Academic Program Description Form

University Name: University of Baghdad
Faculty/Institute: College of Science
Scientific Department: Department of Biology
Academic or Professional Program Name: Bachelor of Biology
Final Certificate Name: Bachelor in Biology
Academic System: Semester
Description Preparation Date: 1/10/2023
File Completion Date: 1/10/2023

Signature:
Head of Department Name:
Prof. Dr. Ahmed Saad Abdulwahhab
Date:

Signature:
Scientific Associate Name:
Prof. Dr. Nasir Ibraheem Abbas
Date:

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance
Department: Prof. Dr. Israa Ali Zaidan
Date:
Signature:

Approval of the Dean

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

Academic Program and Course

2024

Introduction:

The educational program is a coordinated and organized package of courses that include procedures and experiences organized in the form of academic vocabulary whose main purpose is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market, which is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program.

The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that are being worked on to acquire for students based on the objectives of the academic program, and the importance of this description is evident because it represents the cornerstone in obtaining program accreditation and is written jointly by the teaching staff under the supervision of the scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments 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 description of the academic program circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna track as the basis for their work.

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

Concepts and terminology:

Academic Program Description: The description of the academic program 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 student to achieve, proving whether he has made the most of the available learning opportunities. It is derived from the description of the program.

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

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 (semester, yearly, Bologna track) whether it is a requirement (ministry, university, college and scientific department) with the number of study units.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by the student 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 member to develop the student's teaching and learning, and they are plans that are followed to reach the learning goals. That is, describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

• **Program Vision**
The department aims to spread awareness and knowledge in the fields of life sciences by providing the country with researchers and professors who are able to deal with the changes and modern developments taking place in the world and contribute to the development of our scientific, health, industrial

and environmental institutions in solving the problems that hinder their progress.

• Program Mission
We seek to prepare highly qualified graduates who qualify to work in the fields of life sciences in its various branches

.

• Program Objectives
Keeping pace with global development in all scientific fields, especially in the disciplines of life sciences.
Providing the community and state institutions with scientific and technical expertise in the field of life sciences and developing its scientific, health and environmental institutions.
Raising the level of performance and quality to the ranks of advanced international universities.
Developing and updating scientific curricula, both theoretical and practical.
Developing the scientific competencies and performance of teachers, researchers and students.
The department aims to adopt modern technologies and develop research in scientific fields.
Finding solutions to contemporary environmental problems
Understand the study of the pathogens prevalent in our environment and society and study them scientifically and participate in finding an effective treatment for them.
Investing in biotechnology research and genetic engineering techniques to develop industry in the country in its various fields such as medical, chemical, food and other industries.

Contribute to addressing the problems related to plant, animal and microbial flora in Iraq by focusing on biodiversity in our environment and combating the extinction of species and the entry of new species into our environment, especially genetically engineered species that enter from outside our local environment.

• Program Accreditation
Accreditation and approval of the Deans Committee

• Other external influences
Summer training, field visits, training courses, scientific research, laboratories, library.

- Program Structure

Reviews	Percentage	Unit of study	Number of Courses	Program Structure
	9.883	**17**	**8**	**Requirements of the institution**
	19.186	**33**	**7**	**College Requirements**
	70.348	**121**	**35**	**Department Requirements**
	Updated	**Updated**	**No**	**Summer Training**
				Other

- **Program Description**

Credit Hours	Course Name	Course Code	Year/Level

practical	theoretical			
2	2	General Zoology	BIO11001	The first
2	2	General Chemistry	BIO11002	
1	2	General Mathematics and Biostatistics	BIO11003	
2	1	Computer skills	UOB103	
0	2	Democracy and Human rights	UOB104	
0	2	Arabic Language I	UOB101	
2	2	General Botany	BIO12007	
2	2	Biochemistry	BIO12108	
0	1	Biosafety and Biosecurity	BIO12009	
2	2	Biochemistry	BIO12011	
2	2	Bacteriology	BIO12010	
0	2	English Language	UOB102	
2	2	Invertebrates	214 IN	The second
2	2	Entomology	215 BETWEEN	
2	2	Biochemistry 1	216 BBC1	
2	2	Plants groups	217 BPG	
2	2	Plant anatomy	218 BPA	
2	2	Microbiology	219 BMB	
0	2	The Crimes of Baath Party in Iraq		
2	2	Parasitology	220 BPR	
2	2	Microbiology II	221 BMB	
2	2	Biochemistry 2	222 BBC2	
2	2	Plant Taxonomy	223 BPT	
2	2	Entomology II	224 BETWEEN	
0	2	English	226 B	
2	2	Ecology	326 BEC	Third
2	2	Microbial physiology	327 BMP	
2	2	Plant physiology	328 BPP	
2	2	Serology	446 BS	
2	2	Mycology	331 BMI	
2	2	Pollution	332 BPO	
2	2	Animal physiology	33 BAP	
2	2	Medicinal plants	334 BMEP	
2	2	Antibiotics	335 BAN	

2	2	Immunology	336 BIM	
2	2	Hestology	337 BHI	
2	2	Molecular biology and bacterial genetics	438BMBG	Fourth
2	2	Biotechnology	439 BBI	
2	2	Aquatic and soil microbiology	440 IN NAME	
2	2	Embryology	441 BEM	
2	2	Genetic engineering	442 BGE	
2	2	Food microbiology	443 BFM	
2	2	Virology	444 BVI	
2	2	Helminthology	445 BHE	
2	2	Pathogenic bacteriology	329 BPB	
2	2	Clinical analysis	447 CA	
2	0	Research project	448 BRP	
2	2	Comparative anatomy	330 BCA	

Expected learning outcomes of the program

Knowledge	
Understand the natural laws related to the life sciences	Enable students to acquire knowledge and understanding of the concept of life sciences.
Skills	
Daily quizzes through multiple-choice questions	Reminder and analysis skills
Grading for daily assignments	Usage and development skills.
Values	
Clarification and explanation of study materials	Enable students to think and analyze topics related to the subject.
Provide students with knowledge through homework.	Enable students to think and analyze topics related to the standards of using devices.

Teaching and Learning Strategies
- Providing students with the basics and topics related to thinking and analysis outputs.
- Form discussion groups during lectures to discuss topics related to life sciences that require reflection and analysis.
- Giving students homework that requires scientific explanations.

Evaluation methods
- Daily exams and home questions.
- Give specific grades for homework.

Faculty

Faculty Members

Preparation of the teaching staff		Special requirements/skills if any		Specialization		Academic Rank
Lecturer	Angel			special	year	
	18			Microbiology	Life Sciences	Professor
	9			Animal	Life Sciences	Professor
	7			plant	Life Sciences	Professor
	6			Environment	Life Sciences	Professor
	23			Microbiology	Life Sciences	Assistant Professor
	12			Animal	Life Sciences	Assistant Professor
	10			plant	Life Sciences	Assistant Professor
	7			Environment	Life Sciences	Assistant Professor
	12			Microbiology	Life Sciences	teacher
	11			Animal	Life Sciences	teacher
	6			plant	Life Sciences	teacher
	6			Environment	Life Sciences	teacher
	17			Microbiology	Life Sciences	Assistant Lecturer
	13			Animal	Life Sciences	Assistant Lecturer
	4			plant	Life Sciences	Assistant Lecturer
	2			Environment	Life Sciences	Assistant Lecturer

• **Admission criterion (setting regulations related to admission to a college or institute)**
Central admission - scientific and according to the instructions of the Ministry of Higher Education and Scientific Research

• **The most important sources of information about the program**
Program Skills Map: It is an analysis table showing each subject and the skills it provides to the student, which are mentioned in the previous paragraphs, as follows:
- Knowledge and understanding.
- Scientific problem-solving skills.
- Thinking and analysis skills.
- Skills of use and self-development

Program Development Plan
Developing and reviewing the program and the basic and secondary courses from the theoretical and practical side of the Department of Life Sciences and working to update and develop programs to keep pace with the needs of society and the labor market, and the department also seeks to develop the outputs of the educational program and develop a plan to improve the quality of the program within the framework of its quest to obtain program accreditation.

Curriculum Skills Outline																			
Please tick the boxes corresponding to the individual learning outcomes from the program under evaluation.																			
Learning outcomes required from the program																			
General and Rehabilitation Skills Transferred (or) other skills related to employability and personal development				Emotional and value goals				Program Skills Objectives				Cognitive Objectives				fundamental Or optional	Course Name	Course Code	Year/Level
D4	D3	D2	D1	C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	General Zoology	BIO11001	First stage
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	General Chemistry	BIO11002	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	General Mathematics and Biostatistics	BIO11003	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	Computer skills	UOB103	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	Democracy and Human rights	UOB104	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	Arabic Language I	UOB101	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	General Botany	BIO12007	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	Biochemistry	BIO12108	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	Biosafety and Biosecurity	BIO12009	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	fundamental	General Physics	BIO12011	

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Bacteriology	BIO12010	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	English Language	UOB102	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Invertebrates	214 IN	**Second stage**
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Entomology	215 BETWEEN	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Biochemistry 1	216 BBC1	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Plants groups	217 BPG	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Plant anatomy	218 BPA	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Microbiology	219 BMB	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	The Crimes of Baath Party in Iraq		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Parasitology	220 BPR	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Microbiology II	221 BMB	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Biochemistry 2	222 BBC2	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Plant Taxonomy	223 BPT	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Entomology II	224 BETWEEN	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	English	226 B	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Ecology	326 BEC	**Third stage**

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Microbial physiology	327 BMP	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Plant physiology	328 BPP	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Serology	446 BS	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Mycology	331 BMI	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Pollution	332 BPO	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Animal physiology	33 BAP	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Medicinal plants	334 BMEP	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Antibiotics	335 BAN	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Immunology	336 BIM	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Histology	337 BHI	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Molecular biology and bacterial genetics	438BMBG	**Fourth stage**
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Biotechnology	439 BBI	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Aquatic and soil microbiology	440 IN NAME	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Embryology	441 BEM	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Genetic engineering	442 BGE	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Food microbiology	443 BFM	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Virology	444 BVI	

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Helminthology	445 BHE	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Pathogenic bacteriology	329 BPB	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Clinical analysis	447 CA	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Research project	448 BRP	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	**fundamental**	Comparative anatomy	330 BCA	

Second Stage / First Semester

Course Description Form

Course Title: Invertebrate Science	.١
Course Code	.٢
Semester / Year: First Semester / 2023-2024	.٣
Date of preparation of this description: August 2023	.٤
5. Available Attendance Forms: Physical	
6. Number of study hours (total) / number of units (total): 5 hours	
7. The name of the course administrator (if more than one name is mentioned): Assoc. Prof. Dr. Harith Saeed Jaafar and Assoc. Prof. Dr. Amjad Qais Ibrahim	
Name: Assoc. Prof. Harith Saeed Jaafar Email: harith.saeed@sc.uobaghdad.edu.iq	
.	
• A taxonomy, anatomical and physiological study of invertebrate animals that are free to live, starting from the lowest animal divisions gradually to the most developed. And the breakdown of animal divisions to the lower classification ranks, taking an example for each classification rank. • Study invertebrate animals	Objectives

spread in terrestrial and aquatic nature and compare animal populations with each other.	

٩. استراتيجيات التعليم والتعلم

• Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) • Support by displaying images of animal models and showing some videos of the movement and nutrition of some invertebrates • Give the student the opportunity to search for similar materials and discuss them in the next lesson. • Publish lectures on the website.	الاستراتيجية

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة		اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم

1. Course Structure					
Evaluation method	Method of education	Unit / Subject Name	Required Learning Outcomes	Hours	The week
Daily exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) Reinforcement by viewing animal model images	Introduction and importance of invertebrates for diets + flagellates + ciliary	Primary invertebrates	12	1+2
Daily exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) Reinforcement by viewing animal model images	Sponges Division	Spongy invertebrates	6	3
Daily exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) Reinforcement by viewing animal model images	Stingrays Division	Aquatic invertebrates	12	4 + 5
Semester Exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming)	Flatworms and nematodes	Vertebrates	12	6 + 7

	Reinforcement by viewing animal model images				
Daily exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) Reinforcement by viewing animal model images	Arthropods Division	Arthropod invertebrates	12	8 + 9
Daily exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) Reinforcement by viewing animal model images	Nawaem Division	Aquatic invertebrates	12	10 + 11
Semester Exams	Use presentations in each lecture and use multiple teaching methods (discussion, inquiry, brainstorming) Reinforcement by viewing animal model images	Spinal division of the skin	Aquatic invertebrates	6	12

تقييم المقرر .١١
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc

مصادر التعلم والتدريس ١٢.	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Verma, P.S., 2001. *Invertibrate Zoology*. S. Chand Publishing Murad, Murad Baba (1979), Invertebrates, Baghdad University Press
المراجع الرئيسة (المصادر)	Verma, P.S., 2001. *Invertibrate Zoology*. S. Chand Publishing. Ruppert, E.E., Barnes, R.D. and Fox, R.S., 2004. *Invertebrate zoology: a functional evolutionary approach* (No. 592 RUPi).
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Ruppert, E.E., Barnes, R.D. and Fox, R.S., 2004. *Invertebrate zoology: a functional evolutionary approach* (No. 592 RUPi).
المراجع الإلكترونية ، مواقع الانترنيت	A) Australian Museum Online: Zoology Includes pages on many different groups of marine invertebrates. B) Biodiversity Information Serving Our Nation (BISON) BISON is an information system developed by the U.S. Geological Survey's Core Science Analytics and Synthesis Program that allows users to access, explore, and download U.S. species occurrence data from participating data providers. C) The Complete Works of Charles Darwin Online From University of Cambridge. D) Encyclopedia of Life Synthesizes biodiversity knowledge about all known species, including their taxonomy, geographic distribution, collections, genetics, evolutionary history, morphology, behavior, ecological relationships, and importance for human well being.

Course
Description Form

Course Name	.١
General entomology	
Course Code	.٢
Semester / Year	.٣
First / 2023-2024	
The history of preparation of this description	.٤
15/9/2023	
5. Available Attendance Forms	
Came	
6. Number of study hours (total) / number of units (total)	
30 hours / two units	
7. Course administrator's name (if more than one name)	
Name: **Prof. Haider Badri Ali** Email hayder.badri@sc.uobaghdad.edu.iq	

٨. اهداف المقرر

اهداف المادة الدراسية	• ..... • ..... • .....
Study of the class of insects in general, their morphology, anatomical developments, history of insect life, relationships, habits and habitats	

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	Preparing PowerPoint lectures and using the display screen using graphs of the most prominent information from modern sources

١٠. اهداف المقر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
Week 2	**2**	Experience in diagnosing medical and economic insects	Introduction in Entomology	PowerPoint + L.C.D	written exam
Week 3	**2**	Skill in dealing with and neutralizing insects	Basic Insect Morphology / Head, Mouthparts types	PowerPoint + L.C.D	written exam

written exam	PowerPoint + L.C.D	Head appendage / Antennae	Skill in dealing with and neutralizing insects	**2**	**Week 4**
written exam	PowerPoint + L.C.D	Thorax / Thorax appendages / Insect legs / Insect wings	Experience in diagnosing medical and economic insects	**2**	**Week 5**
written exam	PowerPoint + L.C.D	Thorax/ Insect wings	Skill in dealing with and neutralizing insects	**2**	**Week 6**
written exam	PowerPoint + L.C.D	Insect Abdomen/ Abdomen Appendages	Experience in diagnosing medical and economic insects	**2**	**Week 7**
written exam		Integument (the body wall)	Skill in dealing with and neutralizing insects	**2**	**Week 8**
written exam	PowerPoint + L.C.D	written exam		**2**	**Week 9**
written exam	PowerPoint + L.C.D	Internal anatomy: Reproductive system	Experience in diagnosing medical and economic insects	**2**	**Week 10**
written exam	PowerPoint + L.C.D	Internal anatomy: Respiratory system	Experience in diagnosing medical and economic insects	**2**	**Week 11**
written exam	PowerPoint + L.C.D	Internal anatomy: Nervous system	Experience in diagnosing medical and economic insects	**2**	**Week 12**
written exam	PowerPoint + L.C.D	Internal anatomy: Nervous system	Skill in dealing with and neutralizing insects	**2**	**Week 13**
written exam	PowerPoint + L.C.D	Internal anatomy: Circulatory system	Experience in diagnosing medical and economic insects	**2**	**Week 14**
written exam	PowerPoint + L.C.D	Internal anatomy: Circulatory system and Reproductive system	Experience in diagnosing medical and economic insects	**2**	**Week 15**
written exam		**written exam**		**2**	**Week 16**

١١. تقييم المقرر	
Quizzes 10 Who? 5% **Midterm Exam) /Lab.) 10 Who? 20%** **Midterm Exam 1 Free 10% (25)** **Final Exam 3 Free 50% (50)**	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Imms outlines of entomology , O.W Richards and R. G. Davies, chapman and hall , 1978
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Principle of insect morphology, E.J. Boell , R. E. Snodgrass 1935 New York and London
المراجع الإلكترونية ، مواقع الانترنيت	https://www.jstor.org/stable/10.7591/j.ctv1nhm1j.3 https://doi.org/10.4039/Ent67183-8

Course Name: Practical Plant Anatomy	.١
Course Symbol: Plant Anatomy	.٢
Semester/Year: First Semester / 2022-2023	.٣
DatePrepared by this Description :2023	.٤
5. Available attendance formats: theoretical lecture and communication via electronic classes	
6. Number of study hours (total) / number of units (total): 4 hours per week	
7. Name of the course administrator (if more than one name is mentioned)	
Name: Email: Prof. Nemat Jamil Abdel-Baqi nemataljudy@gmail.com Prof. Esraa Abdul Razzaq Majeed israa.aldobaissi@sc.uobaghdad.edu.iq Dr. Hala Hassan Mutashar hala.hasan@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
1– Ιδεντιφψ τηε ινιτιαλ σταγεσ οφ πλαντ χελλ φορματιον ανδ τηε σταγε σ οφ χελλ ωαλλ φορματιον 2– Στυδψ τηε τψπεσ οφ ωαλλσ ανδ ιντερστιτιαλ σπαχεσ 3. Στυδψ τηε χοντεντσ οφ τηε πλαντ χελλ 4– Στυδψινγ τηε διφφερεντ τψπεσ οφ πλαντ τισσυεσ, ινχλυδινγ σιμπλε ανδ χομποσιτε, ανδ τηεν φινδινγ τηε διφφερεντ ρελατιονσηιπσ βετωεεν τηεμ το χομμυνιχατε το τηε φιναλ υνδερστανδινγ οφ τηε ιντερναλ στρ υχτυρε οφ τηε πλαντ βοδψ 5– Ιδεντιφψ τηε διφφερενχεσ βετωεεν τηε ανατομιχαλ στρυχτυρε οφ βιχοτψλε δονουσ πλαντσ ανδ μονοχοτψλεδονσ	اهداف المادة الدراسية
٩. استراتيجيات التعليم والتعلم	
A- Cognitive Objectives: A1- A- Cognitive Objectives A2- Identify plant cells and their different walls and interstitial spaces A3- Identification of simple and complex tissues A4- Identify and study the different shapes and types of	الاستراتيجية

each fabric **B - Skills objectives of the course:** B1 - Dealing with both optical and anatomical microscopy B2 - Study of various educational segments (slides) B3 – Learn and study different methods for the realization of plant anatomical slides **Teaching and learning methods for various practical and theoretical lectures:** - Use drawings and shapes on educational boards (blackboards) - The use of ready-made and prepared educational slides (slides) - Electronic lectures C- **Emotional and value goals:** C1- C- Emotional and value goals C2- Finding anatomical relationships between different plant families C3- Identify the importance of anatomy for the rest of the sciences C4-Identify the relationships between cells **Teaching and learning methods** The use of projectors for various practical lectures - Use of educational electronic platforms - Use drawings and shapes on educational boards (blackboards) **D - General and rehabilitation skills transferred (other skills related to employability and personal development :** D1- Oral tests D2- Written tests D3 - General and qualifying skills transferred (Other skills related to employability and development of the person	

D 4 - Skills of preparation of various plant anatomical slides	

10. Course Structure					
Evaluation method	**Method of education**	**Unit / Subject Name**	**Required Learning Outcomes**	**Hours**	**The week**
Tests Oral and editorial	Lectures Theory	Plant cell wall	Wall recognition Cellular and distances Interlayer	2s	1
Tests Oral and editorial	Lectures Theory	Cell contents Vegetarianism	Getting to know Live Contents and inanimate	2s	2
Tests Oral and editorial	Lectures Theory	Meristem tissue	Identify meristem tissues and different theories of evolution	2s	3
Tests Oral and editorial	Lectures Theory	Skin texture	Learn about skin texture and various accessories	2s	4
Tests Oral and editorial	Lectures Theory	Skin texture	Recognize stomatous complexes	2s	5
Tests Oral and editorial	Lectures Theory	Parenchyma tissue	Identify shapes Types of conveyor fabric Barenchimi	2s	6
Tests Oral and editorial	Lectures Theory	Colenzymic tissue	Identify shapes Types of conveyor fabric Colenquimi	2s	7
Tests Oral and editorial	Lectures Theory	Sklarnchemia tissue	Identify shapes Types of conveyor fabric Sklarnkemi	2s	8
Tests Oral and editorial	Lectures Theory	Wood texture	Identify shapes Types of conveyor fabric (Wood)	2s	9
Tests Oral and editorial	Lectures Theory	Bark texture	Identify shapes Types of conveyor fabric - Please, Park.	2s	10

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student, such as daily preparation, daily, oral and monthly exams. editorial and reports.... etc	
١٢. مصادر التعلم والتدريس	
-Theoretical and practical lectures -General Anatomy Book – Plant anatomy is underway -Practical Anatomy Book	الكتب المقررة المطلوبة (المنهجية أن وجدت)
	المراجع الرئيسة (المصادر)
Ashe, A.; L.J. Hickey; P. Wilf; B. Ellis; K. Johnson and S. Wing. 1999. Manual of Leaf architecture Morphological description and categorization of Dicotyledonous and net-veined Monocotyledonous angiosperms. Leaf architecture working Group, Smithsonian Institution, 65 pp • Carpenter, K. J. 2006. Specialized structures in the leaf epidermis of basal Angiosperms morphology, distribution, and homology. Amer. J. Bot. 93(5):665-681 • Fahn, A. 1974. Plant anatomy 2 end ed. Pergamon press, New York. USA	الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)
Search within the sites below Research gate Google scholar Academic Academy:	المراجع الإلكترونية ، مواقع الانترنيت

Second Stage / Second Semester

Course Description Form

Course Title : Primary Parasitology	.١
Course Code	.٢
Semester / Year : Second Semester / 2023-2024	.٣
Date of preparation of this description: 4/2024	.٤
5. Available Attendance Forms: Theoretical Lecture PowerPoint Presentation	
6. Number of study hours (total) / number of units (total): 4 theoretical hours per week / (3 units)	
7. Course administrator's name (if more than one name)	
Name: Prof. Khawla Houry Zaghir Email khawla.hoori@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
Study of parasitic primaries of medical and economic importance □ Study the life cycles of these primary schools and identify their hosts and life cycles □ ..... Study of methods of infection with parasites and methods of diagnosis and prevention of them and the resort used	اهداف المادة الدراسية
٩. استراتيجيات التعليم والتعلم	
To familiarize the student with the science of primary parasitology spread locally and globally The student should know how to diagnose nurse primary schools and ways to prevent them That the student can distinguish the pathological types from them Directing the student to spread health culture in his home and family Diagnosis of pathogenic parasites prevalent in Iraq Preparing research on one of the parasitic primaries PowerPoint presentation online lectures on YouTube	الاستراتيجية

Interact with the student on the Classroom Google platform Preparing a theoretical report on one of the parasites Developing the student's skills in e-learning and searching for information online using educational platforms The student's ability to think deductively regarding the diagnosis of the parasite Communication on putting forward new ideas and constructive scientific criticism - Directing the student to focus on the type of symptoms caused by different injuries	

١٠. اهداف المقر

سبوع	ساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	2	Definition of Parasites, Types of parasitic symbiosis, Types of hosts, Modes of parasitic infection, General terminology, protozoa classification & reproduction.	Introduction to Protozoan Parasitology	Lectures Video theory	Live by tests Indirect oral questions
2	2	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	Sub-phylum: Sarcodina, *Entamoeba histolytica, E. dispar, E. hartmani, E. coli, Endolimax nanus, Iodaoeba butschlii, Entamoeba gingivalis,*	Lectures Video theory	Live by tests Indirect oral questions
3	2	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	*Naegleria fowleri, Acanthamoeba.* Subphylum: Ciliata *Balantidium coli* Subphylum: Flagellata *Dientamoeba fragilis, Giardia Lambli,*	Lectures Video theory	Live by tests Indirect oral questions
4	2	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and	*Chilomastix mesnili, Trichomonas vaginalis, T. tenax, T. hominis,*	Lectures Video theory	Live by tests Indirect oral questions

			prevention.		
Live by tests Indirect oral questions	Lectures Video theory	*Leishmania* forms: Amastigotes and Promastigotes, Old world and New-	Morphology, Life cycle, Pathogenicity, Diagnosis,	2	5
Live by tests Indirect oral questions	Lectures Video theory	Introduction to Protozoan Parasitology	Definition of Parasites, Types of parasitic symbiosis, Types of hosts, Modes of parasitic infection, General terminology, protozoa classification & reproduction.	2	1
Live by tests Indirect oral questions	Lectures Video theory	Sub-phylum: Sarcodina, *Entamoeba histolytica, E. dispar, E. hartmani, E. coli, Endolimax nanus, Iodaoeba butschlii, Entamoeba gingivalis,*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	2
Live by tests Indirect oral questions	Lectures Video theory	*Naegleria fowleri, Acanthamoeba.* Subphylum: Ciliata *Balantidium coli* Subphylum: Flagellata *Dientamoeba fragilis, Giardia Lambli,*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	3
Live by tests Indirect oral questions	Lectures Video theory	*Chilomastix mesnili, Trichomonas vaginalis, T. tenax, T. hominis,*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	4

Live by tests Indirect oral questions	Lectures Video theory	*Leishmania* forms: Amastigotes and Promastigotes, Old world and New-World leishmaniasis, *Leishmania tropica, L. major, L. donovani, L. infantum, L. Brazilliensis.*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention. New and Old world leishmaniasis.	2	5
Live by tests Indirect oral questions	Lectures Video theory	Exam		2	6
Live by tests Indirect oral questions	Lectures Video theory	*Trypanosoma* forms: Epimastigotes and Trypamastigotes. *Trypanosoma brucei gambiense, T.b. rhodesiense, T. cruzi.*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	7
Live by tests Indirect oral questions	Lectures Video theory	Sub-phylum: Sprozoa. *Plasmodium falciparum, P. vivax, P. ovale, P. malariae.*	Morphology, Erythrocytic and Exoerythrocytic Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	8
Live by tests Indirect oral questions	Lectures Video theory	Apicocomplexa, *Toxoplasma gondii, Cryptosporidium*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	9
Live by tests Indirect oral questions	Lectures Video theory	*Sarcocysts, Isospora belli, Cyclospora cayetanesis,*	Morphology, Life cycle, Pathogenicity, Diagnosis, treatment and prevention.	2	10

Live by tests Indirect oral questions	Lectures Video theory	Exam		2	11

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Lectures scheduled by the professors of the subject Availability of the methodological book (parasitology) a scientific book specialized in parasitology - Baghdad University Press
المراجع الرئيسة (المصادر)	Ridley, John, W. (2012). Parasitology for medical and clinical laboratory professionals. Delmar Cengage Learning, USA.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	The increasing use of information technology or Internet references, and changes in content as a result of keeping pace with the development in the world of technology and information using educational electronic platforms
المراجع الإلكترونية ، مواقع الانترنيت	NCBI and Pubmed website for related medical research Curriculum

Course Description Form

.١	Course Name Microbiology 2 – Lab	
.٢	Course Code	
.٣	Semester / Year	Second Semester 2023-2024
.٤	Date of preparation of this description	1-4- 2024
	5. Available attendance	forms Part of the laboratory Theoretical + Practical

6. Number of study hours (total) / number of units (total) 4 theoretical hours per week + 6 hours practical per week / 3 units

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

Name	Email:
Prof. Harith Jabbar Fahad Al-Mazkouri	harith.fahad@sc.uobaghdad.edu.iq
Prof. Ghosoun Ali Abdel Hassan	ghusoon.ali@sc.uobaghdad.edu.iq
Assoc. Prof. Laila Fouad Ali	Layla.ali@sc.uobaghdad.edu.iq
Assoc. Prof. Nihad Taha Jadoua	nihad.jaddoa@sc.uobaghdad.edu.iq
A.M.D. Inas Ghassan Sweidan	enass.ghassan@sc.uobaghdad.edu.iq
Dr. Hossam Mahmoud Hassan	hussam.alammar@sc.uobaghdad.edu.iq
Eng. Samar Mustafa Mohamed	summer.mostafa@sc.uobaghdad.edu.iq
Eng. Hala Mohamed Mahmoud	hala.mohammed1102a@sc.uobaghdad.edu.iq
Eng. Hajar Hadi Abdul Amir	hajer.abd@sc.uobaghdad.edu.iq

٨. اهداف المقرر

اهداف المادة الدراسية	• Τηε στυδψ οφ μιχροοργανισμσ βψ ισολατινγ τηεμ φρομ τηειρ διφφερεντ ενϖιρονμεντσ υσινγ αππροπριατε μεδια. • Στυδψ σομε οφ τηειρ χηαραχτεριστιχσ, φορ εξαμπλε, τηειρ πατηογενιχιτψ ανδ σενσιτιϖιτψ το αντιβιοτιχσ, υσινγ αππροπριατε μετηοδσ.

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	• Conducting scientific experiments in the laboratory • Students' participation in some practical topics and discussion.

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ

Conducting tests and theoretical questions, some of which are oral	practical	Microbiology 2		12 hours per week	12 weeks

١١. تقييم المقرر	
1.By tests 2. By means of inferential questions raised in the laboratory 3. By laboratory work of students	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Mahon, C. R., & Lehman, D. C. (2022). *Textbook of Diagnostic Microbiology-E-Book: Textbook of Diagnostic Microbiology-E-Book*. Elsevier Health Sciences. Kumar, S. (2012). *Textbook of microbiology*. JP Medical Ltd.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	
المراجع الإلكترونية ، مواقع الانترنيت	https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/antibiotic-sensitivity

Course
Description Form

١. Course Name	
Microbiology 2/theoretical	
٢. Course Code	
٣. Semester / Year	
II/Phase II	
٤. Date this description was set up:	
31/3/2024	
5. Available Forms of Attendance: Face-to-face lectures	
6. Number of study hours (total) / number of units (total):	
4 hours / 3 units	
7. Course administrator's name (if more than one name)	
Name: Assoc. Prof. Enas Ghassan Sweidan Email: Enass.ghassan@sc.uobaghdad.edu.iq Assoc. Prof. Nihad Taha Mohammed Jadou sc.uobaghdad.edu.iq nihad.jaddoa@ Assoc. Prof. Marwa Hamid Mutashar Assoc. Prof. Dr. Laila Fouad Ali	
٨. اهداف المقرر	
اهداف المادة الدراسية	• A1- The student should be able to identify microorganisms and their structure A2- The student should be able to know its growth and multiplication. A3- To be able to understand the impact of factors on their growth and reproduction A4- Know the importance of microorganisms and their harms□
٩. استراتيجيات التعليم والتعلم	

الاستراتيجية	• This course is given through 15 theoretical lectures and 15 lectures. • Give a simple explanation of the scientific material with clarification by using the data show • Conducting practical experiments for students and teaching them the correct methods in dealing with laboratory samples in terms of transplantation and incubation and reading the results • The use of illustrations and illustrations to deliver the scientific material in the simplest form and the richest scientific and practical content Involving students through practical groups with scientific and practical experiments and guidance in mathematical calculations that benefit the scientific material and creating a spirit of cooperation between the groups through the exchange of work results and opening discussions in the scientific material approved by methodological books and scientific research related to the material and taken from the Internet to benefit from recent information In the articleof the results tone

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	4	Study the classification of microorganisms, their naming and types, and the identification of their characteristics	Microbial taxonomy	Classroom lecture with practical lab	Daily and quarterly tests and practical reports
2	4	Identify mycology and its role in pathogenicity and the structure of fungi and their importance and types	mycology	Classroom lecture with practical lab	Daily and quarterly tests and practical reports
3	4	Identify and classify parasites, as well as their types, benefits and harms	Parasitology	Classroom lecture with practical lab	Daily and quarterly tests and practical reports

Daily and quarterly tests and practical reports	Classroom lecture with practical lab	phycology	Identify algae, their types and classification	4	4
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	virology	Identifying and classifying viruses and some of the diseases they cause, as well as identifying their reproduction and ways of transmission	4	5
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Medical bacteriology	Pathological bacteria and their types are identified, as well as the microbial flora and its types, as well as the types of diseases	4	6
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Mid exam	Semester exam	4	7
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Antibiotics	Identify the importance of antibiotics, their classification, groups and harms	4	8

Daily and quarterly tests and practical reports	Classroom lecture with practical lab	immunology	Identify immunology and its role and methods of controlling the reproduction and multiplication of various microorganisms by physical and chemical methods	4	9
Mid exam	Semester exam	Food microbiology	Types of microbes are identified in food, food poisoning and its types and foodborne diseases	4	10
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Soil microbiology	Identify soil microorganisms	4	11
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Aquatic microbiology	Identify microorganisms that live in water	4	12

Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Air microbiology	Identify microorganisms that live in the air	4	13
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Biotechnology	Identify the methods of modern biotechnologies used in the field of microbiology	4	14

١١. تقييم المقرر
The student's activity in the classroom and his ability to answer deductive questions and answer oral and written questions and discuss the results within the reports prepared by him for the purpose of identifying the student's ability to deductive thinking and thus the possibility of putting forward new ideas that contribute to constructive scientific criticism.

١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Lectures scheduled by the professors of the subject - Course books General Microbiology Books: Written by a group of professors of the Department of Life Sciences 1991
المراجع الرئيسة (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Lectures scheduled by the professors of the subject WHO Reports
المراجع الإلكترونية ، مواقع الانترنيت	Research gate Google scholar

Course
Description Form

.Course Name
Entomology 2
Course Code .٢
Semester / Year .٣
II/2023-2024
The history of preparation of this description .٤
15/9/2023
5. Available Attendance Forms
Came
6. Number of study hours (total) / number of units (total)
42 hours/two units
7. Course administrator's name (if more than one name)
Name: Prof. Haider Badri Ali Email hayder.badri@sc.uobaghdad.edu.iq
٨. اهداف المقرر

اهداف المادة الدراسية	..٥. ..٥. ..٥.
Study of the class of insects in general, their morphology, anatomical developments, history of insect life, relationships, habits and habitats	

٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	Preparing PowerPoint lectures and using the display screen using graphs of the most prominent information from modern sources

١٠. اهداف المقر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
Week 2	**2**	Attain a broad knowledge of insect	**Principles of Classification (Definition of the insect**	PowerPoint + L.C.D	written exam

		orders, Apterygota, and Pterygota)	systematics and taxonomy.		
written exam	PowerPoint + L.C.D	**Development and metamorphosis, And Immature Stages Of Insect**	Attain a broad knowledge of insect systematics and taxonomy.	**2**	**Week 3**
written exam	PowerPoint + L.C.D	**Subclass Apterygota Characterized Orders: Protura, Collembola, Diplura, Thysanura**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 4**
written exam	PowerPoint + L.C.D	**Subclass Pterygota Characterized Infraclass: Paleoptera Orders Ephemeroptera, Odonata**	Attain a broad knowledge of insect systematics and taxonomy.	**2**	**Week 5**
written exam	PowerPoint + L.C.D	**Division: Exopterygota Characterized Order Orthoptera, main families Order Dictyoptera main families**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 6**
written exam	PowerPoint + L.C.D	**Order Dermaptera Order Isoptera: Order Embioptera Order Mantodea**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 7**
written exam		**Hemipteroid Orders**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 8**
written exam	PowerPoint + L.C.D	written exam		**2**	**Week 9**
written exam	PowerPoint + L.C.D	**Order Mallophaga Order Anoplura**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 10**
written exam	PowerPoint + L.C.D	**Division: Endopterygota Characterized Order: Neuroptera (main families)**	• Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 11**
written exam	PowerPoint + L.C.D	**Order: Coleoptera (main families)**	• Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 12**
written exam	PowerPoint + L.C.D	**Order: Coleoptera (main families) Order: Siphonaptera (Fleas)**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 13**
written exam	PowerPoint + L.C.D	**Order Diptera (main families)**	Ability to identify selected insect families from each order of the class Insecta.	**2**	**Week 14**
written exam	PowerPoint + L.C.D	**Order Lepidoptera (main families)**	Ability to identify selected insect families	**2**	**Week 15**

		Order: Hymenoptera (main families)	from each order of the class Insecta.		
written exam		**written exam**		**2**	**Week 16**

١١. تقييم المقرر	
Quizzes 10 Who? 5% **Midterm Exam) /Lab.) 10 Who? 20%** **Midterm Exam 1 Free 10% (25)** **Final Exam 3 Free 50% (50)**	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Imms outlines of entomology , O.W Richards and R. G. Davies, chapman and hall , 1978
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Principle of insect morphology, E.J. Boell , R. E. Snodgrass 1935 New York and London
المراجع الإلكترونية ، مواقع الانترنيت	https://www.jstor.org/stable/10.7591/j.ctv1nhm1j.3 https://doi.org/10.4039/Ent67183-8

Third Stage / First Semester

Course Description Form

Course Name **Histology**	.١
Course Code	.٢
Semester / Year 2023-2024 First Semester	.٣
Date of preparation of this description 1/4/2024	.٤
5. Available forms of attendance : in-class attendance and discussions via the electronic class as needed	
6. Number of study hours (total) / number of units (total) (2 theoretical + 2 practical) hours per week for each division	
7. Course administrator's name (if more than one name)	
Name: Dr. Abdul Hassan Bragg abed.hassan@sc.uobaghdad.edu.iq Dr. Amal Khudair Abbas amal.khudair@sc.uobaghdad.edu.iq Dr Ban Jassim Mohammed ban.jasim@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
اهداف المادة الدراسية	Ιντροδυχινγ τηε στυδεντ το τηε βασιχ χωνχεπτσ οφ ηιστολογψ ανδ τηε εξαχτ στρυχτυρε οφ βοδψ τισσυεσ ανδ ιτσ ϖαριουσ οργανσ, ανδ στυδψινγ τηε βασιχ τψπεσ οφ τισσυεσ ωιτη εξαμπλεσ. • •
٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	Teaching and learning methods • Use Power Point & Data Show Systems • Accreditation of video lectures • Using some videos to enhance the student's understanding of the curriculum vocabulary

Evaluation methods • Weekly oral tests via face-to-face meeting in Google Meet • Monthly written tests in addition to live discussion through electronic platforms and the electronic class C- Emotional and value goals Through effective learning, the student will be able to set goals and self-learning and generate a template on analysis and evaluation. d. General and qualifying skills transferred (other skills related to employability and personal development). D1- Skills of using and dealing with microscope D2- Skills of mastering the diagnosis of tissue sections D3- Skills to identify the composition of the tissues that make up the human body	
١٠. بنية المقرر	

2. Course Structure					
Evaluation method	**Method of education**	**Unit / Subject Name**	**Required Learning Outcomes**	**Hours**	**The week**
Questions & Discussion	**Data show** and video lectures	**Epithelial tissue/Part 1**	**Epithelial tissue** **•Tissue level of Organization** **•Functions of Epithelial tissues** **•The specialized Structure of Epithelial Tissue** **A- basement membrane** **B-Intercellular junctions**	**2**	**1**
Questions & Discussion	**Data show and video lectures**	**Epithelial tissue/Part 2**	**•Classification of Epithelial Tissue** **1- Classification by Number of Cell layer** **2- classification by cell shape** **•Types of Epithelium** **A- simples of Epithelium** **B- Stratified Epithelium**	**2**	**2**
Questions & Discussion	**Data show and video lectures**	**Glands**	**GLANDS** **•Classification of exocrine glands according to** **1structure(morphology)** **2- Methods of secretion** **3- secretion type**	**2**	**3**
Questions & Discussion	**Data show and video lectures**	**Connective tissue**	**Functions and Development of connective tissue** **•Classification of connective tissue** **•Cells of connective tissue proper** **•Protein fibers in connective tissue proper** **•Ground substance of connective tissue proper**	**2**	**4**
Questions & Discussion	**Data show and video lectures**	**Proper connective tissue**	**Proper connective tissue** **•Supporting connective tissue** **•Cartilage** **•Types of cartilage** **•Growth patterns of cartilage** **•Bone** **•Functions of bone** **•Cell types of bone** **•Compact bone & spongy bone** **•Ossification**	**2**	**5**
Questions & Discussion	**Data show and video lectures**	**Fluid Connective Tissue**	**Fluid Connective Tissue** **•Composition of blood** **•Functions of blood** **•Plasma Proteins** **•Erythrocytes** **•Hemoglobin** **•Life Cycle of an Erythrocyte** **•Leukocytes** **•Platelets**	**2**	**6**

Questions & Discussion	**Data show and video lectures**	**Muscle tissue /part1**	**Classification of Muscles** **•Skeletal muscle tissue** **•Structure & characteristics of skeletal muscle** **•Organization of Skeletal Muscle** **•Blood Supply of skeletal muscle** **•Organization of Skeletal Muscle Fibers** **Hierarchy of skeletal muscle organization** **•Sliding Filament Model** **•Sarcotubular system**	**2**	**7**
Questions & Discussion	**Data show and video lectures**	**Muscle tissue /part2**	• **Contractile proteins** **•Types of skeletal muscle fibers** **Cardiac Muscle Tissue** **•Structure & characteristics of cardiac Muscle** **•Purkinje fibers** **•Smooth Muscle Tissue** **•Structure & characteristics of smooth muscle** **•Dense bodies** **•Regeneration of Muscle Tissue**	**2**	**8**
Questions & Discussion	**Data show and video lectures**	**Nerve tissue /part1**	**Anatomical subdivisions of nervous tissue** **•Cells of Nervous Tissue** **•Nerve Fibers** **•Ganglia** **•Synapse** **•Nerve Endings**	**2**	**9**
Questions & Discussion	**Data show and video lectures**	**Nerve tissue /part2**	**Supportive cells of the nervous system** **•Supporting cells of the CNS** **•Supporting cells of the PNS** **•Connective Tissue Investments of Nervous Tissue** **•Blood–brain Barrier** **•Brain and Spinal cord**	**2**	**10**

١١. تقييم المقرر
• Weekly oral tests via Google Meet • Monthly written tests in addition to live discussion through electronic platforms and the electronic class

١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	**1- Required textbooks**
	2- Main references (sources)
	E) Recommended books and references (scientific journals, reports, ...)
	F) Electronic References, Websites
المراجع الرئيسة (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	**3- Required textbooks**
	4- Main references (sources)
	G) Recommended books and references (scientific journals, reports, ...)
	H) Electronic References, Websites
المراجع الإلكترونية ، مواقع الانترنيت	

subject according to the c sources.

Edition by Anthony Mescher,

Leslie P. Gartner PhD, James L.

gy or Internet references, and the continuous updating he great development in the world of technology and

Course Description Form

Course Title:	١.
Immunity	
Course Code	٢.
Semester / Year:	٣.
First Semester 2023-2024	
Date this description was set up:	٤.
1/9/2023	
5. Available Attendance Forms:	
Came	
6. Number of study hours (total) / number of units (total):	
Two hours for the practical part + two hours for the theoretical part / three units	
Prof. Mai Khalil Ismail may.khaleel@sc.uobaghdad.edu.iq Dr. Yasser Bassem Abdel Wahab Yasir.basim@sc.uobaghdad.edu.iq	
Course Objectives	

1- The student should be introduced to the term immunology and the mechanisms of defense of the body, including autoimmunity and acquired immunity **2- The student should be introduced to the term phagocytosis and its mechanisms as a means of defense against nurses** **3- The student should recognize the term foreign body and the antibodies formed when the body is exposed to it and their structures** **and its types** **4- Enabling the student to identify the ways in which antibodies are used as diagnostic methods to identify the pathogen** **5- Introduce the student to the term histocompatibility antigens and their relationship to autoimmune diseases** **- Recognize the term hypersensitivity and types** **Formed allergies**	**Course Objectives**

1. The student should be able to know and understand autoimmune diseases and immune tolerance of both T and T cells 2. The student should be able to know and understand how viral infection and the body's resistance to it, how to equalize antibodies, the role of the complementary agent and killer cells in killing, how to kill cells infected with the virus, and immunotherapy for viral infection 3. Be able to understand the role of both natural and acquired defense mechanisms in resisting infections	الاستراتيجية

Evaluation method	طريقة التعلم	اسم الوحدة او الموضوع	مخرجات التعلم المطلوبة	الساعات	الأسبوع
Daily and quarterly exams	Traditional lecture and illustrations	Introduction to immunology	Identify the term immunology and immune status and a	4	**First**

	with videos to enrich the explanation		historical view of the development of this science		
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	Internal defense factors	identify the components of the immune system, divide immunity, and the type of cells responsible for them,	4	**Second**
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	Cell markers	recognize the cellular markers that distinguish between immune cells and their different functions,	4	**Third**

Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	Phagocytosis	Learn about the process of phagocytosis and how to kill and digest foreign bodies that invade the body	4	**Fou rth**
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	Inflammation	Identify the concept of the inflammatory process, types of inflammation, the mechanism of its occurrence, signs of inflammation and the cells responsible for it	4	**V**
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	**The Complement System**	Recognize the complement system as part of self-defense and pathways to activate it in the body |	4	**Sixth**
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	**Immunoglobulins**	Identify antibodies, their chemical composition, properties, function and types,	4	**Seve nth and eight h**
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	**Isotypes, Allotypes and Idiotypes Antibodies**	Identify the types of antigenic determinants found on antibody molecules and how to benefit from them in practice in medical examinations	4	Nint h and tenth

Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	**HYPERSENSITIVITY REACTIONS**	Identify allergic reactions, how they occur and their types	4	11,12
Daily and quarterly exams	Traditional lecture and illustrations with videos to enrich the explanation	**MAJOR HISTOCOMPATIBILITY COMPLEX**	Identify histocompatibility antigens, their types, chemical composition, and their function in differentiating between self and non-self	4	13,14,15

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams, reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Lectures scheduled by the professors of the subject Course Books Modern lectures from the Internet
المراجع الرئيسة (المصادر)	Immunology Book, by Maha Raouf Al-Saad (1989) Microbiology 3rd edited by Nester, Anderson, Roberts, Pearsall and Nester (2001) Male.D, Brostoff . J, Roth. D.B., Roitt.I. 2008. Immunology. Seventh edition (International edition.). ELSEVIER.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	
المراجع الإلكترونية ، مواقع الانترنيت	Lectures, photos and explanatory videos

Course Description Form

Course Name	١.
Plant physiology	
Course Code	٢.
Semester / Year	٣.
First Semester 2023-2024	
The history of preparation of this description	٤.
4/4/2024	
5. Available Attendance Forms	
Traditional lecture, electronic video lectures	
6. Number of study hours (total) / number of units (total)	
2 hours per week 3 units	
7. Course administrator's name (if more than one name)	
Name: **Dr. Sabah Mahdi Hadi, Dr. Ansam Ghazi** Email: **sabah.m@sc.uobaghdad.edu.iq** **ansam.ghazi@sc.uobagdad.edu.iq**	
٨. اهداف المقرر	
اهداف المادة الدراسية	• **Identify the chemical and physical properties of water and the absorption mechanisms of water and salts in plants** • **Study the functions of plant organs and identify their general characteristics** • **Study the mechanisms of physiological functions in plants such as photosynthesis and respiration** • **Identify the types and functions of plant growth regulators**
٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	**1. Addressing the most important mechanisms of absorption of water and salts in plants** **2. Identify the most important theories of sap rise in plants** **3. Learn the most important physiological processes in plants, which are photosynthesis and respiration** **4. Teach the student what light and dark interactions are in different plants.** **5. Addressing the most important plant growth regulators and**

their importance in plants	

١٠. اهداف المقر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Plant Physiology by L. Taiz and E. Zeiger (5th edition) (2010) Introduction to Plant Physiology by W.G. Hopkins and N. P. A. Huner (2008).
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Plant physiology journal Plant physiology by Vince Ördög
المراجع الإلكترونية ، مواقع الانترنيت	www.livescience.com nature.com Whoa, whoa, who Estrellamountain.edu

10.Course Structure

Evaluation method	Method of education	Unit / Subject Name	Required Learning Outcomes	Hours	The week
Daily exam Oral questions	Traditional lecture Power point	Water relationships	Water potential	2 hours theoretical	First
Daily exam Oral questions	Traditional lecture Power point	Diffusion and Osmosis	Diffusion and Osmosis	2 hours theoretical	Second
Daily exam Oral questions	Traditional lecture Power point	Plasmolysis	Plasmolysis	2 hours theoretical	Third
Daily exam Oral questions	Traditional lecture Power point	Ascent of Sap	Absorption of water	2 hours theoretical	Fourth
Daily exam Oral questions	Traditional lecture Power point	Ascent of Sap	Ascent of Sap	2 hours theoretical	V
Daily exam Oral questions	Traditional lecture Power point	Absorption of mineral salts	Absorption of mineral salts	2 hours theoretical	Sixth
Daily exam Oral questions	Traditional lecture Power point	Active and passive transport	Active and passive transport	2 hours theoretical	Seventh
		Examine	Examine	2 hours theoretical	Eighth
Daily exam Oral questions Weekly assignments	Traditional lecture Power point	Photosynthesis	Photosynthesis	2 hours theoretical	Ninth
Daily exam Oral questions Weekly assignments	Traditional lecture Power point	Dark reaction	Dark reaction	2 hours theoretical	X
Daily exam Oral questions Weekly assignments	Traditional lecture and video lecture	Respiration	Respiration	2 hours theoretical	Eleventh

Daily exam Oral questions Weekly assignments	Traditional lecture and video lecture	Krebs cycle	Krebs cycle	2 hours theoretical	Twelfth
Daily exam Oral questions	Traditional lecture	Plants growth regulators	Plants growth regulators	2 hours theoretical	Thirteenth
Daily exam Oral questions	Traditional lecture	cytokinins	cytokinins	2 hours theoretical	Fourteenth
		Examine	Examine	2 hours theoretical	Fifteenth

Course Description Form

١. Course Name
Antibiotics
٢. Course Code
٣. Semester / Year
First/2023-2024
٤. The history of preparation of this description
2024
5. Available Attendance Forms
Traditional lecture
6. Number of study hours (total) / number of units (total)
Two hours a theoretical week + two hours per practical week
7. Course administrator's name (if more than one name)
Name: Assoc. Prof. Nagham Shaker Mohamed Hussein Assoc. Prof. Lama Saeed Mohammed Email :

٨. اهداف المقرر	
اهداف المادة الدراسية	..... **1. Teaching the student the definition of antibiotics**, their classification, effectiveness, mechanism of action, and some side effects of their uses 2. Teaching the student ways of antimicrobial resistance 3. Teach the student the correct use of antibiotics to prevent the spread of resistance

٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	A- Knowledge Objectives A1- Understanding the basics of antibiotic science A2- Knowing how to classify antibiotics A3- Knowing the mechanism of action of antibodies A4- Understanding the mechanisms of antimicrobial resistance B - Course skills objectives B1 - The student (researcher) practically learns the action of the antidote and determine its effectiveness B2 - Also learns how to perform antibody allergy tests and determine antimicrobe resistance

١٠. اهداف المقر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ

Exams + Weekly reports + exam Monthly + Final Exam	Lecture in a way Datacho + Discussions	Introduction History of antibiotics Definition, Characteristics of Antibiotics	antibiotics Definition	2 n + 2 p	1
		Antibiotic classes, Beta-Lactam Antibiotics, The Penicillins	Antibiotic classes Beta-lactam antibiotics I	2 n + 2 p	2
		Cephalosporins Monobactams (aztreonam) Carbapenams	Antibiotic classes Beta-Lactam Antibiotics II	2 n + 2 p	3
		Naturally occurring : TetracyclineHYPERLINK "http://en.wikipedia.org/wiki/Tetracycline",ChlortetracyclineHYPERLINK "http://en.wikipedia.org/wiki/Tetracycline", OxytetracyclineHYPERLINK "http://en.wikipedia.org/wiki/Oxytetracycline" – **Semi-synthetic** : DoxycyclineHYPERLINK "http://en.wikipedia.org/wiki/Doxycycline", LymecyclineHYPERLINK "http://en.wikipedia.org/wiki/Lymecycline", MeclocyclineHYPERLINK "http://en.wikipedia.org/wiki/Lymecycline", MethacyclineHYPERLINK "http://en.wikipedia.org/wiki/Methacycline",	Tetracyclines Aminoglycosides Rifamycins Macrolides Miscellaneous	2 n + 2 p 2 n + 2 p 2 n + 2 p 2 n + 2 p	4 5 6 7

		MinocyclineHYPERLINK "http://en.wikipedia.org/wiki/Methacycline", RolitetracyclineHYPERLINK "http://en.wikipedia.org/wiki/Rolitetracycline"		2 n + 2 p	8
		Aminoglycosides (Tobramycin Streptomycin Neomycin Kanamycin Amikacin)	Drugs	2 n + 2 p	9
		Rifamycins (rifampin), Polypeptides (bacitracin, vancomycin Macrolides (Erythromycin - Azithromycin, ,clarithromycin, dirithromycin(	Antibiotics and their mechanisms of action:	2 n + 2 p	10
		Miscellaneous, Lincosamides (clindamycin) • Streptogramins (Quintapristin/dalfopristin) • Oxazolidinones (linezolid) • Phenicols (chloramphenicol, Polymixins Drugs, Trimethoprim • Sulfonamides Metronidazole • Lipopeptides(daptomycin), Quinolones			

		-Antibiotics and their mechanisms of action -inhibition cell wall & Protein synthesis Alteration of nucleic acid metabolism -inhibition of folate metabolism and other mechanisms			

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Handbook of Experimental Pharmacology Edition :Volume ٦8/ II, Chapter: 14 Antibiotics. Editors: W. Peters and W.H.G. Richards, 1984
المراجع الرئيسة (المصادر)	Microbiology, PreTest® Self-Assessment and Review, Tenth Edition, Richard C.Tilton,2002 Clinical and Laboratory
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Standards Institute. "Procedure for performing the disk diffusion test", p. 9–11. In Performance standards for antimicrobial disk susceptibility tests, (8th ed). M02-A8. Clinical and Laboratory Standards Institute, Wayne, PA. 2003
المراجع الإلكترونية ، مواقع الانترنيت	Resistance to polymyxins: Mechanisms, frequency and treatment options. Drug Resist. Update. 132:132–138.

Third Stage / Second Semester

Course Description Form

Course Name Animal Physiology ١.
Course Code ٢.
Semester / Year ٣.
: Second Semester / 2023-2024
Date this description was set up: ٤.
1/10/2023
5. Available Forms of Attendance:
Traditional lecture
6. Number of credit hours (total/) Number of units (total)
60 hours theoretical + 60 hours practical / number of finds 3
7. Name of the course administrator (more than one name):
Name: Dr. Jabbar Hamid Nazeel Dr. Makarem Qasim Dawood Doctor Suha Abdul khaliq Abdul sattar Dr. Iqbal Naji Tawfik
٨. اهداف المقرر

اهداف المادة الدراسية	The course aims to describe the physiological activities inside the body and clarify the mechanism and work of all organs within the body as well as describe the pathological conditions that accompany the work of these organs as well as clarify the process of balance between the work of the organs combined for the purpose of performing basic functions

٩. استراتيجيات التعليم والتعلم

The main strategy is to develop the student's skills in laboratory analysis and encourage students to scientific discussion and reflection through theoretical lectures and conducting experiments and laboratory analyzes.	الاستراتيجية

١٠. اهداف المقر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
The first	2	General introduction to the concept of animal physiology	Animal physiology	Face-to-face lecture	Daily + Quarterly Exams
Second	2	Structure and components of the nervous system	Nervous system	Face-to-face lecture	Daily + Quarterly Exams
Third	2	Physiology of the nervous system	Nervous system	Face-to-face lecture	Daily + Quarterly Exams
Fourth	2	Composition and components of the digestive system	Digestive	Face-to-face lecture	Daily + Quarterly Exams
V	2	Physiology and digestion mechanism	Digestive	Face-to-face lecture	Daily + Quarterly Exams
Sixth	2	Semester exam	------	-------	----------
Seventh	2	Study of the mechanism and functions of the circulatory system	Circulatory device	Face-to-face lecture	Daily + Quarterly Exams
Eighth	2	Study of the mechanism and functions of the respiratory system	Respiratory	Face-to-face lecture	Daily + Quarterly Exams
Ninth	2	Study of the mechanism and functions of the	Urinary	Face-to-face lecture	Daily + Quarterly Exams

			urinary system		
Daily + Quarterly Exams	Face-to-face lecture	Musculature	Study of the mechanism and functions of the muscular system	2	X
Daily + Quarterly Exams	Face-to-face lecture	Thermoregulation	The effect of temperature on the body and the adaptation mechanisms of animals	2	Eleventh
Daily + Quarterly Exams	Face-to-face lecture	Lymphatic system	Study of the mechanism and functions of the lymphatic system	2	Twelfth

١١. تقييم المقرر	
Through quarterly and daily tests.	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Human Physiology
المراجع الرئيسة (المصادر)	Medical Physiology
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	From internet
المراجع الإلكترونية ، مواقع الانترنيت	Human Physiology

Course
Description Form

Course Title : Serum and Vaccines Theory	.١
Course Code	.٢
Semester / Year: Second Semester/2024-2023	.٣
Date of preparation of this description : 1/4/2024	.٤
5. Available Attendance Forms : Classic lecture using datashow , science films and electronic classes	
6. Number of study hours (total) / number of units (total): theoretical 4 hours and practical 8 hours per week	
7. Course administrator's name (if more than one name)	
Name: 1 – Prof. Nawal Mohammed Utbah Email: nawal.utba@sc.uobaghdad.edu.iq 2 - Prof. Donia Farid Salloum dunyascience@sc.uobaghdad.edu.iq 3- Assoc. Prof. Dr. Hind Hussein Obaid hind.hussaien@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
اهداف المادة الدراسية	• Τηε χουρσε αιμσ το ιδεντιφψ τηε τψπεσ ο φ ϖαχχινεσ υσεδ, ολδ ανδ μοδερν, αχχορ δινγ το τηε Ιραθι ϖαχχινε σχηεδυλε • Λεαρν ηοω το μανυφαχτυρε ανδ δεϖελ οπ ϖαχχινεσ υσινγ ανχιεντ ανδ μοδερν με τηοδσ ανδ δετερμινε τηειρ αδϖανταγεσ α νδ δισαδϖανταγεσ • Στυδψινγ τηε τψπεσ οφ αντιβοδιεσ ανδ ι μμυνιζινγ σερυμσ, μετηοδσ οφ υσινγ τηεμ , ανδ ηοω το μανυφαχτυρε τηεμ • Ανδ λεαρνινγ αβουτ ιμμυνοτηεραπψ αν δ ηοω το πρεϖεντ δισεασεσ ανδ επιδεμιχσ τηατ κιλλ ηυμανσ. •
٩. استراتيجيات التعليم والتعلم	

• The course is given through 13 theoretical lectures using datashow and two semester exams • Use short scientific films, drawings, pictures and some scientific charts to illustrate some scientific and practical information. • Involving students in the required scientific material through homework, making simple reports, and using methodological scientific books and the Internet to benefit from them.	الاستراتيجية

١٠. اهداف المقر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	3	Knowing the date of production of the first vaccine and the scientific experiments that preceded it and presenting some details used by man in ancient times	Introduction to vaccines and serums, history of manufacture and use	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports
2	3	Identify the vaccination process, the immunization process, herd immunity, importance, requirements and history	Vaccination process, immunization process and herd immunity process	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports
3	3	Vaccines for live and attenuated pathogens Vaccines for murdered nurses Vaccines manufactured by genetic engineering Genetic vaccines	Types of vaccines and the advantages and disadvantages of each type	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports
4	3	Vaccine components and vaccine-by-vaccine components Reasons for needing one or more doses and a booster dose of	Vaccine components and ideal vaccine specifications	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports

			some vaccines		
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Vaccine manufacturing steps and stages of development	Discover new vaccines Stages of laboratory development and testing on humans and methods and programs for monitoring them	**3**	**5**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Vaccine schedule in Iraq and its difference from the world	Census of vaccines used in Iraq, their beneficial effects, the harm they may cause , and the ages in which vaccines are given	**3**	**6**
Quarterly and daily tests, homework and practical reports			Semester exam	**3**	**7**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Corona vaccines manufactured in the world and used in Iraq	Pfizer vaccine Astra-Zinca/Oxford vaccine Sinopharm vaccine	**3**	**8**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Effective and passive immunity and ways to use it to prevent diseases	Definition of active and passive immunity, its types, importance, history and user census	**3**	**9**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Types of passive immunization and its role in protecting against diseases	Monoclonal antibody therapy Treatment with polyclonal antibodies and the types used in Iraq	**3**	**10**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	The different ways to prepare immune serum and how to use it to get rid of diseases	Basic principles of serum manufacturing Mela-clobulin metabolism	**3**	**11**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Treated and anti-toxic immune serum	Serum prepared against rabies Serum prepared	**3**	**12**

			against blood type RH		
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Modern methods intended to be used in the pollination process	Vaccines entrusted with food Fully hybrid viral vaccines Anti-stereotype vaccines DNA vaccines Vaccines for mutated species or strains Vaccines for antigens manufactured	**3**	**13**
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Definition of immunotherapy and its applications	Clarifying what is immunotherapy, how to use it, types of immunotherapy in Iraq, and how to treat with immunoglobulin	**3**	**14**
Quarterly and daily tests, homework and practical reports			Semester exam	**3**	**15**

١١. تقييم المقرر	
Distribution of the grade out of 100 according to the following: 60 for the theoretical subject and 40 for the practical subject according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams , reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Vaccinology Textbooks, University of Texas Medical Branch
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Clinical Immunology and Serology: A Laboratory Perspective 4th Edition edited by Stevens and Miller (2016) Vaccines a tool uses to prevent and treat human diseases. edited by Mohammed Al-Araji (2011)
المراجع الإلكترونية ، مواقع الانترنيت	Whoa, whoa, who WHO net com

Course
Description Form

Course Name	١.
Medicinal plants	
Course Code	٢.
Semester / Year	٣.
First Semester / 2023-2024	
The history of preparation of this description	٤.
1-4-2024	
5. Available Attendance Forms	
Classroom lecture	
6. Number of study hours (total) / number of units (total)	
2 hours / 2 units	
7. Course administrator's name (if more than one name)	
Name: Prof. Iyad Wajhih Raouf email / Ayyad.Al-Shahwany@sc.uobaghdad.edu.iq Name : Prof. Ibrahim Gaber Ibrahim.abed@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
اهداف المادة الدراسية	1- Knowledge and understanding The study of medicinal plants (active substances in medicinal plants, their classification, chemical composition, biological effect, methods of separation and presence in medicinal plants). 2- Addressing the most important secondary compounds in plants. 3- The student should understand how the action of secondary productive substances such as enzymes and hormones intersects under the environmental conditions surrounding the plant. 4- The student learns what by-products are and their benefits for the plant.

٩. استراتيجيات التعليم والتعلم	
• This course is given through 15 theoretical lectures and 15 lectures. • Give a simple explanation of the scientific material with clarification by using the data show • Conducting practical experiments for students and teaching them the correct ways to deal with • The use of illustrations and illustrations to deliver the scientific material in the simplest form and the richest scientific and practical content • Involving students throughpractical groups with scientific and practical experiments and guidance in mathematical calculations that benefit the scientific material and creating a spirit of cooperation between the groups through the exchange of work results and opening discussions in the scientific material approved by methodological books and scientific research related to the material and taken From a network	**الاستراتيجية**

5. Course Structure					
Evaluation method	Method of education	Unit / Subject Name	Required Learning Outcomes	Hours	The week
Power point	Traditional lecture	History of medicinal plants	History of herbal plants	3 hours theoretical	First
Power point	Traditional lecture	Classification of medicinal and aromatic plants	Methods of Classification of medicinal plants	2 hours theoretical	Second
Power point	Traditional lecture	Medicinal Uses and Health benefits	Habitat and Plant Parts Used	2 hours theoretical	Third
Power point	Traditional lecture	Lower plants: Medicinal uses	Typs of Lower plants:	2 hours theoretical	Fourth
Power point	Traditional lecture	Methods of extraction and analysis of secondary metabolites	Methods of analysis	2 hours theoretical	V
Power point	Traditional lecture	Poisonous plants	Uses of Poisonous plants	2 hours theoretical	Sixth
Power point	Traditional lecture	Functions of Secondary Metabolites in Plant	The benefit of secondary metabolites	2 hours theoretical	Seventh
Power point	Traditional lecture	Alkaloids compounds	Characteristic of Alkaloids	2 hours theoretical	Eighth
		Examine	Examine	2 hours theoretical	Ninth
Power point	Traditional lecture	Phenol compounds	Characteristic of phenol	2 hours theoretical	X
Power point	Traditional lecture	Terpenes compounds	Characteristic of terpenes	2 hours theoretical	Eleventh
Power point	Traditional lecture	Food supplment	Fine of food supplment	2 hours theoretical	Twelfth
Power point	Traditional lecture	Durg discavery	Fine of durg	2 hours theoretical	Thirteenth
Power point	Traditional lecture	Preper herbal drugs	Method for preper herbal drugs	2 hours theoretical	Fourteenth
		Examine	Examine	2 hours	Fifteenth

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	• Mazzas, G., Oomah, B.D. (2000). Herbs, Botanical and Teas. Technomic Publishing Co. Inc. Lanchaster, USA.
المراجع الرئيسة (المصادر)	• Sincich, F. (2002). Bedouin Traditional Medicine in the Syrian Steppe. FAO . Rome.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	• - Herb Web 2000: Global botanical exchange http://www.herbweb.com
المراجع الإلكترونية ، مواقع الانترنيت	

Course
Description Form

Course Name Environmental Pollution	.١
Course Code	.٢
Semester / Second Year / 2024	.٣
Date of preparation of this description 30/12/2023	.٤
5. Traditional lecture attendance forms available	
6. Number of study hours (total) / number of units (total)number of hours 24 hours Number of units (3) units	
7. Course administrator's name (if more than one name)	
Name: Email :	

٨. اهداف المقرر

اهداف المادة الدراسية	• Τηε στυδεντ ισ ιντροδυχεδ το τηε χονχεπτ οφ πολλυτιον • Τηε ιμπορτανχε οφ πολλυτιον ιν ουρ λιωεσ • Σουρχεσ οφ μαφορ πολλυταντσ ανδ τηειρ ωαριουσ εφφεχτσ – ηυμανσ ανδ τηε ενωιρονμεντ

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	1. Using the projector 2. Use drawings and diagrams on the board

١٠. اهداف المقر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ

Daily tests	Traditional lecture and projector use	Introduction to pollution	Definition of environmental pollution and characteristics of important pollutants	2	First
Daily tests	Traditional lecture and projector use	Air pollution	Air pollution and the most important air pollutants - their sources and effects	2	Second
Daily tests	Traditional lecture and projector use	Global warming and Ozone Hole	Environmental phenomena related to air pollution, especially global warming and ozone holes	2	Third
Daily tests	Traditional lecture and projector use	Radiation pollution	This week, the student will learn about the nature of radiation and its different biological effects	2	Fourth
Daily tests	Traditional lecture and projector use	Water pollution	This week, the student learns an introduction to water pollutants, water properties and water quality indicators.	2	V

Daily tests and semester exams	Traditional lecture and projector use	Water pollution	In this lecture, the student learns about the types of water pollutants.	2	Sixth
Daily tests	Traditional lecture and projector use	Water pollutants	In this lecture, the student will learn about the traditional and advanced methods of water treatment	2	Seventh
Daily tests	Traditional lecture and projector use	Water pollution treatments	The student is introduced to the concept of heavy elements, sources and risks of heavy metals, as well as their various effects	2	Eighth
	Traditional lecture and projector use	Metals pollution	This week, the student will learn about a general introduction to the subject of soil pollution and soil properties	2	Ninth
Daily tests	Traditional lecture and projector use	Soil pollution	This week, the student gets to know the most important soil pollutants	2	X

Daily tests	Traditional lecture and projector use	Soil pollutants	The student learns in a focused way on agricultural chemicals and the concepts of agricultural pollution	2	Eleventh
Daily tests	Traditional lecture and projector use	Soil pollutants	In this week, the student learns about the varieties and pesticides and their different effects on the targeted and non-target neighborhoods	2	Twelfth

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Lectures prepared by the professors of the subject
المراجع الرئيسة (المصادر)	Environmental Pollution by Laurent Hughes
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	1. Warneck, P., Chemistry of the Natural Atmosphere, International Geophysics Series. Vol. 41, Academic Press, San Diego, 1988. 2. Owa, F.W. Water pollution: sources, effects, control and management. International Letters of Natural Sciences, 2014. 3. Teh SJ, Adams SM, and Hinton DE. Histopathological biomarkers in feral freshwater fish populations exposed to different types of contaminant stress. Aquatic Toxicology, 37:51–70, 1997.
المراجع الإلكترونية ، مواقع الانترنيت	1. https://www.worldwildlife.org/threats/pollution 2. https://www.livescience.com/22728-pollution-facts.html

Fourth Stage / First Semester

Course Description Form

Course Title: Medical Helminthology – Practical – Fourth Stage	.١
Course Code	.٢
Semester / Year 2023 – 2024	.٣
Date of preparation of this description 1-4-2024	.٤
5. Available Forms of Attendance Theoretical – Physical Lecture	
6. Number of study hours (total) / number of units (total) 2 theoretical hours per week	
7. Course administrator's name (if more than one name)	
Name: Prof. Khawla Houry khawla.hoori@sc.uobaghdad.edu.iq Prof. Haider Zuhair Ali hayder.zuhair@sc.uobaghdad.edu.iq Prof. Intisar Jabbar Sahib entsar.saheb@sc.uobaghdad.edu.iq Assoc. Prof. Rasha Hassi Kubba rasha.hussain@sc.uobaghdad.edu.iq Dr. Dina Khudair Hussein dina.khudhair@sc.uobaghdad.edu.iq Dr. Zainab KhudairHussein zainab.khidhair@sc.uobaghdad.edu.iq Prof. Esraa Salem Mousa israa.salim@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
1- The student should be able to diagnose helminths at the level of adult worm and larval phases **2- The student should distinguish the diagnostic characteristics of each parasitic worm**	اهداف المادة الدراسية

3- The student should be able to distinguish the pathological types of them **The student diagnoses the worm with its different stages of life, under the microscope** **4 – The student draws the adult worm and its larval phases with the marking** **5 – Study of histological pathogenicity caused by worms, under the microscope** **6- Preparing a research on one of the parasitic worms**	

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	- **Use the Data show to display the material as a power point** - **Preparing reports and research prepared by regular groups of students** - **Summer training in medical centers and laboratories develops students' experiences**

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	**2**	**General characteristics, Main classes, and main Sub Classes and Orders, Morphological physiological adaptations**	**Introduction, Helminthes classification Phylum Platyhelminthes:**	**Lab lecture + slides examined under a microscope**	**Data Show + Microscope**
2	**2**	**Body wall, Structure, Digestive system, Excretory system, Nervous system, Reproductive system, Life history, Effect of parasite on host,**	**Fasciola hepatica (as a main example of liver flukes in Platyhelminthes**	**Lab lecture + slides examined under a microscope**	**Data Show + Microscope**

			Treatment and control, Parasitic adaptation		
Data Show + Microscope	Lab lecture + slides examined under a microscope	Fasciola gigantica Clonorchis sinensis Opisthorchis viverrini O. felineus Dicrocoelium dendriticum	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	3
Data Show + Microscope	Lab lecture + slides examined under a microscope	Intestinal flukes Fasciolopsis buski Heterophyes heterophyes Metagonimus yokogawai Paramphistomu cervi Echinostoma ilocanum	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	4
Data Show + Microscope	Lab lecture + slides examined under a microscope	Lung flukes Paragonimus westermani Blood flukes Schistosoma mansoni S. Haematobium S. Intercalatum S. Japonicum & S. dermatitis	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	5

Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Class Cestoda Comparison between the main Sub Classes (Cestodaria and Eu cestoda) Comparison between the main Orders (Pseudophyllidae and Cyclophyllida)**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**6**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Order Pseudophyllidae Diphyllobothrium latum Spirometra mansonoides (human Sparganosis) Order Cyclophyllidae Taenia saginata Taenia solium Cysticercosis**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**7**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Taenia multiceps Echinococcus granulosus Hydatid cyst Echinococcus multilocularis**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**8**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Dipylidium caninum Moniezia expansa Hymenolepis Nana Hymenolepis diminuta H. carioca**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**9**

Data Show + Microscope	**Lab lecture + slides, examined under a microscope**	**Aschelminthes Classification Egg shell formation Hatching & Molting**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**10**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Trichinella spiralis Capillaria hepatica C. philippinensis Dioctophyma renale Enterobius vermicularis Syphacia spp.**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**11**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Toxocara canis visceral larva migrans)) T. Kati Toxascaris leonine Lagochilascaris minor Anisakis spp**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**12**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Ancylostoma deudenale Necator americanus Ancylostoma caninum (cutaneous larva migrans) Oesophagostomum Ternidens**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**13**
Data Show + Microscope	**Lab lecture + slides examined under a microscope**	**Trichostrongylus Haemonchus contortus Angiostrongylus**	**Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.**	**2**	**14**

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	**Lectures scheduled by the professors of the subject** **Availability of methodological book (helminthology) and various international books on parasitology** **Using research and recent reports on the Internet**
المراجع الرئيسة (المصادر)	Medical Parasitology, Satoskar, et al. 2009, LANDES Bioscience, USA. Atlas of Medical Helminthology and Protozoology, Chiodini, et al. 2003, 4th edition, ELSEVIER Science limited.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Iraqi Journal of Science Elsevier journals
المراجع الإلكترونية ، مواقع الانترنيت	Google Scholar

Course
Description Form

Course Title: **Helminthology - Theoretical - Fourth Stage**	١.
Course Code:	٢.
Semester / Year: 2023-2024	٣.
Date of preparation of this description: 1-4-2024	٤.
5. Available Forms of Attendance: Theoretical – Physical Lecture	
6. Number of study hours (total) / number of units (total): **2 theoretical hours per week**	
7. The name of the course administrator (if more than one name is mentioned): –	
Name: Prof. Haider Zuhair Ali Email : hayder.zuhair@sc.uobaghdad.edu.iq Assoc. Prof. Rasha Hussein Kubba rasha.hussain@sc.uobaghdad.edu.iq Prof. Esraa Salem Mousa israa.salim@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
1- Study of helminths of medical and economic importance **2- Study the life cycles of these worms and identify their hosts from other animals** **3- Studying the methods of infection withworms, methods of diagnosis and prevention and the treatments used**	**اهداف المادة الدراسية**
٩. استراتيجيات التعليم والتعلم	

Knowledge and understanding **1- The student should be acquainted with the science of helminthics spread locally and globally** **2- The student should know how to diagnose worms, their pathogenes, and ways to prevent them** **3- The student should be able to distinguish the pathological types of them** **4- Directing the student to spread health culture in his home and family** **Subject-specific skills** - **He is preparing research on one of the parasitic worms** - **Use the Data show to display the material as a power point** - **Preparing reports and research prepared by regular groups of students** - **Summer training in medical centers and laboratories develops students' experiences**	الاستراتيجية

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	2	General characteristics, Main classes, and main Sub Classes and Orders, Morphological physiological adaptations.	Introduction, Helminthes classification Phylum Platyhelminthes:	Theoretical lectures	Daily exams + semester exam
2	2	Body wall, Structure, Digestive system, Excretory system, Nervous system, Reproductive system, Life history, Effect of parasite on host, Treatment and control, Parasitic adaptation	Fasciola hepatica (as a main example of liver flukes in Platyhelminthes	Theoretical lectures	Daily exams + semester exam
3	2	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	Fasciola gigantica Clonorchis sinensis Opisthorchis viverrini O. felineus Dicrocoelium dendriticum	Theoretical lectures	Daily exams + semester exam

Daily exams + semester exam	Theoretical lectures	Intestinal flukes Fasciolopsis buski Heterophyes heterophyes Metagonimus yokogawai Paramphistomum cervi Echinostomailocanum	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	4
Daily exams + semester exam	Theoretical lectures	Lung flukes Paragonimus westermani Blood flukes Schistosoma mansoni Sch. Haematobium Sch. Intercalatum Sch. Japonicum & Sch. dermatitis	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	5
Daily exams + semester exam	Theoretical lectures	Class Cestoda Comparison between the main Sub Classes (Cestodaria and Eu cestoda) Comparison between the main Orders (Pseudophyllidae and Cyclophyllida	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	6
Daily exams + semester exam	Theoretical lectures	Order Pseudophyllidae Diphyllobothrium latum Spirometra mansonoides (human Sparganosis) Order Cyclophyllidae Taenia saginata Taenia solium Cysticercosis	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	7
Daily exams + semester exam	Theoretical lectures	Taenia multiceps Echinococcus granulosus Hydatid cyst Echinococcus multilocularis Ech. Vogeli Ech. Oligarthus	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	8

Daily exams + semester exam	Theoretical lectures	Dipylidium caninum Moniezia expansa Hymenolepis Nana Hymenolepis diminuta H. carioca	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	9
Daily exams + semester exam	Theoretical lectures	Phylum Aschelminthes (Nematoda) Classification Egg shell formation Hatching & Molting.	General characteristics Cuticle, Excretory system, Digestive system, Nervous system, Reproductive system	2	10
Daily exams + semester exam	Theoretical lectures	Trichinella spiralis Capillaria hepatica C. philippinensis Dioctophyma renale Enterobius vermicularis Syphacia spp	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	11
Daily exams + semester exam	Theoretical lectures	Toxocara canis visceral larva migrans)) T. Kati Toxascaris leonine	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	12
Daily exams + semester exam	Theoretical lectures	Ancylostoma deudenale Necator americanus Ancylostoma caninum (cutaneous larva migrans) Oesophagostomum Ternidens	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	13

Daily exams + semester exam	Theoretical lectures	Mammomonogamus syngamiasis Trichostrongylus Haemonchus contortus Angiostrongylus	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	14

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
Lectures scheduled by the professors of the subject **Availability of methodological book (helminthology) and various international books on parasitology** **Using research and recent reports on the Internet**	الكتب المقررة المطلوبة (المنهجية أن وجدت)
Medical Parasitology, Satoskar, et al. 2009, LANDES Bioscience, USA. Atlas of Medical Helminthology and Protozoology, Chiodini, et al. 2003, 4th edition, ELSEVIER Science limited. **The increasing use of information technology or Internet references, and changes in content as a result of keeping pace with the great development in the world of technology and information**	المراجع الرئيسة (المصادر)
Iraqi Journal of Science Elsevier journals	الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)
Google Scholar	المراجع الإلكترونية ، مواقع الانترنيت

Form Course Description

١. Course Name	Embryology - Theoretical
٢. Course Code	
٣. Semester/Year	2024-2023 / First Semester
٤. Date of preparationThis description	1/10/2023
5. Forms of attendance available	Traditional lecture
6. Number of study hours (total) / number of units (total)	4 theoretical hours per week / 3 units
7. The name of the course administrator (if more than one name is mentioned)	Dr. Yasmeen Latif Jassim Dr. Lina Abdul muttalib
Name:	Email: yasmin.alsaadi@sc.uobaghdad.edu.iq
٨. اهداف المقرر	
اهداف المادة الدراسية	..... 1– The course aims to study embryology and identify the stages of embryonic development of the organism 2– Studying the cell cycle, chromosome structure and the role of chromosomes in cell division 3– Studying the process of fertilization in vertebrates and the processes that occur

to the neighborhood to facilitate the process of fertilization in addition to studying the stages of fertilization 4- Studying cleavage and the products of falaj in addition to identifying the types and paths of cleavage and making a comparison between them 5- Study of embryonic development in humans during the second and third week of pregnancy 6– Study the formation of the dorsal cord and neural tube in addition to the process of organ formation	

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	A- Knowledge Objectives - Study the difference between the concept of evolution and formation - Study of the stages of cell division during embryonic stages - Study the sequence of embryonic development stages of different animal models, starting from primitive models to humans - The study of environmental and pathological factors that have a role in causing damage to the embryonic composition of the organism B- Skills Objectives - Study of the processes of division of animal cells and sections prepared or processed under the microscope - Marking important parts

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	4 Theoretical	- A simplified introduction to embryology and identification of the stages of embryonic	Introduction to embryology - the stages of the embryogenesis of the animal specie - Branches of Embryology	Preparing a Power Point lecture and using the data show	Oral or written test

Oral or written test	**Preparing** a Power Point lecture and using the data show	Cell cycle and Chromosomes -Regulation of cell cycle - Role of chromosomes in cell division -Structure of chromosome	development in the organism	4 Theoretical	2
Oral or written test	Preparing a Power Point lecture and using the data show	Cell Division - nuclear division: 1- mitosis (steps of mitosis) 2- meiosis (stages of meiosis) Gametogenesis: - Spermatogenesis Spermatocytogenesis Spermiogenesis	Cell cycle study - Mechanism of cell cycle regulation - The role of chromosomes in cell division - Chromosome structure	4 Theoretical	3
Oral or written test	Preparing a Power Point lecture and using the data show	Gametogenesis: - Oogenesis Phases of Oogenesis Classification of eggs - Based on the amount of the yolk - Based on the distribution of the yolk - Formation of egg membranes - classification of egg membranes	Cell division study - Study of types of nuclear division -Understand the mechanism of reproductive cell formation in males	4 Theoretical	4
Oral or written test	Preparing a Power Point lecture and using the data show	The ovarian cycle - Types of follicles: 1- Primary follicle 2- Secondary follicle 3- graafian follicle - Phases of the ovarian cycle			5
Oral or written test		- Ovulation - Corpus luteum and Corpus albicans - Oocyte transport	They are how female reproductive cells are formed.	4 Theoretical	

Oral or written test	Preparing a Power Point lecture and using the data show	- Fertilization Spermatozoa undergo two processes: 1- Capacitation 2- Acrosome reaction - The phases of fertilization	Types of eggs Depending on the amount of yolk and on the distribution of the erased substance - Study of the formation of egg membranes and types of membranes	4 Theoretical	6 7
Oral or written test	Preparing a Power Point lecture and using the data show	- Cleavage - Product of cleavage (morula versus blastula) (Plastula versus blastocyst) - Types of cleavage - Planes of Cleavage		4 Theoretical	8
Oral or written test	Preparing a Power Point lecture and using the data show	- Blastocyst formation - Uterus at time of implantation Second week of human embryonicdevelopment: Bilaminar germ discGastrulation: Types of morphogenetic movements that occur during gastrulation:	Study of the ovarian cycle and knowledge of the types of ovarian follicles - Ovarian cycle phases	4 Theoretical	9
	Preparing a Power Point lecture and using the data show		- The study of embryonic development starting from the stage of ovulation - The composition of the corpus luteum and the white body - Transfer of the fertilized egg to the uterus	4 Theoretical	

			- Study the process of fertilization in vertebrates and the processes that occur to the neighborhood to facilitate the process of fertilization - Stages of fertilization - Definition of cleavage - Falfalaj products and comparisons between them Types of cleavage - Cleavage paths - The composition of blastocyst - A brief summary of the layers of the uterus in vertebrates when the fertilized egg is implanted in the uterus - Study of embryonic development in humans in the second week of pregnancy - The process of the demonstrator and the mechanism of its formation		

Oral or written test	Preparing a Power Point lecture and using the data show	Third week of human development: Trilaminar germ disc - End product during gastrulation in vertebrate: - Fate map established during gastrulation - Formation of the notochord - Neurulation - Organogenesis	The third week of embryonic development in humans - Final output during gastric formation in vertebrates - The fateful map during the formation of the teaching assistant - Dorsal cord formation - Neural tube composition - Composition of members	4 Theoretical	10

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student, for example, to prepare daily and daily, oral and monthly exams editorial and reports.... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Embryology Dr. Kawakeb Abdel Qader and Dr. Amal Al-Khatib)
المراجع الرئيسة (المصادر)	Medical embryology (T.w. sadler) Human biology (Sylvia S. Mader)
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	American journal of obstetric and gynecology academic.oup.com embryo.asu.edu
المراجع الإلكترونية ، مواقع الانترنيت	www.embryology.com www.embryology.ch www.nature.com

Course
Description Form

Course Name Embryology	١.
Course Code	٢.
Semester / Year 2023-2024 First Semester	٣.
Date of preparation of this description 2024	٤.
5. Traditional lecture attendance forms available	
6. Number of study hours (total) / number of units (total) 4 theoretical hours + 12 practical hours / week number of units 3	
7. Course administrator's name (if more than one name)	
Name Assoc. Prof. Lina Abdel Muttalib Saleh Email :lina_salih2011@yahoo.com	
	٨. اهداف المقرر
- The material aims to identify the nature of the beginning of the formation of tissues and organs of the body since its inception during the embryonic period and to clarify the most important histological, chemical and functional changes that occur during this stage until the stage of reaching the organism and its impact on its external surroundings. - Study the extent of similarities and differences in the early embryonic stages of different animals and identify points of difference Understand how organs and tissues are formed in different animal models and compare them with humans and learn about the concept of evolution in the life history of an organism	اهداف المادة الدراسية

٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	- Knowledge and understanding of the material - Acquire skills for understanding, analysis and scientific reasoning - Diversity of teaching and learning methods through semester and final exams and reports if possible Thinking skills through surprise oral tests

1. Course Structure					
Evaluation method	Method of education	Name of the unit/course or topic	Required Learning Outcomes	Hours	The week
Oral or written test	Live explanation on the panel	Insight of Embryology and development Biology - the stages of the embryogenesis of the animal specie	- A simplified introduction to embryology and identification of the stages of embryonic development in the organism	2 Theoretical	1
Oral or written test	Live explanation on the panel	Cell cycle and Chromosomes	Identify the concept of cellular cycle and its effect on the process of cell growth and division and address the mechanism of its work within living cells and the role of chromosomes in the cell	2 Theoretical	2
Oral or written test	Live explanation on the panel	Cell division	- Identify the types of cell division and the mechanism of its action in different types of cells	2 Theoretical	3
Oral or written test	Live explanation on the panel	Gametogenesis - Spermatogenesis Spermatocytogenesis Spermeiogenesis	- Understanding the mechanism of formation of male reproductive cells	2 Theoretical	4
Oral or written test	Live explanation on the panel	Oogenesis. Amount and distribution of yolk and types of eggs Comparison of spermatogenesis	- Understand the mechanism of formation of female reproductive cells -Types of eggs	2 Theoretical	5
Oral or written test	Live explanation on the panel	Ovulation Fertilization- Oocyte activation Cleavage - Products of the cleavage - Gastrulation -Histogenesis & Organogenesis	- Clarify the process of ovulation and fertilization - Cleavage process -Products of cleavage process -The process of histogenesis and organogenesis	2 Theoretical	6

Oral or written test	Live explanation on the panel	Embryogenesis of Amphioxus - Reproduction - Ovulation and spawning - Fertilization - Fate map - Cleavage and Blastulation	Embryonic formation in the spear	2 Theoretical	7
Oral or written test	Live explanation on the panel	- Nervous system - Mesoderm - Notochord - Foregut	Study of the composition of the nervous system Study of embryonic layers and their appendages	2 Theoretical	8
Oral or written test	Live explanation on the panel	Embryogenesis of the Amphibians Reproduction -The membranes surrounding the amphibians' eggs Fertilization Penetration and Copulation	-Embryogenesis in amphibians - Understand the mechanism of reproduction and fertilization	2 Theoretical	6
Oral or written test	Live explanation on the panel	- Cleavage and Blastulation in frog Fate map of blastula of frog Gastrulation Neurulation	-Clarify the cleavage process -Understand the fateful map, the process of the stomach and the formation of the nervous system in the frog	2 Theoretical	7
Oral or written test	Live explanation on the panel	Formation of the Notochord Differentiation of the mesoderm -Differentiation of the endoderm	Clarify the method of neural cord Nkwin differentiation of the mesoderm and endoderm	2 Theoretical	8
Oral or written test	Live explanation on the panel	Embryogenesis of chick egg Anatomy of the ovary Ovulation The layers of the ovum Fertilization	-Embryonic formation in birds-chickens -Clarify the internal anatomy of the hen ovary -Understanding the layers surrounding the egg, the process of	2 Theoretical	9

		Cleavage and blastulation Fate map of discoblastula	cleavage and the fateful map		
Oral or written test	Live explanation on the panel	· Gastrulation · Comparison of Blastopore and Primitive Streak · Ectoderm . Mesoderm · Endoderm	Understanding the process of modulating the stomach Clarification of the embryonic composition of both the mesoderm and the endoderm	2 Theoretical	10
Oral or written test	Live explanation on the panel	Chick-development during the first day (24 hours) of incubation: Neural folds & neural groove Foregut Mesoderm Blood & blood vessels notochord	Clarifying the process of embryonic formation of the hen embryo at the age of 24 hours incubation and studying the most important resulting changes	2 Theoretical	11
Oral or written test	Live explanation on the panel	· Chick-development during the · (24-33hours) of incubation:- · Neural tube · Neural tube differentiation · Foegut - Somites · Heart & vessels	Study the embryonic composition of the hen embryo at the age of 24-33 hours incubation and know the extent of organic development taking place	2 Theoretical	12
Oral or written test	Live explanation on the panel	· Chick-development during the (48 hours) of incubation:- · Flextion & Torsion · Nervous system · Neural crest · Digestive system	Study the embryonic composition of the hen embryo at the age of 48 hours incubation and know the extent of organic development taking place	2 Theoretical	13

Oral or written test	Live explanation on the panel	Chick-development during the (72 hours) of incubation:- - The extraembryonic membranes - Greetings to you sac - The chorion&amnion The allantois	Study the embryonic composition of the hen embryo at the age of 72 hours incubation and know the extent of organic development taking place	2 Theoretical	14
Oral or written test	Live explanation on the panel	-The embryogenesis of the human	Study of embryonic formation in a brief and simplified way	2 Theoretical	15

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	
المراجع الإلكترونية ، مواقع الانترنيت	

Course
Description Form

Course\Name
Pathogenic bacteria
Course Code ٢
Semester ٣/ Year
First/Fourth
The history of preparation of this description ٤
27/3/2024
5. Available Attendance Forms:
Classroom lecture
6. Number of study hours (total) / number of units (total):
4 hours / 3 units
7. Course administrator's name (if more than one name)
Name: Prof. Harith Jabbar Fahad Email : harith.fahad@sc.uobaghdad.edu.iq Prof. Rasmia Abyad Abu Risha rasmia.abed@sc.uobaghdad.edu.iq Prof. Dr. Hala Muayad Redif hala.mouayed@sc.uobaghdad.edu.iq
٨. اهداف المقرر

• Familiarity with the basics of pathological bacteria. • Understand the mechanism of pathogenesis and how they occur. • Recall information and try to link it to reach the appropriate diagnosis • Knowing and counting the most important bacterial pathogens that infect Iraqi society and ways to diagnose them. and its treatment.	اهداف المادة الدراسية

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	• This course is given through 15 theoretical lectures and 15 lectures. • Give a simple explanation of the scientific material with clarification by using the data show • Conducting practical experiments for students and teaching them the correct methods in dealing with laboratory samples in terms of transplantation and incubation and reading the results • The use of illustrations and illustrations to deliver the scientific material in the simplest form and the richest scientific and practical content • Involving students throughpractical groups with scientific and practical experiments and guidance in mathematical calculations that benefit the scientific material and creating a spirit of cooperation between the groups through the exchange of work results and opening discussions in the scientific material approved by methodological books and scientific research related to the material and taken From the Internet to take advantage of up-to-date information in the results resonance article

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	4	Identify pathogenic bacteria and their virulence factors	Pathogenic bacteria: Overview	Classroom lecture with practical lab	Daily and quarterly tests and practical reports
2	4	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	Enterobacteriaceae	Classroom lecture with practical lab	Daily and quarterly tests and practical reports
3	4	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	Vibrio	Classroom lecture with practical lab	Daily and quarterly tests and practical reports
4	4	Identify the types of disease and the diseases they cause and	Staphylococci	Classroom lecture with practical lab	Daily and quarterly tests and practical reports

			methods of diagnosis, treatment and prevention		
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Streptococci	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	5
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Gram-negative cocci	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	6
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Mid-term Exam	Semester exam	4	7
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Aerobic pore-formers	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	8
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Anaerobic pore-formers	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	9
Daily and quarterly tests	Classroom lecture with	Spirochetes	Identify the types of disease	4	10

and practical reports	practical lab		and the diseases they cause and methods of diagnosis, treatment and prevention		
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Rickettsia	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	11
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Mycobacteria	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	12
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Mycoplasma and chlamydia	Identify the types of disease and the diseases they cause and methods of diagnosis, treatment and prevention	4	14
Daily and quarterly tests and practical reports	Classroom lecture with practical lab	Nosocomial infections		4	15

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	1. Harley, J.P. (2016). Laboratory Exercises in Microbiology. 10th ed. McGraw.Hill Higher Education. New York. 2. Riedel, S., Morse, S., Mietzner, T., and Miller, S. (2019). Jawetz, Melnick, and Adelberg's Medical Microbiology, 28 ed. McGraw-Hill New York.
المراجع الرئيسة (المصادر)	Tille PM. Bailey & Scott's Diagnostic Microbiology. 15 ed: Elsevier; 2021.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	
المراجع الإلكترونية ، مواقع الانترنيت	www.cdc.gov

Course
Description Form

Course Name :English
Course Code:
Semester / Year First Semester / 2023 - 2024
Date of preparation of this description 1/9/2023
5. Forms of attendance available for traditional lectures/electronic classes
6. Number of study hours (total) / Number of units (total) 2 hours per week / 2 units of study
7. Course administrator's name (if more than one name)
Name: Assoc. Prof. Dr. Rakad Mohammed Khamas Email : rakad.aljumaily@sc.uobaghdad.edu.iq
٨. اهداف المقرر

اهداف المادة الدراسية	Υσε λανγυαγε εφφεχτιωελψ. . Κνοω τηε βασιχ ∀ρυλεσ∀ οφ γραμμαρ Δεωελοπινγ τηε σχιεντιφιχ ανδ λινγυιστιχ ορ ιεντατιον οφ στυδεντσ

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	Δεωελοπ στυδεντσə ωισιον οφ τηε στρυχτυρε οφ τηε Ενγλισηλανγυαγε.. . Εναβλε στυδεντσ το υνδερστανδ τηε χορρεχτ παττερνσ οφ τηε λανγυαγε. Δεωελοπινγ τηε μενταλ αβιλιτιεσ οφ χορρεχτ ρεασονινγ ανδ οβσερωατιον. . Τεαχηινγ γραμμαρ ασ α ρυλε γοωερνινγ βεηαωιορ.

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ

Daily and quarterly examinations	**Data Show**	**No place like home**	**The Tense System**	**2**	**1**
Daily and quarterly examinations	**Data Show**	**Been there, don't that**	**Present perfect, Simple and Continuous**	**2**	**2**
Daily and quarterly examinations	**Data Show**	**What a story**	**Narrative tense, Past simple, Past continuous, Past perfect**	**2**	**3**
Daily and quarterly examinations	**Data Show**	**Nothing but the truth**	**Questions and Negatives**	**2**	**4**
Daily and quarterly examinations	**Data Show**	**An eye to the future**	**Future forms**	**2**	**5**
Daily and quarterly examinations	**Data Show**	**Making it big**	**Expression of Quantity**	**2**	**6**
Daily and quarterly examinations	**Data Show**	**Getting on together**	**Modals and related verb**	**2**	**7**
Daily and quarterly examinations	**Data Show**	**Going to extreme**	**Relative clauses**	**2**	**8**
Daily and quarterly examinations	**Data Show**	**Forever friends**	**Expression habit**	**2**	**9**
Daily and quarterly examinations	**Data Show**	**Risking life and limb**	**Modal auxiliary verbs1**	**2**	**10**

Daily and quarterly examinations	**Data Show**	**In your dreams**	**Modal auxiliary verbs2**	**2**	**11**
Daily and quarterly examinations	**Data Show**	**It's never too late**	**Opposite and synonymous**	**2**	**12**

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Headway Level 3 (Upper-Intermediate)
المراجع الرئيسة (المصادر)	New Headway Liza and John Soars, Oxford Edition
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	noor-book.com/e4ichy
المراجع الإلكترونية ، مواقع الانترنيت	https://www.ef.com/wwar/english-help/english-grammar/verbs/

Course
Description Form

Course\Name	
Food microbiology	
Course Code	
Semester/ Year	
First Semester/ 2023-2024	
The history of preparation of this description	
28/3/2024	
5. Available Attendance Forms	
Traditional lecture, and electronic lectures	
6. Number of study hours (total) / number of units (total)	
4 hours/2 units	
7. Course administrator's name (if more than one name)	
Name: Dr. Marwa Hamid Mutashar – email marwa.alkhafaji@sc.uobaghdad.edu.iq Name : Dr. Alia Razouki Hussain – Email alyaa.razooqi@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
اهداف المادة الدراسية	• Στυδψ τηε ρελατιονσηιπ οφ μιχροοργανισμσ το φοοδ • Στυδψ οφ μιχροβιαλ χονταμινατιον οφ φοοδ, κνοωλεδγε οφ σουρχεσ οφ χονταμινατιον ανδ μιχροβιαλ εωιδενχε οφ χονταμινατιον • Ιδεντιφψ τηε μανιφεστατιονσ οφ μιχροβιαλ σποιλαγε ιν φοοδ ανδ διστινγυιση τηε τψπεσ οφ σποιλαγε, ανδ τηε φαχτορσ αφφεχτινγ τηε τψπεσ οφ σποιλαγε • Στυδψ οφ φοοδβορνε δισεασεσ ανδ φοοδ ποισονινγ • Στυδψ οφ τηε πρινχιπλεσ ανδ μετηοδσ οφ φοοδ πρεσερωατιον υσινγ ηεατ, ραδιατιον ανδ χηεμιχαλσ

٩. استراتيجيات التعليم والتعلم	
1 – Traditional lectures, electronic classes and scientific participation arena 2- Use the Data show display 3 - Conducting scientific experiments inside the laboratory 4 - Use drawings on the board 5 - Use illustrative means such as posters	الاستراتيجية

10. Course Structure					
Evaluation method	Method of education	Unit / Subject Name	Required Learning Outcomes	Hours	The week
Questions and laboratory work	Traditional lecture and practical laboratory	A brief history of the relationship between microorganisms and food	Identify the beginning of the discovery of microorganisms in food and the role of the most prominent scientists	4	The first
Questions and laboratory work	Traditional lecture and practical laboratory	Foodborne diseases	The role of food in carrying diseases to humans	4	Second
Questions and laboratory work	Traditional lecture and practical laboratory	Food microbial contamination and contamination evidence	Identify the sources of food contamination and how to infer microbial contamination of food	4	Third
Questions and laboratory work	Traditional lecture and practical laboratory	Standard specifications and microbial spoilage of food	Know the importance and types of standard specifications and the most important international and local organizations that issue them and know the types of microbial damage to food and its causes	4	Fourth
Questions and laboratory work	Traditional lecture and practical laboratory	Factors affecting microbial damage to food - the mechanism of investigating epidemics	Learn the factors affecting the type and speed of microbial spoilage of food and how to investigate them in epidemic situations for the purpose of reducing them	4	V
Questions and laboratory work	Traditional lecture and practical laboratory	Foodborne Illness / Food Injuries and Poisoning	Identify the types of foodborne diseases and their causes	4	Sixth
Questions and laboratory work	Traditional lecture and	Listeriosis and mycosis	Knowing the importance of poisoning with listeria	4	Seventh

	practical laboratory		and mycotoxins and their most famous types		
Questions and laboratory work	Traditional lecture and practical laboratory	General principles of food preservation	Learn how to choose a memorization method	4	Eighth
Questions and laboratory work	Traditional lecture and practical laboratory	High Temperature Food Protection	The importance of heat as a physical factor to control the growth of microbes in food	4	Ninth
Questions and laboratory work	Traditional lecture and practical laboratory	Use of chemicals for food preservation	To control the growth of microbes in food using chemicals	4	X
Written exam	Traditional lecture and practical laboratory	The use of irradiation for food preservation	To control the growth of microbes in food using irradiation	4	Eleventh

١١. تقييم المقرر	
Distribution of the grade out of 100 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Rashid Mahjoub Al-Musleh -1990-Microbiology in Food-Baghdad University Press
المراجع الرئيسة (المصادر)	-Jay, M. J., Loessner, M. J., and Golden, D. A. 2005. Modern Food Microbiology. 7 W Ed. Springer. U.S.A. -Roberts D, Greenwood M. Practical food microbiology. John Wiley & Sons; 2008 Apr 15.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	-Pietz, Sebastian, Sara Kolbenschlag, Nina Roeder, Alexis P. Roodt, Zacharias Steinmetz, Alessandro Manfrin, Klaus Schwenk et al. "Subsidy Quality Affects Common Riparian Web-Building Spiders: Consequences of Aquatic Contamination and Food Resource." *Environmental Toxicology and Chemistry* 42, no. 6 (2023): 1346-1358.

- Kantiani, L., Llorca, M., Sanchís, J., Farré, M. and Barceló, D., 2010. Emerging food contaminants: a review. *Analytical and bioanalytical chemistry*, *398*, pp.2413-2427.	
https://www.fao.org/fao-who-codexalimentarius/en/ https://upload.wikimedia.org/wikipedia/commons/thumb/d/db/FAO_logo.svg/1200px-FAO_logo.svg.png	المراجع الإلكترونية ، مواقع الانترنيت

Course Description Form

Course Name Molecular Biology and Bacterial Genetics
Course Code
Semester / Year First Semester 2023-2024
Date of preparation of this description 1-11-2023
5. Traditional lecture attendance forms available

6. Number of study hours (total) / number of units (total) 4 theoretical hours per week + 6 hours practical per week - 3 units
7. Course administrator's name (if more than one name)

Name	Email:
Prof. Ghosoun Ali Abdel Hassan	ghusoon.ali@sc.uobaghdad.edu.iq
Assoc. Prof. Dr. Ahmed Salem Kazem	khafaji@sc.uobaghdad.edu.iq
Assoc. Prof. Mohamed Abdel Rahman Mohamed	mohammed.abdrahman@sc.uobaghdad.edu.iq
Dr. Azra Mohammed Saleh	adhraa.salih@sc.uobaghdad.edu.iq

٨. اهداف المقرر

اهداف المادة الدراسية	Molecular biology aims to study prokaryotic and eukaryotic biology at the molecular level by studying the various interrelationships between all systems.

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	1. Use the Data show and the Power Point view. 2. Students' participation in some practical topics and discussion.

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
Week 1	4 hours theoretical + 6 hours practical	**Introduction to Molecular biology**	• Definition of molecular biology • The Structure of DNA and RNA Classic Experiments to improve DNA as a Genetic Material rather than Proteins		

• Meselson and Stahl experiment • Replication in prokaryotes	**DNA Replication I**	4 hours theoretical + 6 hours practical	Week 2
• Chromosomes Structure The Replication of DNA in eukaryotes	**DNA Replication II**	4 hours theoretical + 6 hours practical	Week 3
• Topoiomerase I and II • Telomerase • Telomerase and Cellular Senescence	**DNA Replication III**	4 hours theoretical + 6 hours practical	Week 4
• Telomerase and Cellular Senescence • Bacterial DNA Mutations & Antibiotic resistance • Cancer Mutation	**Mutations in DNA**	4 hours theoretical + 6 hours practical	Week 5
• Proofreading • Mismatch Repair • Direct Reversal of DNA damage • Excision repair • Double-stranded break repair	**DNA repair**	4 hours theoretical + 6 hours practical	Week 6

	Exam	4 hours theoretical + 6 hours practical	Week 7
• Transcription in prokaryotes • Type of RNA • RNA polymerase	**Transcription** I	4 hours theoretical + 6 hours practical	Week 8
• Promoter recognition • Transcription process	**Transcription** II	4 hours theoretical + 6 hours practical	Week 9
• Translation in prokaryotes • Genetic code • Wobble hypothesis • Translation process	**Translation**	4 hours theoretical + 6 hours practical	Week 10
• Regulation of gene in prokaryotes • The operon • Negative and positive regulation	**Regulation of the gene expression I**	4 hours theoretical + 6 hours practical	Week 10

• Lac operon • Trp operon	**Regulation of the gene expression I I**	4 hours theoretical + 6 hours practical	Week 12
• Type of gene transfer in bacteria • Conjugation • Plasmid • Types of conjugation	**Gene Transfer in Bacteria I**	4 hours theoretical + 6 hours practical	Week 13
• Bacterial transformation • Natural and artificial competence • Transduction • Generalized and specialized transduction	**Gene Transfer in Bacteria II**	4 hours theoretical + 6 hours practical	Week 14
	Exam	4 hours theoretical + 6 hours practical	Week 15

١١. تقييم المقرر	
1.By tests 2. Through the deductive questions raised in the lecture	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	**R o b e r t F. Here's a v e r (2012). Molecular Biology. Fifth edition, USA.**
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	**JAMES D. WATSON (2013). Molecular Biology of the Gene. Seventh edition.**
المراجع الإلكترونية ، مواقع الانترنيت	1.https://www.researchgate.net/publication/331302105_DNA_Replication 2.https://www.researchgate.net/publication/325827703_Transcription_and_translation

Course
Description Form

Course Name	Molecular Biology and Bacterial Genetics - Practical
Course Code	
Semester / Year	First Semester 2023-2024
Date of preparation of this description	1-11-2023
5. Available attendance forms	Part of the laboratory Theoretical + Practical
6. Number of study hours (total) / number of units (total)	12 hours per week (two hours per group)

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

Name	Email:
Prof. Haifa Hadi Hassani	Hayfa.hassani@sc.uobaghdad.edu.iq
Prof. Ghosoun Ali Abdel Hassan	ghusoon.ali@sc.uobaghdad.edu.iq
Prof. Sahar Qasim Ali	saher.kassim@sc.uobaghdad.edu.iq
Mr. Lubna Mohi Rasul	lubna.altaie@sc.uobaghdad.edu.iq
Assoc. Prof. Dr. Ahmed Salem Kazem	khafaji@sc.uobaghdad.edu.iq
Assoc. Prof. Nihad Taha Jadoua	nihad.jaddoa@sc.uobaghdad.edu.iq
Assoc. Prof. Mohamed Abdel Rahman Mohamed	mohammed.abdrahman@sc.uobaghdad.edu.iq
Dr. Azra Mohammed Saleh	adhraa.salih@sc.uobaghdad.edu.iq
Dr. Hossam Mahmoud Hassan	hussam.alammar@sc.uobaghdad.edu.iq
Dr. Hossam Sabah Oheem	husam.auhim@sc.uobaghdad.edu.iq
Eng. Atheer Ahmed Majeed	atheer.ahmed@sc.uobaghdad.edu.iq
Eng. Hajar Hadi Abdul Amir	hajer.abd@sc.uobaghdad.edu.iq
Eng. Amal Ibrahim Hassan	Amal.Hasan@sc.uobaghdad.edu.iq

	ali.ali@sc.uobaghdad.edu.iq	Eng. Ali Mohsen Ali Jassim	
	ali.mekki@sc.uobaghdad.edu.iq	Eng. Ali Makki Hamad	

٨. اهداف المقرر

اهداف المادة الدراسية	2. Bacterial **inheritance** **(Identifying the genetic content of bacteria and how to estimate it, studying the types of mutations and how to isolate them using different methods, and clarifying the conjugation and transformation processes in bacteria** 3. **Molecular biology (introducing the student to the constituent parts of the genetic component in living organisms, how to prepare the epiphrates, molecular calculations of the genetic material, extracting the genetic material from different organisms, extracting plasmids from different bacterial species, and the electrical relay of the genetic material.**

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	• Conducting scientific experiments in the laboratory • Students' participation in some practical topics and discussion. • Use. Data show and lab power point presentation • Preparing reports by students for each laboratory.

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
12 weeks	12 hours a week		Molecular biology and genetics of bacteria	practical	Conducting tests and theoretical questions, some of which are oral

١١. تقييم المقرر	
1.By tests 2. By means of inferential questions raised in the laboratory 3. By laboratory work of students	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Molecular cloning, A Laboratory Manual. J. Sambrook et al. (Third edition). • Essential Molecular Biology, A Practical Approach. T. A. Brown (1991). • General Microbiology. R. Y. Stanier et al. (Fifth edition). • Sambrooke, J and Russell, D (2001) Preparation of plasmid DNA by alkaline lysis with SDS (protocol -1) ,Molecular cloning Laboratory manual . 11.32 • Suindhu Balan (2003) Metal chelate affinity precipitation of RNA and purification of plasmid DNA. Biotechnology Letters, 25: 1111-1116. • Molecular Cloning.Vol.I, Joseph Sambrook and David W. Russell, T. Maniatis. • Dustin Brisson, The directed mutation controversy in an evolutionary context; Critical review in microbiology
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	
المراجع الإلكترونية ، مواقع الانترنيت	Internet pages and other websites

Fourth Stage / Second Semester

Course Description Form

Course Name Theoretical Soil and Water Microbiology - Fourth Stage	
Course Code	
Semester / Year	2023-2024
Date of preparation of this description for the second semester 1/1/2024	
5. Forms of attendance available	Traditional lectures
6. Number of study hours (total) / number of units (total) 6 hours per week	
7. Course administrator's name (if more than one name)	
Name: Prof. Sana Rahman Aliwi Dr. Nisreen Hadi Odeh Dr. Jinan Mohamed Hassan	Email : ganan.hasan@sc.uobaghdad.edu.iq
٨. اهداف المقرر	
اهداف المادة الدراسية	1) Τηε στυδεντ σηουλδ λεαρν αβουτ τηε τψπεσ ανδ χηαραχτεριστιχσ οφ μιχροοργανισμσ ιν σ οιλ ανδ ωατερ 2– Το ιδεντιφψ τηε τψπεσ οφ ρελατιονσηιπσ βετ ωεεν μιχροοργανισμσ ωιτη σοιλ ανδ ωατερ 3. Κνοω τηε ρολε οφ μιχροοργανισμσ ιν τηε χψ χλεσ οφ ελεμεντσ ιν τηε σοιλ 4. Κνοωλεδγε οφ πατηογενιχ μιχροοργανισμσ τη ατ αρε τρανσμιττεδ βψ ωατερ 5– Στυδψ οφ γλοβαλ ανδ λοχαλ ωατερ προφιλε σ ιν τερμσ οφ τηε πρεσενχε οφ βαχτερια 6–Στυδψ οφ μετηοδσ οφ ινϖεστιγατινγ βαχτερι α ιν ωατερ
.....	.....
٩. استراتيجيات التعليم والتعلم	

The student's ability to diagnose bacteria from soil and water and know the methods of treating contaminated water Evaluation Methods Live – Indirect Semester Exam – Oral Exams	الستراتيجية

1- Culminate in intellectual questions for students and benefit from the opinions presented
2- Raise a real problem regarding the subject and note the solutions to know the level of students
3- Asking students to submit a report on a topic with the competence of the subject and note that they understand the sources of the Internet.
4- After the end of the lecture, involve the students to re-explain the lecture

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة		اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	6	Soil as a natural habitat For microbes			Data show	Daily exams
2	6	Microbes and cycle Carbon			Data show	Daily exams
3	6	Microbes and cycle Nitrogen			Data show	Daily exams
4	6	Microbes and cycle Phosphorus			Data show	Daily exams
5	6	Fertilizers & Pesticides Microbial			Data show	Daily exams
6	6	Biodegrad ation			Data show	Daily exams
7	6	Natural water wine				
8	6	Microbial contamination For water			Data show	Daily exams
9	6	Contamination Evidence Microbial water			Data show	Daily exams

Daily exams	**Data show**		Microbial measurements of surface water and water Drinking	6	01
Daily exams	**Data show**		Microbial basis Water Treatment	6	11
Daily exams	**Data show**		Microbes and processing Sewage	6	12

١١. تقييم المقرر	
Distribution of the score out of 25 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc Evaluation Methods Weekly tests – monthly oral tests – preparation of reports	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Lectures scheduled by the professors of the subject - course books
المراجع الرئيسة (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	-Amemerican Public Health Association (APHA), Standard Methods for the Examination of Water and Wastewater, Washington DC, United States, 12st ed. 5002 . -WHO. Guidelines for Drinking Water Quality, 4th Ed. Geneva, Switzerland, 1102B.O.(5102). Soil Microbiology.Publisher: LAB Bello ALAMBART PUBLISHING Acadmic Publising, OmniScriptu GmbH & Co, Kg, Deutschland, Germany
المراجع الإلكترونية ، مواقع الانترنيت	

Course
Description Form

Course Title:
Practical comparative anatomy
Course Code
Semester/Year:
Second Semester 2023-2024
Date this description was set up:
1/4/2024
5. Available Attendance Forms:
Came
6. Number of study hours (total) / number of units (total):
Two hours for the practical part + two hours for the theoretical part / three units
7. Name of the course administrator (if more than one name is mentioned):
Name: Dr. Serry Abdel Manaf Abdel Wahab Email : sura.munaf@sc.uobaghdad.edu.iq **Name: Dr. Serry Fouad Abdel Amir Email :** **Suraa.alsaffar@sc.uobaghdad.edu.iq**
٨. اهداف المقرر

• Υνδερστανδ τηε σιμιλαριτιεσ ανδ διφφερενχεσ βε τωεεν χηορδατεσ. • Λεαρν το ιδεντιφψ βασιχ στρυχτυρεσ ανδ υνδερστανδ τηειρ φυνχτιονσ. • Αχθυιρε πραχτιχαλ σκιλλσ ιν τηε υσε οφ ανατομιχαλ τοολσ ανδ τεχηνιθυεσ. • Δεωελοπ τηε αβιλιτψ το αναλψζε ανδ ιντερπρετ ανατομιχαλ δατα. • Υνδερστανδ τηε δεωελοπμενταλ ρελατιονσηιπσ βετωεεν χηορδατεσ ανδ τηε δεωελοπμεντ οφ τηειρ πηψσιολογψ. • Ενηανχε τεαμωορκ ανδ χολλαβορατιον σκιλλσ.	**Course Objectives**

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	• Practical part: Provide opportunities for students to interact with anatomical models and laboratory instruments to learn about the internal structure of chordates in practice. • Demos: Use presentations, visual media, and virtual anatomy to illustrate anatomical structures and their functions. • Continuous Assessment: Provide continuous feedback to students on their performance in practical anatomical activities to enhance learning and motivate them. • Effective communication: Encourage students to actively participate in the lesson by asking questions, inquiries and discussions about the anatomical parts studied. • Teamwork: Encourage students to work in small groups to solve problems and conduct practical experiments together, fostering collaboration and knowledge sharing. •

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
First	**2**	**Classification of Chordata**	**Classification of chordates into dorsal cord tail, dorsal cord chief, vertebrates and diagnostic characteristics of each,**	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Daily written exams and verbal and discussions**
Second	**2**	**Classification of Chordata**	**Division of vertebrate animals into the class of cartilaginous bony fish, amphibians, reptiles, birds and mammals**	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Daily written exams and verbal and discussions**
Third	**2**	**Integumentary system and Derivatives**	**A comparative study of the skin in all vertebrate classes, starting from the spear to the human Division of human attachments human and each one and its examples of horns, hair, nails, feathers and scales in fish, reptiles and turtles**	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Daily written exams and verbal and discussions**

Daily written exams and verbal and discussions	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Study of the external appearance and internal anatomy of the various organs in the spear animal and examine them microscopically**	**Amphioxus**	**2**	**Fourth**
Daily written exams and verbal and discussions	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Study of the external appearance and internal anatomy of the various organs in the spear animal and examine them visually**	**Lamprey**	**2**	**V**
Daily written exams and verbal Discussions and anatomy technique of bony fish	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Study of the external appearance and internal anatomy of the various organs of the skeletal and cartilage models**	**Chondrichthyes & Osteichthyes**	**2**	**Sixth**
Daily written exams and verbal and discussions	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Study of the external appearance and internal anatomy of the different devices in the two models**	**Amphibia & Reptilia**	**2**	**Seventh**
Daily written exams and verbal Discussions and anatomy technique for each of the mammals birds	**Data show and lectures Video Addendum To show animals and draw them before Student**	**Study of the external appearance and internal anatomy of the different organs in the two models and their anatomy**	**Aves & Mammalia**	**2**	**Eighth**

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc **Daily exams Reports & Assignments Classroom Interactive Activities: 5 marks** **Semester exam: 10 marks**	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Binding practical comparative anatomy prepared by the professors of the subject, according to the vocabulary of the curriculum adopted in the college and using scientific sources Sober
المراجع الرئيسة (المصادر)	Kardong, Kenneth, V. 2005. Vertebrates. Comparative anatomy, function, and evolution. 4th Edition. Wm C. Brown/McGraw-Hill Publ. Note this is the New Edition
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Hood, Craig S. 2007. Comparative Vertebrate Anatomy Laboratory Manual.
المراجع الإلكترونية ، مواقع الانترنيت	https://www.britannica.com/science/comparative-anatomy https://www.longdom.org/scholarly/comparative-anatomy-journals-articles-ppts-list-1698.html

Course
Description Form

Course Title:
Theoretical comparative anatomy
Course Code
Semester / Year:
Second Semester 2023-2024
Date this description was set up:
1/4/2024
5. Available Attendance Forms:
Came
6. Number of study hours (total) / number of units (total):
Two hours for the practical part + two hours for the theoretical part / three units
7. Name of the course administrator (if more than one name is mentioned):
Name: Dr. Serry Abdel Manaf Abdel Wahab Email : sura.munaf@sc.uobaghdad.edu.iq **Name: Dr. Serry Fouad Abdel Amir Email :** Suraa.alsaffar@sc.uobaghdad.edu.iq
٨. اهداف المقرر

اهداف المادة الدراسية	• Understanding anatomical development: These studies aim to understand how body structures of chordates evolved throughout natural history, including the factors that led to anatomical changes and adaptations to the environment. • Identify structural similarities and differences: Highlight the similarities and differences in body structures between different family chordates, enabling evolutionary relationships to be derived. • Understanding functional adaptations: Understand how chordate structures adapt to their different environments and lifestyles, and how these adaptations affect the

function of vital organs and systems. • Protecting biodiversity: understanding and protecting chordate biodiversity, including identifying endangered species and developing strategies for their conservation and their environments	

٩. استراتيجيات التعليم والتعلم

• Experiential learning: Use presentations and explanations. • Active learning: Students engage in interactive activities and discussions. • Use of technology: Utilize educational applications and software. • Problem-based learning: solving specific anatomical problems. • Reports: Independent reports on specific topics.	الاستراتيجية

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التقييم	طريقة التعلم
First	**2**	**Primary and secondary characteristics of chordates**	**Chordate Characteristic**	**Editorial questions and verbal and discussions**	**Data show and lectures Video Addendum to Videos and data show shows from YouTube**
Second	**2**	**Describe Integument in Different Classes of Chordates**	**The Integument system of Chordates**	**Editorial questions and verbal and discussions**	**Data show and lectures Video Addendum to Videos and data show shows from YouTube**
Third	**2**	**Determine the composition of the various types of scales, feathers, hair, and horns.**	**The Integument derivatives**	**Editorial questions and verbal and discussions**	**Data show and lectures Video Addendum to Videos and data show shows from YouTube**

Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	**Epidermal Glands:**	**the formation and function of glands**	**2**	**Fourth**
Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	**Urinary system**	**Anatomical Differences between the classes of vertebrate**	**2**	**V**
Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	Reproductive system	**Anatomical Differences between the classes of vertebrate**	**2**	**Sixth**
Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	**Digestive system**	**Anatomical Differences between the classes of vertebrate in Buccal cavity Esophagus**	**2**	**Seventh**
Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	**Digestive system**	**Anatomical Differences between the classes of vertebrate in Stomach Intestine**	**2**	**Eighth**

Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	**Circulatory system**	**Vein Arteries Capillaries in classes of vertebrate**	**2**	**Ninth**
Data show and lectures Video Addendum to Videos and data show shows from YouTube	**Editorial questions and verbal and discussions**	**Circulatory system**	**Heart of Amniotes**	**2**	**X**

١١. تقييم المقرر
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc The grade is distributed as follows: **Daily exams : 5 marks** **Reports and assignments: 5 marks** **Interactive activities in the classroom: 5 marks** **Semester exam: 10 marks**

١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Binding theoretical comparative anatomy prepared by the professors of the subject according to the vocabulary of the curriculum adopted in the college and using solid scientific sources
المراجع الرئيسة (المصادر)	Kardong, Kenneth, V. 2005. Vertebrates. Comparative anatomy, function, and evolution. 4th Edition. Wm C. Brown/McGraw-Hill Publ. Note this is the New Edition
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Hood, Craig S. 2007. Comparative Vertebrate Anatomy Laboratory Manual.
المراجع الإلكترونية ، مواقع الانترنيت	1. https://www.britannica.com/science/comparative-anatomy 2. https://www.longdom.org/scholarly/comparative-anatomy-journals-articles-ppts-list-1698.html 3. http://people.eku.edu/ritchisong/342notes10.html

Course
Description Form

Course Title: Viruses / Preliminary Study
Course Code:
Semester / Year: Second Semester 2023-2024 for fourth stage students
Date of preparation of this description: 1-4-2024
5. Available Attendance Forms: Classic lecture using data show , science films and online classes
6. Number of study hours (total) / number of units (total)
Number of weekly hours : 5 hours / Number of units (3)
7. Course administrator's name (if more than one name)
Name: Prof. Raghad Harbi Mahdi Al-Azzawi Email: raghad.harbi@sc.uobaghdad.edu.iq Prof. Hala Younis Fadel Al-Saadi Email: hula.younis@sc.uobaghdad.edu.iq
٨. اهداف المقرر

اهداف المادة الدراسية	ruses, their types, the diseases they cause and the he body and cellular tissue hanisms of the occurrence of viral diseases and the stages ntifically link diseases and their causes of viruses. r various diseases caused by viruses. rious clinical samples (blood, urine, discharge, tissue ations.

٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	• The course is given through 13 theoretical lectures using datashow and two semester exams • Use short scientific films, drawings, pictures and some scientific charts to illustrate some scientific and practical information.

• Involve students in the required scientific material through the work of simple reports and the use of methodological scientific books and the Internet to benefit from them.	

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	3	* A brief history of virus detection * Definition of virus * Theories of the emergence of viruses * Forms and types of viruses *	Introduction to viruses	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports
2	3	* Components of chemical viruses * Basics of virus classification * Virus classification systems from oldest to newest	Chemical composition of viruses and classification	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports
3	3	* Types of viral immunity * Natural immunity * Specialized Immunology * Cellular immunity * Humoral immunity * Antigenic Shift and Drift	Immune response to viral infection	Classroom lecture with practical lab	Quarterly and daily tests, homework and practical reports

Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Viral vaccines	*Vaccines * Killed vaccines * Attenuated vaccines * Virus treatment	3	4
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Multiplication of viruses. Transmission of viruses, and Host range.	Ways of spreading viruses *Direct Methods * Indirect methods * Virus replication methods	3	5
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Virus entry and spread in the host cell. Viroids, Virusoids, Prion.	* Ways of virus entry of host cells * Spread of viruses in host cells	3	6
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Pathogenesis of viral diseases and Effects of viruses on the host cells.	* Pathogenesis of viruses * Acute injuries * Chronic injuries * Vulnerable devices * Cellular receptors for viruses * Cure from viral diseases	3	7

Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Viral diseases	* Introduction to the most important viruses of medical importance * DNA viruses * Encapsulated virus hosts * Naked virus hosts	3	8
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Viral diseases	* RNA viruses * Encapsulated virus hosts * Naked virus hosts	3	9
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Impact of viral infections	* The effect of viral infections in cells * Fatal injuries * Chronic injuries * Static or delayed injuries * Slow injuries	3	10
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Cellular transformation (cancer)	* Methods of converting viruses to normal cells into cancer cells	3	11
Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Classification of cancer-causing viruses	* Types of cancer viruses * Genetic changes caused by viral infection * Virus inhibition methods	3	12

Quarterly and daily tests, homework and practical reports	Classroom lecture with practical lab	Uses of viruses	*Beneficial uses of viruses - Vaccine manufacturing -Bacterial phage therapy -Gene dirt *Virus Transmission Systems * Control of viral infections	3	13

١١. تقييم المقرر	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly, written exams , reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسة (المصادر)	Human virology, Microbiology, Medical microbiology
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	Essential Virology
المراجع الإلكترونية ، مواقع الانترنيت	Whoa, whoa, who NCBI COM

Course
Description Form

Course Name ١.
Pathological analyzes
Course Code ٢.
Semester / Year ٣.
II/2023-2024
The history of preparation of this description ٤.
2024
5. Traditional lecture attendance forms available
6. Number of study hours (total) / number of units (total) two hours per week theoretical + two hours per week practical
7. Course administrator's name (if more than one name)
Name: Prof. Dr. Mai Taleb Falih Prof. Dr. Rasmia Abd Abu Risha Prof. Rana Saadi Abboud Assoc. Prof. Nagham Shaker Mohammed Hussein Assoc. Prof. Hassan Majeed Rashid Email :
٨. اهداف المقرر

ة	To familiarize the student with diseases and their mechanisms of action against the body and cellular tissue Identify the foundations and mechanisms of disease occurrence and the stages of disease development and classification The student should be able to scientifically link diseases and their causes from microbiology Study of clinical examinations for various diseases caused by microbiology Analysis of microscopic sacrificial scars in various clinical samples (blood, diuresis, discharge, tissue biopsy..... etc) and treatment applications.

٩. استراتيجيات التعليم والتعلم	
1- The use of illustrative means in explaining the theoretical part and the use of a number of diagnostics from agricultural and biological circles 2 - Microbiology and various experiments in the laboratory with the presentation of scientific films using the C data show.	الاستراتيجية

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	2N+2P	DIAGNOSIS OF INFECTIOUS DISEASES	Diagnosis of Respiratory Tract(RT) Infections Diagnosis of Gastrointestinal Tract infections	Lecture in a way Datacho + Discussions	Exams + Weekly reports + exam Monthly + Final Exam
2	2N+2P	DIAGNOSIS OF INFECTIOUS DISEASES	Diagnosis of Urinary tract infections Laboratory Diagnosis of Sexually Transmitted Infections (STDs) Genital infections and STDs in women		
3	2N+2P	DIAGNOSIS OF INFECTIOUS DISEASES	Genital infections in men SYPHILIS		
4	2N+2P	DIAGNOSIS OF INFECTIONS	Leptospirosis Skin ,Wound and Soft tissue Infections		

		Meningitis Mycology	DIAGNOSIS OF INFECTIONS	2N+2P	5
		Cell injury	Clinical Pathology	2N+2P	6
			Clinical Pathology	2N+2P	7
		Acute infammation		2N+2P	8
		Chronic inflammation	Clinical Pathology	2N+2P	9
		Introduction to serology	serology		
		Serological tests		2N+2P	10
		Serological tests of some Infectious & autoimmune diseases	serology		

Course
Description Form

Course Name Theoretical Biology Techniques ١.
Course Code 439 BBI ٢.
Semester / Year 2023-2024 ٣.
Date of preparation of this description 2023-2024 ٤.
5. Available lecture attendance forms
6. Number of study hours (total) / number of units (total) theoretical 4 hours per week + practical 12 hours per week
7. Course administrator's name (if more than one name)
Name: Assoc. Prof. Mais Emad Ahmed Email: mais.emad@sc.uobaghdad.edu.iq
٨. اهداف المقرر

اهداف المادة الدراسية	Isolation and diagnosis of important microorganisms in biotechnology Use of certain techniques to extract and separate vital products • ..... •
٩. استراتيجيات التعليم والتعلم	

الاستراتيجية	Knowledge of the most important methods of isolation and diagnosis of industrially important organisms A2- Understanding the separation and purification methods of biological products A3- Knowing how to produce some industrially important materials Production of some industrially important materials such as acids, alcohol and antibiotics

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	حـــ
1	4	Learn how to isolate and diagnose artificial microbiology	Isolation of artificial microorganisms	Lecture in the form of Datacho + practical technique	Surprise exams + weekly reports + monthly exam
2	4	Identify the most important techniques used in breaking down living cells	Cell Breaking Techniques		
3	4	Teaching the student how to extract and purify practically	Extraction and purification of enzymes		
4	4	Teach the student how to practically restrict cells	Restriction		

		Microbial resonance production	Recognize how resonance material is produced in practice	4	5
		Alcohol production from microorganisms	To learn how alcohol is produced from yeast practically	4	6
		Learn how citric acid is produced from aspergillus mushrooms practically	Learn how citric acid is produced from aspergillus mushrooms practically	4	7

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	5- Lectures of the subject professors
المراجع الرئيسة (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	• Industrial Microbiology (1989) Rashid M. Musleh & Neezam Al-Haidari • Introduction to Biotechnology, 2nd. Ed. (2009) William JT & Michaels AP. S. HARISHA (2007)BIOTECHNOLOGY PROCEDURES AND EXPERIMENTS HANDBOOK
المراجع الإلكترونية ، مواقع الانترنيت	

١١. تقييم المقرر	
Distribution of the grade from 011 according to the tasks assigned to the student such as daily preparation and daily, oral and monthly exams editorial and reports .... etc	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	Methods and Applications of Statistics in Clinical Trials, Volume 2: Planning, Analysis, and Inferential The Infectious Disease Diagnosis A Case Approach Editors: David, Michael, Benoit, Jean-Luc (Eds.)
المراجع الرئيسة (المصادر)	Current Diagnosis & Treatment in Infectious Diseases (LANGE CURRENT Series) 2nd Edition by Walter Wilson (Author), Merle Sande (Author) LABORATORY MEDICINE BASIC SEROLOGICAL TESTING
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