, monthly = 40, final written					

= 50, and reports = 5.	
36. Learning and Teaching Resources	
Required textbooks (curricular book if any)	Organic chemistry for life scienc students. Dr. Fahd Ali Hussein
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Theses, dissertations a scientific journals
Electronic References, Websites	

37. Course Name:
General biology
38. Course Code:
General biology
39. Semester / Year:
The first stage
40. Description Preparation Date:
2022−2023
41. Available Attendance Forms:
Daily attendance
42. Number of Credit Hours (Total) / Number of Units (Total)
2 hours theory + 2 hours practical - 6 units)
43. Course administrator's name (mention all, if more than one name)
Name: Assist. Prof. Dr. Adawia Fadhil Abbas Alzubaidi Email: adwa_a2000@ yahoo.com

44. Course Objectives	
Course Objectives	**• Introducing the student to the concept of general biology** **• Introducing the student to the basics of biology and will disc the history and importance of biology** **• Identify the branches of biology** **• Identify the characteristics and features of living organisms** **• Description of the living cell, its types, shapes, and organelle** **• Identify its living and non−living components** **• Identify the metabolic processes carried out by the cell. The cycle of the cell and its divisions −** **• The student will also study plant and animal tissues, th components and functions** **• This course will also be presented**

45. Teaching and Learning Strategies	
Strategy	**A- Cognitive objectives** 1 Introduction to general biology 2 Reviews the manifestations of life in living organisms and the characteristics of living matter and its chemical components. 3 Explains the difference in cellular structure in prokaryotic and eukaryotic cells and cellular structures in living organisms

	4 It links the structures and organelles of a living organism and the vital functions they perform 5 Analyze the results through a comparison between prokaryotic a eukaryotic organisms **B - The skills objectives of the course.** 1 - Learn about the concepts, terminology, branches of biology, its theories, and the contributions of ancient civilizations to the advancement of biology. 2 - Explains the difference in cellular structure between prokaryotic and eukaryotic cells and the cellular structures in living organisms 3 - The student learns about the vital processes in living organisms **C- Emotional and value-based goals** 1) He works flexibly and effectively within a team and develops his ability to dialogue and discuss. 2) Commitment to the ethics of the educational institution 3) Commitment to the ethics of the medical and health professions a respect for the patient's suffering 4) Enhancing the cognitive spirit **Teaching and learning methods** 1. Theoretical and practical lectures 2. Training students in hospitals, educational laboratories, and schoo to teach the subject 3. Adopting video lectures to increase knowledge D - **Transferable general and qualifying skills (other skills relate to employability and personal development).** 1. The student will be able to understand parasites and the diseases that can occur when infected 2. Use the easiest and quickest methods to diagnose diseases caused parasites 3. Using cognitive information to guess the disease and the location o the examination or sample collection 4. Coordination with the treating physician to follow up on the patie **Teaching and learning methods** 1. Lectures 2. Use DATASHOW 3. Use means of explanation inside the hall 4. LECTURE INTERACTIVE **- Evaluation methods** 1. Quarterly and annual exams 2. QUIZ 3. Seminars 4. Attendance 5. Class activity

46. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Cognitive	1- Introduction to Biology, a historical overview of the development of biology, the importance of biology, branches o biology	the blackboar Display Scree Videos Electronic cla	Daily exams Oral exams the exam In electro classes Monthly exams
2			2- Characteristics of living organisms and the main method construction of materials		
3			3- Living for the main organic compounds in living organisms		
4			4- Classification, taxonomic stage of living organisms, classification		
5			systems, foundations of plant classification,		
6			5- Foundations of animal classification, classification syste taxonomic ranks		
7			6- Hormonal coordination, hormonal coordination in animal basic characteristics of hormones hormonal regulation in humans 7- Functions of hormones, hormonal regulation in humans, endocrine system, types of endocrine glands,		
8			8- Half year holidays		
9			9- Hormonal coordination in plan the most important plant hormon		
10			10- Evolution, division of organis based on their varying evolutiona paths, evolution of vertebrates		
11			11- Behavior, factors affecting behavior, reception and action in the nervous system,		
12			12- Types of behavior the differe between innate behavior and acquired behavior is monotony o rhythm		
13			13- The biological clock, behavior		

14 15 16 17 18 19			plants, behavior in animals, 14- Environmental behaviors, the role of behavior in regulating the livelihood of animals 15- Migration, periodic migration types of migration, reasons for migration 16- Migration requirements, migration motivation, animals, migration dangers 17- Ecology, ecosystem, ecosyste 18- The relationship between different species, soil and air, 19- Light, biosphere, food chains and food web		

47. 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...etc. (25 first semester, 25 second semester (total such as daily preparation, daily, oral, monthly, and written exams) 50 final exams

48. Learning and Teaching Resources

Required textbooks (curricular books, if any)	NON
Main references (sources)	Introduction to general biology Biology_Peter H._Riffen_et al
Recommended books and references (scientific journals, reports…)	Internet
Electronic References, Websites	W H O, jawetz medical microbiology 29th edition

Lecturer

Assist. Prof. Dr. Adawia Fadhil Abbas Alzubaidi

15. **Program Vision**

16. **Program Mission**

17. **Program Objectives**

18. **Program Accreditation**

19. **Other external influences**

20. **Program Structure**

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

Summer Training				
Other				

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

21. Program Description

Year/Level	Course Code	Course Name	Credit Hours	

22. Expected learning outcomes of the program

Knowledge	
Skills	
Ethics	

23. Teaching and Learning Strategies

24. Evaluation methods

25. Faculty

Faculty Members: Assist. Profe. Maha falih nazzal

Academic Rank	Specialization	Special Requirements/Skills	Number of the teaching staff

			(if applicable)			
	General	Special			Staff	Lecturer

Professional Development
Mentoring new faculty members
Professional development of faculty members
1

26. **Acceptance Criterion**

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

28. Program Development Plan

/ Second stage

biostatistic

49. Course Name:
biostatistics
50. Course Code:
51. Semester / Year:
2023/2024
52. Description Preparation Date:
20/3/2024
53.Available Attendance Forms:
Physical attendance
54.Number of Credit Hours (Total) / Number of Units (Total)
55. Course administrator's name (mention all, if more than one name)
Name: waleed ahmed Email:
56. Course Objectives

Course Objectives	• The course objectives for a biostatistics course may include: • Understand the fundamental principles of biostatistics: Students will gain a solid understanding of the basic principles and concepts of biostatistics, including probability, hypothesis testing, confidence intervals, and study design. • Apply statistical methods to analyze

	health-related data: Students will learn how to apply various statistical methods to analyze and interpret health-related data, such as clinical trial data, epidemiological data, and public health data. They will gain practical skills in data management, data cleaning, and data analysis using statistical software. • Interpret and communicate statistical results: Students will develop the ability to interpret statistical results accurately and effectively. They will learn how to interpret p-values, confidence intervals, and effect sizes, and communicate their findings in a clear and understandable manner to both technical and non-technical audiences. • Critically evaluate research studies: Students will learn how to critically evaluate research studies in biostatistics. They will examine the strengths and limitations of study designs, assess potential biases and confounding factors, and evaluate the validity and reliability of statistical findings.
57. Teaching and Learning Strategies	
Strategy	- Traditional lectures and discussion method. - Laboratory activities and additional exercises as assignments.

	- Scientific books. - Daily and monthly exams

58. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
first week	2	Definition of Statistics,	Understand the concept of statistics	lecture and discussion method,	Exam-reports
2	2	Calculation of Sample ze Siz	Understand the sample	lecture and discussion method,	Exam-reports
3	2	Types of Measures and Their Formulas	Understand the measures and application	lecture and discussion method,	Exam-reports
4	2	Types of Measures and Their Formulas	Understand measures of dispersion	lecture and discussion method,	Exam-reports
5	2	Grouped and Ungrouped Data	**Understand what the kind of data**	lecture and discussion method,	Exam-reports
6	2	Exam	CPU Scheduler, Dispatcher, and Scheduling Criteria	Lecture +LAB	Oral Exam
7	2	Probability in Statistics	Understand of probability	lecture and discussion method,	Exam-reports
8	2	Events and Sample Space	Understand of sample	lecture and discussion method,	Exam-reports
9	2	Data Correlation	Understand the data corrlation	lecture and discussion method,	Exam-reports
10	2	Pearson's Correlation and Its Formula	**Understand of the correlation**	lecture and discussion method,	Exam-reports
11	2	Exam	System Model Deadlock Characterization and RAG	Lecture +LAB	Oral Exam

12	2	Rank Correlation and Its Calculation	Learn about rank correlation	lecture and discussion method,	Exam-reports
13	2	Spearman's Correlation and Its Formula	Understand Spearman's correlation	lecture and discussion method,	Exam-reports
14	2	Applications of Correlation in Data	Learn about contingency theory	lecture and discussion method,	Exam-reports
15	2	Uses in Data Analysis	Understand theory of correspondence	lecture and discussion method,	Exam-reports
16	2	Z-Test	Learn about z-test	lecture and discussion method,	Exam-reports
17	2			Exam-reports	Oral Exam
18	2	Memory Management	Paging and Structure of the Page Table	Lecture +LAB	Oral Exam
19	2	Life Sciences Data	Learn of sciences data	lecture and discussion method,	Exam-reports
20	2	Calculation Method	Learn of sciences data	lecture and discussion method,	Exam-reports
21	2	Calculation Method	Learn of sciences data	lecture and discussion method,	Exam-reports
22	2	Calculation Method	Understand F-test	lecture and discussion method,	Exam-reports
23	2	Data Entry Methods	Understand F-test	lecture and discussion method,	Exam-reports
24	2	Data Analysis	Understand of data analysis	lecture and discussion method,	Exam-reports
25	2	Data Division and Entry in Software	Understand of software in statistic	lecture and discussion method,	Exam-reports
26	2	Entry of Custom Codes in Software	**Learn of input data**	lecture and discussion method,	Exam-reports
27	2	Spss program.	Learn of input data	lecture and discussion method,	Exam-reports
28	2	R PORGRAM AND RESELT	Learn of input data	lecture and discussion method,	Exam-reports
30	exam	Exam			

11Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Books: Dr.mahmud al-meshdani
Main references (sources)	Introduction in biostatistics /dr hik orhan
Recommended books and references (scientific journals, reports…)	INTRODUCTION TO STATISTICS MA EASY
Electronic References, Websites	INTRODUCTION TO STATISTI MADE EASY

HISTOLOGY

1. Course Name:	
Histology	
2. Course Code:	
H22	
3. Semester / Year:	
annual	
4. Description Preparation Date:	
2023−2024	
5. Available Attendance Forms:	
mandatory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 h/4 U	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Dr. Hind tahir qadir Email: **hind.tahir.qadir@uodiyala.edu.iq**	
8. Course Objectives	
Course Objectives	1- Recognize the types of tissues in animal

	2-The most important thing that distinguishes each fabric from the other 3-Enabling students to know the functions of different tissues

9. Teaching and Learning Strategies

Strategy	**1•** Clarification of animal tissues 2-.Classifies animal tissues in terms of their structure and characteristics 3-Learn about the functions of animal tissues 4-Distinguishing between tissues functionally and structurally 5-The shape of the cells and the description of the tissue components by seeing the slides of the tissue

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	**Histology the tissues**	Primary tissues Epithelial tissues ,Connective tissues,Muscular tissues,Nervous tissues tissues,Muscular tissues,Nervous tissues	Presentation and lecture	Class questions
2	2	Epithelial tissues Classification of Epithelial tissues	Simple Epithelial tissues Stratified Epithelial tissues	Presentation and lecture	Class questions
3	2	Stratified Epithelial tissues	Stratified Squamous E.T Stratified cuboidal E.T Stratified Columnar E.T	Presentation and lecture	Class questions
4	2	Glandular Epithelial tissues	Endocrine glands Exocrine glands Mixed glands	Presentation and lecture	Class questions
5	2	Exam			
6	2	Connective tissues	Cells Intracellular substance Fibers	Presentation and lecture	Class questions

7	2	Classification of connective tissue	Connective tissues proper Dense connective tissue Loose connective tissue	Presentation and lecture	Class questions
8	2	Specialized connective tissue	Dense connective tissue	Presentation and lecture	Class questions
9	2	Loose connective Tissue	Mesenchymal C.T Areolar C. T Adipose C.T Mucous C.T	Presentation and lecture	Class questions
10	2	Exam			
11	2	Specialized connective tissue	Skeletal connective tissue	Presentation and lecture	Class questions
12	2	Bone Haversian system Lacunae	Cartilage Hyaline ,Elastic,White fibro	Presentation and lecture	Class questions
13	2	Muscular tissues	Skeletal muscles Smooth muscles Cardic miscle	Presentation and lecture	Class questions
14	2	Nervous tissue	Cell body Processes Axon ,dendrites	Presentation and lecture	Class questions
15	2	Exam			
16	2	Histology of Organ	Circulatory system Heart,blood capillaries	Presentation and lecture	Class questions
17	2	The Integumentary system	Thick skin	Presentation and lecture	Class questions
18	2	Skin appendages	Hair,nail,sebaccous glamd Sweet glands	Presentation and lecture	Class questions
19	2	Digestive system	Oral cavity Digestive tube	Presentation and lecture	Class questions
20	2	Lips,Tongue,Taste buds,teeth,salivary gland	Esophagus,Stomach,the small intestine, Duodenum,LLeum	Presentation and lecture	Class questions
21	2	Exam			
22	2	Digestive glands Pancreas,Liver,Gallbladde	The large intestinal Colon,Vermiform appendix	Presentation and lecture	Class questions
23	2	Liver	The principle of Liver function	Presentation and lecture	Class questions
24	2	Pancrease	The principle of Pancrease function	Presentation and lecture	Class questions
25	2	Respiratory system	Trachea, Secondary bronchi ,bronchioles,Alveolar ,Alveolar sac	Presentation and lecture	Class questions

26	2	Exam			
27	2	The student enumerates the endocrine glands	Endocrine glands	Presentation and lecture	Class questions
28	2	The student enumerates the endocrine glands Urinary system	Endocrine glands Kidney The Ureter Urethra Urinary bladder	Presentation and lecture	Class questions
29	2	The student learns about the mechanism of action of the spleen, its types and the Tonsils ,their types and location	The tonsils and their importance to humans	Presentation and lecture	Class questions
30	2	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)	1-Histology (first part) / 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
Recommended books and references (scientific journals, reports…)	Basic histology .atlas a text..junqueira…2003 using an atlas histology
Electronic References, Websites	

third stage

Scientific research method

59.	Course Name: Scientific research method
60.	Course Code: 214 CSRM
61.	Semester / Year:2022-2024
62.	Description Preparation Date:2023-2024
63.Available Attendance Forms: DIALY ATTENDACE	
64.Number of Credit Hours (Total) / Number of Units (Total)2h+weekly	
65.	Course administrator's name (mention all, if more than one name)
Name: Assistant Prof Dr Fatin Ali Al-Chalabi Email: fatin.alghalabi@uodiyala.edu.iq	
66.	Course Objectives
Course Objectives	• Highlighting the scientific principles and rules that must be followed by life sciences students at the initial university stage for the purpose of arriving at proper planning for integrated scientific research and publishing it in journals.
67.	Teaching and Learning Strategies
Strategy	The student can rely on himself in research, preparing reports, and writing scientific research Identify the most important issues that the researcher faces in writing research

68. Course Structure

Week	Hours	Required	Unit or subject name	Learning	Evaluation

		Learning Outcomes		**method**	**method**
1	**2**	**Knowledge**	Defines the concept of scientific research methodology	giving a lecture T. v. screen	**Quiz.** **Oral question**
2	**2**	**knowledge**	Determines the objectives of the scientific research method	giving a lecture T. v. screen	**Quiz.** **Oral question**
3	**2**	**knowledge**	Compares science and knowledge	giving a lecture T. v. screen	Quiz. Prepare a report
4	**2**	**knowledge**	Explains the relationship of research methodology to science and explains the importance of publishing in journals	giving a lecture T. v. screen	Quiz. Prepare a report
5	**2**		**exams**		
6	**2**	**knowledge**	Shows the importance of pure and applied scientific research Enumerates the types of scientific production	giving a lecture T. v. screen	Quiz. Prepare a report
7	**2**	**knowledge**	Enumerates the types of scientific research	giving a lecture T. v. screen	Quiz. Prepare a report
8	**2**	**knowledge**	The student identifies the elements of writing scientific research	giving a lecture T. v. screen	Quiz. Oral question
9	**2**	**knowledge**	Learn about scientific research methods and tools	T. v. screen	Oral question

10	**2**		exam		
11	**2**	**knowledge**	Explains the descriptive approach He enumerates his tools	giving a lecture T. v. screen	Oral question
12	**2**	**knowledge**	Compares the theoretical approach and the statistical approach	Whiteboard T. v. screen	Share
13	**2**	**knowledge**	Enumerates the main requirements for carrying out research	giving a lecture	Quiz. Oral question
14	**2**	**knowledge**	Points out errors in scientific experiments Enumerate the types of errors	giving a lecture T. v. screen	Quiz. Oral question
15	**2**	**knowledge**	Learn how to write sources of information	giving a lecture T. v. screen	Quiz. Oral question
16	**2**		**Exam**		
17	**2**		Learn how to write sources of information	giving a lecture T. v. screen	Quiz. Oral question
18	**2**	**knowledge**	Recording the elements of scientific research	giving a lecture T. v. screen	Quiz. Oral question
19	**2**		The student lists the main paragraphs of the research	giving a lecture T. v. screen	Quiz. Oral question
20	**2**		Learn how to write an introduction and how to cite references	giving a lecture T. v. screen	Quiz. Oral question

21	**2**		Exam		
22	**2**		Explains the importance of writing down materials, work methods, and types of samples	giving a lecture T. v. screen	Quiz. Oral question
23	**2**	**knowledge**	The student presents the discussion and conclusion	giving a lecture T. v. screen	Quiz. Oral question
24	**2**	**knowledge**	Learns about preparing a list of references and methods for writing them down, written and translated books, research, and reports	giving a lecture T. v. screen	Quiz. Oral question
25	**2**	**knowledge**	Explains the importance of writing source systems	giving a lecture T. v. screen	Quiz. Oral question
26			Exam		
27	**2**	**knowledge**	Interprets the illustrations	giving a lecture T. v. screen	Quiz. Oral question
28	**2**	**knowledge**	Explains column shapes, histograms, and other shapes	giving a lecture T. v. screen	Quiz. Oral question
29	**2**	**knowledge**	Explains the importance of photographs and their characteristics	giving a lecture T. v. screen	Quiz. Oral question
30	**2**	**knowledge**	It shows the importance of the final conclusion of the research	giving a lecture T. v. screen	Quiz. Oral question

69. Course Evaluation

Using modern sources
Using modern teaching methods
Use relevant links and websites

70. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Scientific research methodology A study science methods with an emphasis on experimental method Doctor: Muthanna Abdel Razzaq Al Omar
Recommended books and references (scientific journals, reports…)	Website of Iraqi scientific academic journals https://www.iasj.net
Electronic References, Websites	Website of the College of Education for Pure Sciences https://puresci.uodiyala.edu.iq/

Course Description Form

1. Course Name	
Plant Taxonomy	
2. Course Code	
p22	
3. Semester / Year	
Year	
4. Description Preparation Date	
2023-2024	
5. Available Attendance Forms	
Mandatory Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
N.of Credit Hours Total =60 Hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Assistant Prof . Nisreen Sabbar Hashim **Email:bioh.nesreen.hashim@uodiyala.edu.iq** **Name:Assistant prof.Aseel Kazem hadi**	
8. Course Objectives	
Course Objectives	**-Enabling the Student to learn about the history of plant Taxonomy.** **-Identify the Princibles used in plant classification.**

	-Enabling Student to know the Structural and functional characteristics of different plant parts. **-Enabling Students to understand biodiversity in the plant Kingdom.**

9. Teaching and Learning Strategies	
Strategy	**-Lecture and interactive discussions.** **-Field visits to government nurseries and practical training for students in the gardens of the university complex.** **-Using means of illustration,such as fresh and dried plant samples ,drawing,and presentation.** **-Use daily,semester and final ,oral and written tests.** **-Holding scientific seminaris,specialized training courses, and field trips annually for second-year students to consolidate the scientific content.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student learn ab plant Taxonomy	Introduction to Taxonomy and its goals	Lecture	
2	2	The student learn abou the relationship of taxonomy to other	The relationship of Taxonomy to other sciences	Lecture	Exam

		sciences			
3	2	Introucing the students the history of taxonomy	History of Taxonomy and classification systems	Lecture and interrogation	Discussion
4	2	The students understa the basics of pl classification	Basics of plant classification,General terms.	Lecture and interrogation	Reports
5			Exam		
6	2	The student learn ab the plant parts:roots	Vegetative plant parts,Types of roots.	Lecture and interrogation	Reports
7	2	The student learn ab the plant parts:Stems buds	Stem,Types,forms, Modification,Buds	Lecture and interrogation	discussion
8	2	The student learn ab Leaves,ther parts accessories	Leaves,Parts, accessories, Stipules	Lecture and interrogation	Exam
9	2	The student learn ab the forms of venation the arrangement of on the stem	Venation,Phyllotaxy	Lecture and interrogation	discussion
10			Exam		
11	2	The student learn ab the blade forms and le margin	Shapes of leaf blade and its Margin	Presentation and interrogation	discussion
12	2	The student learn ab	Shapes of leaf Base and	Presentation	discussion

		the forms of the base a apex of the leaf.	Apex.	and interrogation	
13	2	The student learn ab the vesture of the leaf a stem and its importanc	Vister,Types and its importance	Lecture and interrogation	discussion
14	2	Students learn about basic parts of the flowe	The Flower,its basic parts,the arrangement of its leaves	Lecture and discussion	Discussion and Exam
15	2	The student distinguis the types of flo symmetry and bracts	Floral Symmetry, Bracts,Types	Lecture and interrogation	Exam
16			Exam		
17	2	The students learn ab the Calyx and importance	Calyx,Modification, Types,importance	Lecture	Reports
18	2	The students learn ab the C Corolla and importance	Corolla,Types, accessories,Importance	Lecture	Reports
19	2	The students learn ab Androecium	Androecium, Components	Lecture and interrogation	Exam
20	2	The students learn ab Gynoecium and locat of the ovary among other floral parts	Gynoecium,Components	Lecture and interrogation	Exam
21			Exam		

22	**2**	**The students learn ab the types of stamen uni**	**Staminoied,Types ,Heterostaminoied**	**Presentation**	**discussion**
23	**2**	**The students learn ab the types of flo inflorescences**	**Flower Inflorescences, Types**	**Lecture and interrogation**	**Exam**
24	**2**	**The students recogni and distinguishes type fruits**	**Fruits,Types**	**Presentation and Lecture**	**Reports**
25	**2**	**The student distinguis the types of Placentatio**	**Placentation,Types**	**Presentation and Lecture**	**Exam**
26			**Exam**		
27	**2**	**The students learn ab the parts of the seed a their shapes**	**Seeds,Types**	**Presentation and Lecture**	**Reports**
28	**2**	**The students recogni the symbols of the flo equation**	**Floral equation**	**Presentation and interrogation**	**Exam**
29	**2**	**The students learn ab the distinc characteristics of so monocot and dicotyle families**	**The distinctive characteristics of some Monocot and Dicotyledons families.**	**Lecture and interrogation**	**Reports**
30			**Exam**		
11. Course Evaluation					
-Daily,semester and final written tests.					

- Oral exams. **-Reports and interactive activities.**	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Classification of seed plants(2000),Youssef Mansour AL-Kateb**
Main references (sources)	**-Plant Taxonomy(1987),Ali Hussein AL-Moussawi.** **- Iraqi National Herbarium.**
Recommended books and references (scientific journals, reports...)	**Iraqi Flora,books theses,dissertation,and scientific journal specialized in the field of plant classification.**
Electronic References, Websites	**-https://www.powo.science.kew.org.** **-http://www.tropicos.org/Home.aspx.**

Course Description Form Mycology / third stage

1. Course Name:
Mycology
2. Course Code:
F33
3. Semester / Year:
annual
4. Description Preparation Date:
2023−2024
5. Available Attendance Forms:
mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)
60 h/4 U
7. Course administrator's name (mention all, if more than one name)
Name: Asst. Prof. Dr. Rabab Majead Abed

Email: rabab.majead81@gmail.com	
8. Course Objectives	
Course Objectives	**● Knowing the environmental, economic and health importance of fungi** **● The student should be able to understand and classify fungi and distinguish between them** **● Study the life cycles of fungi**
9. Teaching and Learning Strategies	
Strategy	**• Conduct a set of daily and monthly tests to evaluate the student's understanding** **• Asking students to make reports on the study material**
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knows mycology, Explains the importance of fungi. Understands the relationship of fungi to other organisms	Introduction to mycology	Presentation and lecture	Class questions
2	2	Learn about the phenotypic structure of fungi, the components of the cell wall, and the types of flagella	Morphological and microscopic structure of fungi	Presentation and lecture	Class questions
3	2	Learn about the forms of reproduction in fungi and methods of nutrition	Reproduction and nutrition of fungi	Presentation and lecture	Class questions
4	2	The student understands the importance of classification and enumerates the taxonomic ranks and the principles used in classifying fungi	Classification of fungi	Presentation and lecture	Class questions
5	2	Exam			
6	2	Understands myxomycota fungi,	myxomycota	Presentation and lecture	Class questions

		recognizes their characteristics and importance, and is able to identify their classification			
7	2	Students learn about the stramenopila, its most important phylum, the oomycetes, and its general characteristics, the Stramenopila kingdom.	the Stramenopila kingdom. Phylum Oomycota	Presentation and lecture	Class questions
8	2	The most important features of the orders of the phylum Ovomycetes	Order Ligndales order Saprolignales	Presentation and lecture	Class questions
9	2	The most important features of the order Peronosporales and the order Pythiales	Order peronosporales Order Pythiales	Presentation and lecture	Class questions
10	2	Exam			
11	2	Identify the most important	Eumycota	Presentation and lecture	Class questions

		characteristics of the Eumycota phylum			
12	2	The most important features of the phylum Euomycota Fungi	Blastochlydomycota Neocallomistgomycota	Presentation and lecture	Class questions
13	2	The most important features of the Chytridiomycota phylum	Chytridiomycota	Presentation and lecture	Class questions
14	2	The most important features of zygomycota fungi and their most important fungi	Zygomycota	Presentation and lecture	Class questions
15	2	Exam			
16	2	The student learns about the most important features of mycorrhizal fungi, their most important types, and methods of classification	Glomeromycota	Presentation and lecture	Class questions
17	2	The most important	Introduction in	Presentation and	Class

		features of Ascomycota fung	Ascomycota	lecture	questions
18	2	The most important features under the phylum Taphrinomycotina	Taphrinomycotina	Presentation and lecture	Class questions
19	2	The most important features of Saccharomycotina	Saccharomycotina	Presentation and lecture	Class questions
20	2	The most important features and classes of Pezizomycotina	Pezizomycotina	Presentation and lecture	Class questions
21	2	Exam			
22	2	The most important features of the Discomycetes class	Class Leotiomycetes Class Discomycetes Describe Leotiomycetes	Presentation and lecture	Class questions
23	2	The most important features of the Sordariomycetes class Description of Loculoascomycetes	class Sordariomycetes class Description of Loculoascomycetes	Presentation and lecture	Class questions

		Pezizomycetes	Describe Pezizomycetes		
24	2	The most important features of basidiomycetes	Basidiomycota	Presentation and lecture	Class questions
25	2	Known of Puccinomycotina	Puccinomycotina	Presentation and lecture	Class questions
26	2	Exam			
27	2	Distinguishes between Ustilagomycotina and Agaricomycotina	Ustilagomycotina And Agaricomycotina	Presentation and lecture	Class questions
28	2	Imperfect fungi	Imperfect fungi	Presentation and lecture	Class questions
29	2	Medicinal fungi	Medicinal fungi	Presentation and lecture	Class questions
30	2	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)	Fungi (2000) by Ibrahim Aziz Khaled Al-Suhaili
Main references (sources)	Classification and division of fungi (2012).

	Fayyad Muhammad Sharif, Iraq Fungal Plant Diseases (2012). Fayyad Muhammad Sharif, Iraq
Recommended books and references (scientific journals, reports…)	websites
Electronic References, Websites	

immunity

13. Course Name: immunity	
14. Course Code: I44	
15. Semester / Year: **annual**	
16. Description Preparation Date: 2023/2024	
17.Available Attendance Forms: mandatory	
18.Number of Credit Hours (Total) / Number of Units (Total) 60 hours	
19. Course administrator's name (mention all, if more than one name)	
Name: **Assist. Profe. Dr. MAHA FALIH NAZZAL** Email: maha.falih@uodiyala.edu.iq	
20. Course Objectives	
Course Objectives	• **Determines the relations between immunity and ot sciences**…. • **..explaining the parts of immun** • **..Learn about inflammation phagoctosis** …
21. Teaching and Learning Strategies	
Strategy	Strategies used by a faculty member to develop stude teaching and learning, which are plans that are follow to reach learning goals. That is, it describes all curricu and extracurricular activities to achieve the learni outcomes of the programme.

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	1	Introduction to immunity	Introduction to immunity	Presentation and lecture method	**Immediate exam**
second	1	Cellular component of immune system)immune cells	Cellular component of immune system)immune cells	**declamation**	**Exam-Report**
Third	1	Cellular component of immune system)immune cells(	Cellular component of immune system)immune cells(	**declamation**	**Report**
Fourth	1	Antigens and immunogenes	Antigens and immunogenes	**Presentation and lecture method**	**Immediate exam**
fifth	Exam				
sixth	1	immunoglobulins	immunoglobulins	**declamation**	**Contribute and report**
Seventh	1	barriers Innate	barriers Innate	**declamation**	**Contribute and report**
Eighth	1	Complement system	Complement system	**Presentation and lecture method**	**Immediate exam**
Ninth	1	Cytokines	Cytokines	**Presentation and Questioning**	**Discussion and lecture**
tenth	Exam				
eleventh	1	Phagocytosis	Phagocytosis	**declamation**	**Presentation**
twelveth	1	Inflammation	Inflammation	**declamat**	**the exam**
Thirteen	1	Major histocompatibility complex(MHC	Major histocompatibility complex(MHC	**declamation**	**Presentation**

fourteen	**1**	Types of immune response (primary and secondary	Types of immune response (primary and secondary	**Presentation and lecture method**	**Immediate exam**
fifteen	**1**	Humoral and cell - mediated immunity	Humoral and cell - mediated immunity	**Presentation and lecture method**	**Immediate exam**
sixth	**1**	Immunological tolerance	Immunological tolerance	**declamation**	**Presentation**
seventh	**1**	Auto immune diseases)	Auto immune diseases	**declamation**	**Presentation**

23. 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

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	cellular and molecular immunology,7th edition2011 2-.-immunology,8th edition,2013
Main references (sources)	cellular and molecular immunology,7th edition2011 2-.-immunology,8th edition,2013
Recommended books and references (scientific journals, reports…)	Theses and dissertations a partical magazines
Electronic References, Websites	https://2u.pw/1IM15 https://2u.pw/H9yxT https://2u.pw/SeIdE https://2u.pw/CMX4Y https://2u.pw/Yg4t5 https://2u.pw/WD9eM

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

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: ..... Diyala.....
Faculty/Institute: ..... Education for pure sciences.....
Scientific Department: .....biology.....
Academic or Professional Program Name: .. Bachelor of of biology.....
Final Certificate Name: ... Bachelor's degree in biology.....
Academic System: … Annual system(The first semester and the second semester)
Description Preparation Date: 2023-2024
File Completion Date: 2023-2024

Signature: **Signature**:

Head of Department Name: **Scientific Associate Name**:

Date: **Date**:

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

29. **Program Vision**
Diyala University seeks scientific leadership, excellence and creativity in the fields of higher education and scientific research to serve the community and enhance its local, regional and international standing to reach the highest levels of quality and international accreditation.

30. **Program Mission**
Providing effective academic university education through continuous development of academic programs in many specializations in light of the requirements of development plans to serve the labor market and contribute to promoting sustainable development.

31. **Program Objectives**
1- Preparing teachers who hold a bachelor's degree and specialize in life sciences. 2- Preparing an elite group of department students in the life sciences major to complete postgraduate studies. 3- Training life sciences teachers on developments in the field of teaching. 4- Preparing scientific research to enhance their scientific capabilities. 5- Evaluating studies published in the field of life sciences. Using modern methods and techniques to achieve successful education in the life sciences.

32. **Program Accreditation**
none

33. **Other external influences**
none

34. **Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	2	2		
College Requirements	2	2		
Department Requirements	2	2		
Summer Training	/	/		
Other	/	/		

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

35. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
			theoretical	**practical**
The fourth stage	A44	Animal physiology	2	2

36. Expected learning outcomes of the program	
Knowledge	
- Explaining the most important experimental methods for studying physiology. - Definition of cellular metabolism. - Identifying the physiology of different body organs. - Recognizing the importance of each organ in the body.	- Students gain scientific experience in the field of specific specialization. - Increasing knowledge and awareness among students of the Life Sciences Department about the various organs and systems of the body.
Skills	
- Study of neurophysiology. - Study of skeletal muscle physiology. - Study of the physiology of the frog heart. - Study of blood physiology	- Students' ability to recognize and differentiate between types and shapes of blood cells. - Conduct a dissection of the frog to identify the different parts and organs of the body. - Conducting scientific tests in the laboratory to increase students' skills and enhance confidence.

and digestion	
Ethics	
-Developing Internet research skills to expand the cognitive horizon	Developing cognitive, mental and perceptual skills to increase the development of their cognitive mind.
-Encouraging students to use modern sources and benefit from their merits	Providing students with experience in writing scientific research.

37. **Teaching and Learning Strategies**
- Learning strategy until mastery. - How to solve problems. - Inductive method.

38. Evaluation methods
- Oral questions and daily tests. - homework. -Monthly tests.

39. Faculty

Faculty Members

Academic Rank	**Specialization**		**Special Requirements/Skills (if applicable)**		**Number of the teaching staff**	
	General	**Special**	Conducting practical experiments in the animal laboratory		**Staff**	**Lecturer**
Assistant Professor Dr. Luay Qasim Abudlhameed	biology	Animal physiology	Read and interpret the results of practical tests		staff	

Professional Development
Mentoring new faculty members
- Developing cognitive skills by gaining experience in the field of specific specialization. - Mastering modern learning methods used in laboratories.
Professional development of faculty members
Using modern strategies in teaching increases motivation towards learning. - Developing their skills in formulating evaluation questions in monthly and annual tests.

40. **Acceptance Criterion**
(Setting regulations related to enrollment in the college or institute, whether central admission or others) The applicant must possess a preparatory study certificate in the scientific stream or a teacher's institute certificate and pass the competition through the electronic application system.

41.**The most important sources of information about the program**
- Animal physiology (1989) Youssef Muhammad Arab. - Iraqi Academic Scientific Journals - Website - College of Education for Pure Sciences website. https://puresci.uodiyala.edu.iq/ - The website of the Central Library - University of Diyala. https://uodiyala.edu.iq/

42. Program Development Plan
- Updating some course vocabulary according to academic progress. - Equipping laboratories with laboratory equipment and materials to conduct practical laboratory experiments.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A 4	B1	B2	B 3	B4	C1	C2	C3	C4
stage Fourth	A44	Animal physiology	Basic	+	+	+	+	+	+	+	+	+	+	+	+

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

Course Description Form

25. Course Name: Animal physiology

26. Course Code: A44

27. Semester / Year: the year Fourth (stage Fourth)

28. Description Preparation Date:2023-2024

29. Available Attendance Forms: My attendance is mandatory

30. Number of Credit Hours (Total) / Number of Units (Total): 60 hours/6 units

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

Name: Ass.prof. Dr.Luay Qasim Abdulhameed
Email: loai.qassim@uodiyala.edu.iq

32. Course Objectives

Course Objectives - Providing students with basic information about the principles of animal physiology and enabling them to employ that information in the educational process. 1- the definition with physiology and its principles. 2- Identify on physiology metabolism And the organs. 3- Enable Students from to understand And jobs Chemical For components cell. 4- Enable Students from to understand Jobs Vitality fo Devices Vitality As a device Rotation for example,	• ..... • ..... • .....

33. Teaching and Learning Strategies

Strategy	- Strategy Learning until Mastery. - road Solution the problems. - road Inductive.

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
the first	2	Known Physiology and its general principles, experimental methods, general principles, metabolism, and internal coordination	the introduction:Physiology and its general principles, experimental methods, general principles, metabolism, and internal coordination	show style and the lecture	Discussion
the second	2	Explains the physiology of the nervous system, explains the work and methods of recording electrical activity	Physiology of the nervous system: nerve cell - susceptibility to irritation, experimental characteristics of the plant, electrical activity - methods of recording electrical activity	Diction a screen an offer	Exam daily
the third	2	ExplainsThe relationship between the permeability of ions and the action potential	The relationship between the permeability of ions and the action potential, the properties of living nerves and receptors - shoot transmission, the precise structure of synapses	Diction a screen an offer	a report
the fourth	2	Explains mechanism a jobReceptionChemistry, reflexes, and the autonomic nervous system	Neurotransmitters - the chemical reception mechanism, reflexes, and the autonomic nervous system	road the offer and the lecture	Exam daily
Fifth	2	Exam	Exam	Exam	Exam
VI	2	Among the most importantTypes of muscles Shows the precise structures of muscle cells	Physiology of the muscular system and types of muscles - the precise structures of muscle cells and the chemical properties of the muscle	Diction a screen an offer	Share
Seventh	2	ExplainsThread-slip theory Compare a stimulus and a response	The theory of filamentous sliding - the excitatory-contractive coupling and energy sources in the muscle - the relationship between stimulus, response and heat production in the muscle - oxygen deficit - fatigue	Diction a screen an offer	Discussion - Report
VIII	2	He explainsThe anatomy of the circulatory system and the heart in vertebrates	Physiology of the circulatory system and heart in vertebrates - pacemaker - accidents, electricity in the heart	Presentation and lecture method a screen an offer	Exam daily

			and transmission of irritation waves, blood pressure - factors affecting blood pressure		
Ninth	2	ComparesBlood groups Working mechanismRh	Nervous control, blood groups, RPS factor, lymphatic system, lymph nodes, and lymph node functions.	Presentation and interrogation	Discussion
The tenth	2	Exam	Exam	Exam	Exam
atheistic ten	2	Explains the physiology of the respiratory system, explains breathing Explains the mechanism of action of respiratory chemistry Explains the methods of transporting gases	The physiology of the respiratory system, breathing - the chemistry of breathing - the transport of gases and their laws and the transport of oxygen - the states of the presence of carbon dioxide - the exchange of gases and cellular respiration	Diction a screen an offer	Share
the second ten	2	The student explains the mechanism of neural control over respiratory movements	Neural control of respiratory movements - chemical regulation and additional neural reflexes that control breathing	Diction a screen an offer	Exam daily
the third ten	2	Explains the physiology of the digestive system Enumerate the accessory glands Explains the process of digestion in the stomach	Physiology of the digestive system - accessory glands and digestion in the stomach - secretion of hydrochloric acid and digestive enzymes in the stomach	Diction a screen an offer	Discussion
the fourth ten	2	Show More important Digestive enzymes in the stomach	Digestive enzymes in the stomach - controlling the work of the stomach and intestinal digestion - the pancreas and its secretions - bile, absorption and excretion	road the offer And the lecture	Share
Fifth ten	2	Explains the mechanism of temperature regulation in animals	The physiological effect of heat, energy metabolism, and temperature regulation in animals - temperature regulation center in animals - thermoregulation center - hormonal control	road the offer And the lecture	Discussion
sixteen	2	Exam	Exam	Exam	Exam

seventeenth	2	Shows the importanceMethods of measuring factors affecting metabolic rate	Disorders of thermoregulation and energy metabolism - methods for measuring factors affecting metabolic rate and thermal coefficient - respiratory coefficient - thermal compression and energy transfer	Diction a screen an offer	Discussion
eighteen	2	Explains the mechanism of kidney function and the balance of bodily fluids List the functions of the college	The kidney, body fluid balance, and kidney functions - regulating urine volume, regulating body fluids, and the basics of fluid balance - regulating the movement of water and ions	Diction a screen an offer	Share
Ninth ten	2	application			
The twentieth	2				
the one And the twenty	2				
the second And the twenty	2				
twenty third	2	The student compares metabolic disorders and respiratory disorders	Acid-base balance - metabolic disorders - respiratory disorders	Diction a screen an offer	Exam daily
twenty fourth	2	Explains methods for studying hormones	Endocrine glands and hormones - regulation of the formation and secretion of hormones - methods of studying hormones	Presentation and interrogation	Share
25th	2	Enumerates the chemical types of hormones and pituitary glands - explains the importance of pituitary gland hormones Learn about the thyroid glands and their hormones	Chemical types of hormones: the pituitary glands - their hormones, the thyroid glands and their hormones, the parathyroid glands - the pancreas and their hormones, and the adrenals and their hormones.	Presentation and lecture method	Discussion
twenty-sixth	2	Exam	Exam	Exam	Exam
Seventh And the twenty	2	Explains a job Sex hormones	Sex hormones and prostate glands	road the offer And the lecture	Share
VIII And the twenty	2	Explains the physiology of the female reproductive system	Physiology of the female reproductive system - puberty - the estrous cycle and types of ovulation in animals	road the offer And the lecture	Discussion

Ninth And the twenty	2	Shows the importance of the stages of the oogenesis process	The process of egg formation - the menstrual cycle and the male reproductive system - the development of sperm and the factors affecting it	Diction a screen an offer	Discussion
thirty	2	Learn about the effect of hormones on fertilization and pregnancy	Effect of hormones, fertilization and pregnancy	road the offer And the lecture	Exam daily

35. Course Evaluation
-17 marks for the first semester monthly exam +8 for the first semester practical exam. -17 marks for the monthly exam of the second semester +8 for the practical exam of the second semester. -50 degrees For the exam Final.

36. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Animal physiology (1989) Youssef Muhammad Arab.
Main references (sources)	Physiology, Professor Dr. Shteiwi Saleh Al-Abdulah , First Edition,2012.
Recommended books and references (scientific journals, reports...)	Website of Iraqi scientific academic journals http://www.iasj.net
Electronic References, Websites	- Website - College of Education for Pure Sciences website. https://puresci.uodiyala.edu.iq/ - The website of the Central Library – University of Diyala. https://uodiyala.edu.iq/

Ministry of Higher Education and Scientific Research
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Academic Program and Course Description Guide

2024

Introduction:

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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: .**university of Diyala**……

Faculty/Institute: ..**College of Education for Pure Sciences**…….

Scientific Department: .**Biology**……

Academic or Professional Program Name: …**Bachelor**……

Final Certificate Name: **Bachelor in Education of Pure Sciences** / **Biology**…….

Academic System: **Annual**……

Description Preparation Date: **17/3/2024**

File Completion Date: **17/3/2024**

Signature:
Head of Department Name:

Date:

Signature:
Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

43. **Program Vision**
Vision of the Life Sciences Department 1- Developing the level of education at both the bachelor's and postgraduate levels, and keeping up with everything new and modern to advance the educational and pedagogical process. 2- Preparing and qualifying the department's levels educationally and academically to work in various state institutions and benefiting from them in all fields. 3- Changing the role of the teacher from a transmitter and indoctrator to a planner and developer of creativity.

44. **Program Mission**
Mission of the Department of Life Sciences The College of Education for Pure Sciences prepares scientifically qualified cadres capable of performing their job duties in the process of development and construction by working in many areas of the state's sectors and its public and private institutions, most notably: the Ministry of Health and public and private hospital laboratories, the Ministry of Agriculture, Irrigation, Education, Quality Control. And other areas of the labor market.

45. **Program Objectives**
Objectives of the Life Sciences Department 1- Preparing graduates from different biology departments who bear the responsibility of carrying out various practical research to protect animal and plant wealth and the natural environment.

2- Providing advanced study programs in the various fields of basic sciences capable of providing society with scientific competencies and specialized cadres trained in modern scientific techniques and qualified to compete in the labor market.

3- Striving to strengthen the role of specialized laboratories in the college in a way that helps provide the necessary applied knowledge to college students, carry out research and studies, and complete projects of scientific and practical feasibility.

4- Paying attention to laboratories, developing them, and providing them with the latest devices and modern technologies to provide graduates with knowledge and experience with modern devices and how they work.

5- Providing scientific and experimental service in the field of environmental conservation and community service

46. **Program Accreditation**

47. **Other external influences**
Application for fourth stage students in schools

Course Description Form

37. Course Name: PARASITOLOGY
38. Course Code: 44R
39. Semester / Year:2022-2024
40. Description Preparation Date:2023-2024

41. Available Attendance Forms: DIALY ATTENDACE

42. Number of Credit Hours (Total) / Number of Units (Total)2h+2h/weekly/6 units

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

Name: Prof Dr Nagham Y Albayati
Email: nagham.alfadaam@uodiyala.edu.iq

44. Course Objectives

Course Objectives	• **Identify parasites that int humans and animals and st them in detail** • **Study the life manifestations each parasite in terms of fo life cycle, pathogene epidemiology, diagnosis a prevention of all parasites t cause diseases**…… • ….. • …..

45. Teaching and Learning Strategies

Strategy	Preparing scientifically qualified cadres capable of performing their job duties in process of development and construction by working in many areas of the sta sectors and its public and private institutions, most notably: the Ministry of Health a public and private hospital laboratories, the Ministry of Agriculture, Irrigat Education, Quality Control, and others.

46. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Knowledge	Introduction ,history review. Relationship among animals	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google

					classroom written exams
2	2	knowledge	Characters of parasitism . types of parasites . types of hosts	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
3	2	knowledge	Parasitism in animal kingdom Infective stages. sources of infection	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
4	2	knowledge	holydays	Whiteboard T. v.	Quiz. Oral

				screen and google classroom	question Exam at google classroom written exams
5	2	knowledge	Entrances and exits of infection – the Protozoa phylum, its characteristics, manifestations, and types	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
6	2	knowledge	Entamoeba histolytica , E coli. Endolemax nana Dientamoeba fragilis free amoeba	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
7	2	knowledge	Class: flagellate Giardia . Chilomastix Trichomonas tenex . T. hominis. T vaginalis T . fetus	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written

					exams
8	2	knowledge	Exam	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
10	2	knowledge	Trypanosoma gambiense T rodhensi T cruzi	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
11	2	knowledge	Leishmania tropica L. donovani L. braziensi	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
12	2	knowledge	Plasmodium its species life cycle Toxoplasma	Whiteboard T. v.	Quiz. Oral

			Cryptosporidium	screen and google classroom	question Exam at google classroom written exams
13	2	knowledge	Platyhelminthes Liver fluke	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
14	2	knowledge	Intestine fluke Lung fluke blood fluke	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
15	2	knowledge	Cestodes Teania solium T. saginata Cyclophyllidea Echinococcus granulosu Dipylidium caninum	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written

					exams
18	2	knowledge	Nemathelminthes Class:Aphasmidia Trichinella spiralis Trichuris trichiura	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
19	2		Spring holiday		
20	2		Spring holiday		
21	2	knowledge	Phylum: Nemathelminthes Class : Phasmidia Ascaris lumbricoides Ancylostoma Duodenaledes Phasmidia Enterobius vermicularis Wuchereria	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google classroom written exams
22	2		Application in schools		
23	2		Application in schools		
24	2		Application in schools		
25	2		Application in schools		
26	2	knowledge	Phylum :Arthropda Class:Insecta Musca domestica Stomoxys calcitrans	Whiteboard T. v. screen and google classroom	Quiz. Oral question Exam at google

			Phlebotomus papatasi Glossina Sarchophagidae Myiasis		**classroom written exams**
27	**2**	**knowledge**	**Mosquitoes Lice Menopon gallinae Menacanthus stramineus Fleas Pulex irritanus Ctenocephalides**	**Whiteboard T. v. screen and google classroom**	**Quiz. Oral question Exam at google classroom written exams**
28	**2**	**knowledge**	**Class Arachnida Order:Acarina Ticks Mites**	**Whiteboard T. v. screen and google classroom**	**Quiz. Oral question Exam at google classroom written exams**

47. Course Evaluation

Using modern sources
Using modern teaching methods
Use relevant links and websites

48. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Al-Shahas, Sakh (2008). Damascus University Shaaban, the father of the brotherly brother, in the trees o the Dhafiyyat tree. University of Baghdad. B Akhun, Harulj B Akhun (1980)

	Wajan Damham Salih a Akhkhun, Al-Sassal University
Main references (sources)	Roberts, L. & Johon Jr. Jonovey (2005). Foundation of parasitology
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	