

**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 Description Guide

2025/2026

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: 1/10/2025

File Completion Date: 1/10/2025

Signature:

Head of Department Name:

Prof. Dr. Ahmed Saad Abdulwahhab

Date:

Signature:

Scientific Associate Name:

Prof. Dr. Namir 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
Prof. Dr. Raed Falih Hassan

1. Program Vision

Leadership in biological sciences and their applications and ensuring the quality of educational and research outcomes.

2. Program Mission

Through its stimulating environment for education, innovation, and scientific research in the field of biological sciences, the Department of Biology seeks to provide the community with trained personnel in research and scientific fields. This is achieved by relying on modern curricula and utilizing advanced teaching and research methods and techniques that keep pace with labor market requirements.

3. Program Objectives

1. Continuously updating and developing high-quality curricula at a level that competes with international standards in undergraduate and graduate studies.
2. Developing students' creative thinking and providing them with the necessary expertise through the adoption of modern teaching methods.
3. Developing, encouraging, and directing scientific research to serve the community, extending communication links, and strengthening partnerships with the community.
4. Publishing the scientific output of faculty and researchers in robust global databases and repositories.
5. Advancing the Life Sciences Department to obtain specialized academic program accreditation.
6. Scientific cooperation and effective partnerships between the Life Sciences Department and international and local universities and institutions.

7. Promoting community service initiatives and encouraging volunteer work by involving all employees.
8. Developing extracurricular activities for students that support their educational experiences and provide them with the opportunity to showcase their latent talents.

4. Program Accreditation

None

5. Other external influences

None

6. 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

7. Program Description

Credit Hours		Course Name	Course Code	Year/Level
practical	theoretical			
2	2	General Zoology	BIO11001	2025/2026 The first level/ First Semester
2	2	General Chemistry	BIO11002	
1	2	General Mathematics and Biostatistics	BIO11003	
-	2	Arabic Language I	UOB101	
2	1	Computer Skills I	UOB103	
-	2	Democracy and Human rights	UOB104	
2	2	General Botany	BIO12004	2025/2026 First level/ Second Semester
2	2	Biochemistry	BIO12105	
-	1	Biosafety and Biosecurity	BIO12006	
2	2	Bacteriology	BIO12007	
2	2	General Physics	BIO12008	
-	2	English Language I	UOB102	
2	2	Invertebrates	BIO23009	2025/2026 Second level/ First Semester
2	2	Entomology	BIO23010	
2	2	Cytology	BIO23011	
2	2	Ecology	BIO23012	
2	2	Plant Anatomy	BIO23013	
2	2	Mycology	BIO23014	
-	2	Baath Regime Crimes in Iraq	UOB105	2025/2026 Second level/ Second Semester
2	2	Protozoan Parasitology	BIO24015	
2	2	Plant Taxonomy	BIO24016	
2	2	Pollution	BIO24017	
2	2	Phycology and Archegoniate	BIO24018	
-	2	Arabic Language II	UOB201	
-	2	English language II	UOB202	2025/2026 Third level/ First Semester
2	1	Computer Skills II	UOB203	
2	2	Plant Physiology	BIO35127	
2	2	Microbial Physiology	BIO35028	
2	2	Histology	BIO35029	
2	2	Pathogenic Bacteria	BIO35130	
2	2	Medical Helminthology	BIO35031	2025/2026 Third level/ Second Semester
2	2	Genetics	BIO35132	
2	2	Medicinal Plants	BIO36133	
2	2	Aquatic and Soil Microbiology	BIO36134	
2	2	Animal Physiology	BIO36135	
2	2	Antibiotics	BIO36136	

2	2	Development and Biodiversity	BIO36137	
-	1	Scientific Research Methodology	UOB309	
2	2	Molecular Biology		2025/2026 Fourth Stage/ First Semester
2	2	Clinical Analyses		
2	2	Antibiotics		
2	2	Comparative Anatomy		
2	2	Pathogenic Bacteria		
2	2	Food Microbiology		
-	2	English Language		
۲	2	Virology		2025/2026 Fourth Stage/ First Semester
۲	2	Biotechnology		
۲	2	Embryology		
2	2	Industrial Microbiology		
2	2	Research Project		
2	2	Helminthology		
ε	-	Research Project		

8. Expected learning outcomes of the program

1. Identify living organisms, their internal structures, and their classification.
2. Identify the evolutionary and genetic relationships among living organisms.
3. Understand the physiology of living organisms and the major metabolic pathways through which they acquire and utilise energy.
4. Understand the relationships governing living organisms within their environments.
5. Develop scientific thinking and research skills in various fields of Life Sciences, including microbiology, zoology, botany, and ecology.
6. Develop the ability to think logically and solve biological problems through conducting research and scientific studies.

Skills

- 1- Equip students with the knowledge and skills necessary for laboratory work and enhance their competence in conducting biological experiments in accordance with scientific standards.
- 2- Guide students towards adopting a scientific approach to analysing and solving problems, while developing their critical and logical thinking skills in addressing scientific challenges.
- 3- Introduce students to the objectives and foundations of Life Sciences and provide them with the knowledge necessary to understand the educational aspects of the discipline.
- 4- Enable students to acquire the skills required to use virtual classrooms and digital technologies in education, in line with technological developments in the educational process.
- 5- Prepare students to participate actively in interactive lectures by developing their communication, presentation, and constructive interaction skills with peers and instructors.

Values

- 1- Enhance students' general and employability skills that contribute to their personal and professional development, such as teamwork, problem-solving, and time management.
- 2- Enable students to utilise their academic knowledge to support their personal growth and develop their professional careers in alignment with the requirements of the labour market.
- 3- Train students to apply the theoretical and practical knowledge acquired during their studies in various educational and professional contexts.
- 4- Develop students' skills in using modern technologies for communication, documentation, and effective interaction, thereby supporting professional performance in contemporary digital and educational environments.

9. Teaching and Learning Strategies

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

10.Evaluation methods

- 1- Daily quizzes and examinations.
- 2- Assignments and homework.
- 3- Weekly laboratory reports.
- 4- Midterm and final examinations.

11.Faculty

Faculty Members

Academic Rank	Academic Field		Special requirements/skills if any		Number of Staff	
	Specialization	Major			Staff	External Academic
Professor						
May Talib Flayyih lessa	Microbiology	Biology			Staff	
Harith Jabbar Fahad Ziyara	Microbiology	Biology			Staff	
Laith Mohammed Jawad	Field Crops	Agriculture			Staff	
Prof. Dr. Rasmiya Abd Aburesha Almusawi	Pathogenic Bacteriology	Biology			Staff	
Adel M. Rabee	Ecology	Biology			Staff	
Ayyad W. Al-Shahwany	Horticulture	Agriculture			Staff	
Ithar Kamil Abbas Hussain	Ecology	Biology			Staff	
Khawla Hori Zghair	Zoology	Biology			Staff	

Nemat Jameel Abdulbaqi Judy	Molecular Biology	Biology			Staff	
Jabbar Hameed Yenzeel Fahad	Animal Physiology	Biology			Staff	
Raghad Harbi Mahdi Alwan Al-Azzawi	Microbiology	Biology			Staff	
Rana Saadi Anoud Kadim	Microbiology	Biology			Staff	
Prof. Dr. Makarim Qassim Dawood Salmaan	Zoology	Biology			Staff	
Bahaa Abdullah Lafaah Al- Rubaii	Microbiology	Biology			Staff	
Ayaid Khadem Zgair	Microbiology	Biology			Staff	
Nawal Mohammed Utba	Microbiology	Biology			Staff	
Ahmed Jasim Mohammed	Ecology	Biology			Staff	
Hayder Badri Ali Hussain	Zoology	Biology			Staff	
Dunya Fareed Salloom Essa	Microbiology	Biology			Staff	
Hula Younis Fadhil Abass	Microbiology	Biology			Staff	
Hind Suhail Abdulhay	Ecology	Biology			Staff	
Suha Abdulkhaliq Abdul-Sattar	Zoology	Biology			Staff	
Sameer Abdulameer Abidali Hassan Alash	Microbiology	Biology			Staff	
Ghusoon Ali Abdulhassan	Microbiology	Biology			Staff	
Hala Mouayed Radif Talib	Microbiology	Biology			Staff	
Rusol Mohammed Jasim Mohammed	Botany	Biology			Staff	

Mohammed Lefta Atala Naser	Microbiology	Biology			Staff	
Hayder Zuhair Ali Abdulwahhab	Zoology	Biology			Staff	
Entsar Jabbar Saheb	Parasitology	Biology			Staff	
Sanaa Rahman Oleiwi	Microbiology	Biology			Staff	
Ibrahim Jabber Abed Challab	Botany	Biology			Staff	
Amal Khudair Abbas	Zoology	Biology			Staff	
Alyaa Razooqi Hussein Ali	Microbiology	Biology			Staff	
Dr. Israa Abdul Razzaq Majed Ali	Botany	Biology			Staff	
May Khaleel Ismael	Immunology	Biology			Staff	
Sabah Mahdi Hadi Muhammad	Biotechnology	Agriculture			Staff	
Ahmed Saad Abdullwahhab Ahmed	Ecology	Biology			Staff	
Beadaa Abdalqader Mahdii Salih	Ecology	Biology			Staff	
Lubna Muhi Rasoul	Molecular Biology / Genetic Engineering	Biology			Staff	
Rakad Mohammed Khamas Qaddouri	Molecular Cell Biology	Biology			Staff	
Harith Saeed Jafer Al-Warid	Zoology	Biology			Staff	
Yaaroub Faleh Khalaf Edress	Ecology and Pollution	Biology			Staff	
Nagham Shakir Mohammed Hussein Alattar	Microbiology	Biology			Staff	
Mais Emad Ahmed	Biology	Biology			Staff	
Enass Ghassan Sweedan Rudaini	Microbiology	Biology			Staff	
Layla Fouad Ali Kareem	Microbiology	Biology			Staff	

Marwa Hameed Mutashar Sachit Alkhafaji	Microbiology	Biology			Staff	
Ahmed Salim Kadhim Al-Khafaji	Molecular Biology	Biology			Staff	
Sukeyna Abaas Aliwy Shukur	Botany	Biology			Staff	
Ban Jasim Mohamad	Zoology	Biology			Staff	
Shaymaa Fadhel Abbas Albaayit	Biotechnology	Biology			Staff	
Hassan Majeed Rasheed	Microbiology	Biology			Staff	
Assistant Professor						
Nada Abdul Rahman Fleehe	Ecology	Biology			Staff	
Wala'a Shawkat Ali Jasim	Microbial Biotechnology	Biology			Staff	
Alaa Mohsin Yaseen Al-Araji	Botany	Agriculture			Staff	
Hind Hussein Obaid Hadii	Microbiology	Biology			Staff	
Mahmood Basil Mahmood Saloom	Ecology	Biology			Staff	
Lina Abd-Muttalib Salih Mahdi	Zoology	Biology			Staff	
Eqbal Naji Tawfeeq	Zoology	Biology			Staff	
Najlaa Nabhan Yaseen Hussein	Microbiology	Biology			Staff	
Israa Ahmed Ali Abdalmajed	Botany	Biology			Staff	
Mustafa Abdul Khaliq Mohammad Ahmad	Zoology	Biology			Staff	
Faiza Kadhim Omran Dahash	Ecology	Biology			Staff	
Luma Saeed Mohammed	Microbiology	Biology			Staff	

Hasnain Aboud Hassoun	Ecology	Biology			Staff	
Lamyaa Abdulzahra Gharb	Botany	Biology			Staff	
Majida Hadi Mahdi Abud Allah	Plant Pathology	Biology			Staff	
Rasha Kareem Mohammed Mahdi	Botany	Biology			Staff	
Amjed Qays Ibrahim Medhat	Molecular Biology	Biology			Staff	
Bahaa Malik Abdul Kareem	Analytical Chemistry	Chemical Sciences			Staff	
Rasha Hussain Kuba	Zoology	Biology			Staff	
Ansam Ghazi Abdulhalem Ali	Botany	Biology			Staff	
Nihad Taha Mohammed Jaddoa	Microbiology	Biology			Staff	
Mohammad Abdul Rahmman Mohammad Yassin	Genetics	Biology			Staff	
Jenan Atiyah Ghafil	Microbiology	Biology			Staff	
Zainab Zamel Khalaf Khadim	Microbiology	Biology			Staff	
Lobab Gatea Ali	Botany	Biology			Staff	
Zainab Khudair Hussein	Zoology	Biology			Staff	
Amer Saeed Ali	Molecular Virology	Biology			Staff	
Alaa Mohammed Hasan Majeed	Botany	Biology			Staff	
Yasmin Lateef Jasim Mahdi	Zoology	Biology			Staff	
Suaad Ali Ahmed	Microbiology	Biology			Staff	
Sura Mouayed Abdulmajeed	Zoology	Biology			Staff	
Sura Fouad Alsaffar	Zoology	Biology			Staff	

Yasir Basim Abdulwahhab Mahdi	Immunology	Biology			Staff	
Nisreen Hadi Odaa	Microbiology	Biology			Staff	
Husam Sabah Auhim Odaa	Molecular Biology	Biology			Staff	
Zahraa Ali Abdulmohsin	Ecology	Biology			Staff	
Jinan Mohammed Hasan	Microbiology	Biology			Staff	
Shaymaa Fouad Rasheed	Microbiology	Biology			Staff	
Salah Al-Din Burhan	Microbiology	Biology			Staff	
Shaymaa Abdul Kareem Abdullah	Ecology	Biology			Staff	
Dima Nizar Faraj	Microbiology	Biology			Staff	
Khamail Latif Shakir	Microbiology	Biology			Staff	
Ali Mouayed Najm	Botany	Biology			Staff	
Israa Salim Musa	Zoology	Biology			Staff	
Shaymaa Suhail Najm	Microbiology	Biology			Staff	
Zainab Jawad Ahmed	Multimedia	Computer Science			Staff	
Faten Hussein Ali	Botany	Biology			Staff	
Lecturer						
Alaa Mohammed Dhafer Abdul- Mutalib	Botany	Biology			Staff	
Adhraa Salih Flayyih	Microbiology	Biology			Staff	
Aliaa Abdul Aziz Hamed Kareem	Zoology	Biology			Staff	
Sura Abdul Munaff Abdul Wahab Ahmed	Comparative Anatomy and Histology	Biology			Staff	
Omar Fadhel Abdulrahman	Ecology	Biology			Staff	
Miyada Khazaal Hassan	Ecology	Biology			Staff	

Lamyaa Abdulridha Fadhil Lafta	Zoology	Biology			Staff	
Fatema Ali Abdul-Har	Zoology	Biology			Staff	
Aseel Najeeb Ajawid	Ecology	Biology			Staff	
Hind Jabbar Abdulrahman Akram	Ecology	Biology			Staff	
Hussam Mahmood Hasan	Microbiology	Biology			Staff	
Entissar Faroun Ahmed Hussein	Microbiology	Biology			Staff	
Amjed Torki Attyah Awad	Zoology	Biology			Staff	
Noor Jaafer Jabbar	Botany	Biology			Staff	
Guffran Mohammed Hassan	Zoology	Biology			Staff	
Batool Kathem Habeeb Nawrooz	Zoology	Biology			Staff	
Ruia Safwan Kamal	Zoology	Biology			Staff	
Rasha Khalid Hussein	Botany	Biology			Staff	
Zainab Abdulameer Abass Ali	Zoology	Biology			Staff	
Ghassan Ali Saleh	Forensic Sciences	Biology			Staff	
Maryam Kamil Mohammed	Microbiology	Biology			Staff	
Bushra Rasheed Ibrahim	Zoology	Veterinary Medicine and Surgery			Staff	
Atheer Ahmed Majeed	Genetic Engineering	Biology			Staff	
Rasha Jasim Khalaf Atiyah	Microbiology	Biology			Staff	
Assistant Lecturer						
Lulu'a Saad Zaki	Microbiology	Biology			Staff	

Mustafa Numeir Shaaban	Biotechnology	Biology			Staff	
Laith Zuhair Fadhel	Botany	Biology			Staff	
Israa Hassan Ali	Zoology	Biology			Staff	
Ishraq Mohammed Baqir	Zoology	Biology			Staff	
Huda Mohammed Hassan	Microbiology	Biology			Staff	
Lina Jaafer Sultan Salman	Zoology	Biology			Staff	
Bassam Kareem Abdulameer	Anatomy, Histology and Embryology	Veterinary Medicine and Surgery			Staff	
Jenan Jalil Ghazi Hussein	Microbiology	Biology			Staff	
Shaymaa Hussein Hassan Sabah	Zoology	Biology			Staff	
Rania Yahya Khudair	English Language	Arts – Linguistics			Staff	

12. Professional Development

Orientation for New Faculty Members

1. To become familiar with the institution's vision and strategic plan and understand the role of faculty members in contributing to their achievement.
2. To become familiar with the latest modern teaching methods, with a focus on integrating technology into the educational process.
3. To learn about approaches for dealing with outstanding and creative students and how to develop students with special talents and abilities.
4. To become familiar with mechanisms for evaluating the job performance of faculty members.
5. To become familiar with different modes of distance learning and how to upload files and conduct examinations electronically.
6. To explain academic quality requirements and clarify course descriptions and training plans.
7. To become familiar with the rights and responsibilities of faculty members to ensure their professional and functional commitment.
8. To rely on contemporary and up-to-date scientific sources in research and study.
9. To utilise rapid communication networks, such as the Internet, for the dissemination and exchange of information.

10. To conduct field visits and practical training in service laboratories.
11. To develop advanced scientific expertise and skills in modern technological communication.

Professional Development for Faculty Members

- 1 Faculty members' participation in training courses on modern teaching methods.
- 2 Brainstorming and creative thinking (thinking outside the box).
- 3 E-learning and blended learning.
- 4 The use of artificial intelligence applications and other software

13. Admission criterion

Central admission - scientific and according to the instructions of the Ministry of Higher Education and Scientific Research

14. The most important sources of information about the program

The college and university websites/ The University Guide/ An orientation guide for the college and department/ Books and reference materials available in the department/ The Internet.

15. Program Development Plan

1. Developing and reviewing the program and the basic and secondary courses from the theoretical and practical side of the Department of Biology.
2. Working to update and develop programs to keep pace with the needs of society and the labour market.
3. 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				Core or Elective	Course Name	Course Code	Year/Level
D4	D3	D2	D1	C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	General Zoology	BIO11001	2025/2026 The first level/ First Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	General Chemistry	BIO11002	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	General Mathematics and Biostatistics	BIO11003	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Arabic Language I	UOB101	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Computer Skills I	UOB103	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Democracy and Human rights	UOB104	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	General Botany	BIO12004	2025/2026 First level/ Second Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Biochemistry	BIO12105	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Biosafety and Biosecurity	BIO12006	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Bacteriology	BIO12007	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	General Physics	BIO12008	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	English Language I	UOB102	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Invertebrates	BIO23009	2025/2026
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Entomology	BIO23010	

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Cytology	BIO23011	Second level/ First Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Ecology	BIO23012	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Plant Anatomy	BIO23013	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Mycology	BIO23014	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Baath Regime Crimes in Iraq	UOB105	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Protozoan Parasitology	BIO24015	2025/2026 Second level/ Second Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Plant Taxonomy	BIO24016	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Pollution	BIO24017	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Phycology and Archegoniate	BIO24018	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Arabic Language II	UOB201	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	English language II	UOB202	
																Core	Computer Skills II	UOB203	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Plant Physiology	BIO35127	2025/2026 Third level/ First Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Microbial Physiology	BIO35028	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Histology	BIO35029	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Pathogenic Bacteria	BIO35130	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Medical Helminthology	BIO35031	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Genetics	BIO35132	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Medicinal Plants	BIO36133	2025/2026
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Aquatic and Soil Microbiology	BIO36134	

+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Animal Physiology	BIO36135	Third level/ Second Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Antibiotics	BIO36136	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Development and Biodiversity	BIO36137	
																Core	Scientific Research Methodology	UOB309	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Molecular Biology		2025/2026 Fourth Stage/ First Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Clinical Analyses		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Antibiotics		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Comparative Anatomy		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Pathogenic Bacteria		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Food Microbiology		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	English Language		2025/2026 Fourth Stage/ First Semester
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Virology		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Biotechnology		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Embryology		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Industrial Microbiology		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Research Project		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Helminthology		
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Core	Research Project		

First Stage / First Semester

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	General Zoology		Module Delivery
Module Type	Core		☒ Theory ☒ Lab.
Module Code	BIO1101		
ECTS Credits	8		
SWL (hr/sem)	200		
Module Level	UG 1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Asst. Prof. Dr. Fadhel Mohammed Lafta		e-mail fadhellafta@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification Ph.D.
Module Tutor	Lctr. Dr. Zainab khidhair hussain		e-mail zainab.khidhair@sc.uobaghdad.edu.iq
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date		Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Upon successful completion of the module a student will be able to: 1. Describe the functional characteristics of animals. 2. Describe the structure, embryology, classification, habits, and distribution of all animals, both living and extinct. 3. Develop a comprehensive understanding of the biology of animals.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Determination of the attributes of life and characteristics of living organisms. 2. Describing animal cell, its theory and structure. 3. Understanding the basic zoological concepts and phenomena. 4. Exploring the animal kingdom through investigations of the physiology, reproduction, development of both invertebrates and vertebrates. 5. Knowing how animals adapt to their environment, and their genetics. 6. Knowing the most important relationships between the main kingdoms.
Indicative Contents المحتويات الإرشادية	The module will explore a wide range of zoology and animal science topics with an applied focus on broad themes around species ecology and biology, genetics, evolution begin with a brief introduction outlining the module's goals, content, and evaluation criteria, as well as the learning outcomes. Following that, the module material is divided into separate themes, offering details for the most relevant biology concepts. In this context, we will explain the characteristics and roles of the basic molecules of life and demonstrate an understanding of the biochemistry that governs their interactions and their functions. Laboratory sessions of 2-hours duration will give active practice in a variety of Zoology aspects and techniques in tandem with lecture topics.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This module's contact teaching will be conducted through lecturing (15 lectures) and compulsory 15 practical sessions, which include learning videos and scientific animations. Students will be invited to participate in interactive discussion throughout this program.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	136	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	9
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية
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		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	20	2, 4, 6	LO #1, #2
	Assignments	1	20	8	LO #4
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO #1, #2, #3, and #4
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Course introduction; Zoology –An Overview
Week 2	Animal Biology
Week 3	Structure and Function of Animal Cells
Week 4	The Cytoskeleton
Week 5	Cell Cycle (cell division cycle)- Mitosis
Week 6	Cell Cycle (cell division cycle)- Meiosis
Week 7	Mid-term Exam
Week 8	Genes and Heredity
Week 9	Animal Tissues
Week 10	Taxonomy and Systematics of the Organisms
Week 11	Animals Kingdom- I
Week 12	Animals Kingdom- II
Week 13	Evolution
Week 14	The evolutionary history of biological diversity
Week 15	Behavioral Biology
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Materials Covered
Week 1	Course induction, introduction, and Lab Safety Guidelines
Week 2	Light and Electron Microscopy
Week 3	Animal Cells Types
Week 4	Animal Cells Shapes and Functions
Week 5	Cell Division- Mitosis
Week 6	Cell Division- Meiosis
Week 7	Mid-Term Exam
Week 8	Genes and Chromosomes
Week 9	Animal Tissues 1- Epithelial
Week 10	Animal Tissues 2- Connective
Week 11	Animal Tissues 3- Muscular
Week 12	Animal Tissues 4- Specialized
Week 13	Classification of the animal kingdom I
Week 14	Classification of the animal kingdom II
Week 15	Classification of the animal kingdom III
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. <u>General Zoology : Karen Reiss</u> (2022) 2. SUBACZ, K. & CHRISTIAN, J. 2019. General Zoology Laboratory Manual.	No
Recommended Texts	Darrell S. and Randy Moore (2023). Biology Laboratory Manual, Thirteenth Edition. Published by McGraw Hill LLC.	No
Websites	Study Zoology: All you need to know Study.eu	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	General Chemistry		Module Delivery	
Module Type	Support		☒ Theory ☒ Lab	
Module Code	COS11002			
ECTS Credits	8			
SWL (hr/sem)	200			
Module Level	UG 1	Semester of Delivery		
Administering Department		Department of Biology	College	College of Science
Module Leader	Dr. Bahaa Malik Altahir		e-mail	bahaa.malik@sc.uobaghdad.edu.iq

Module Leader's Acad. Title	Ass. professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Zainab Amer Sallal	e-mail	zainab.sallal1105@sc.uobaghdad.edu.iq
Peer Reviewer Name		e-mail	E-mail
Scientific Committee ApprovalDate	9/11/2023	Version Number	١

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	-
Co-requisites module	None	Semester	-

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Provide students with a thorough understanding of the guiding concepts that volumetric analysis, quantitative analysis approaches, and organic chemistry are based on. 2. Develop experts in general chemistry and its practical applications to equip them to meet the country's industrial and developmental needs. 3. Foster a scientifically literate generation that recognizes the value of science as a catalyst for transformative change. This includes cultivating critical thinking skills, promoting analytical thinking, and facilitating adaptability to evolving technologies and societal demands. 4. Strengthen the connection between the university and society by offering advisory counseling, training programs, and professional development opportunities for faculty and staff, ensuring that academic knowledge is effectively applied to real-world contexts. 5. Contribute to the country's overall progress by producing chemistry graduates who possess the skills and knowledge to actively contribute to its development. 6. Address the increasing demand for highly qualified professionals in various sectors that require specialized expertise in chemistry. 7. Encourage exceptional students to serve as teaching assistants within the department, nurturing their potential to become future members of the academic teaching staff and fostering the growth of a knowledgeable and skilled workforce.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Create an excellent foundation for this specialty by introducing students to the basic concepts of volumetric analysis, and their practical applications in medicine, pathological analyzes and the environment. 2- Encouraging students to understand the theoretical foundations of titration and practical applications in diagnosing basic compounds of importance in the field of industry, energy, oil and mining. 3- Provide students with a comprehensive knowledge of different analytical technique, in addition to using various tools can be used in different laboratories in different branches such as the medicine and agriculture and oil field 4- Equip students with the necessary knowledge and skills to proficiently apply classical quantitative analytical methods in diverse laboratory working in different application of agricultural, medicine and industry 5- Enhance students' research skills by encouraging them to engage in scientific exploration and facilitating constructive discussions can be applied in different application of medical and environmental analysis. 6- Develop proficiency in the use and development of laboratory techniques and equipment, enabling students to conduct experiments effectively and obtain accurate results that applied in different biological application of different specialties of genetic, biotechnology, pollution, environmental analysis 7- Cultivate critical thinking skills that allow students to analyze and solve scientific problems related to the laws of chemistry, promoting a deeper understanding of the subject that help them in their application of medical and industrial fields 8- 4-Foster the development of practical skills and the ability to apply theoretical and empirical scientific knowledge gained through their studies in real-life situations, taking into account industrial and commercial constraints of various application in different parts of working in medical, environmental investigation.

Indicative Contents المحتويات الإرشادية	The purpose of the course is to give students a thorough understanding of conventional titration techniques in analytical chemistry. It covers the fundamental principles of acid/base titration, complexometric titration, redox titration, and precipitation titration. Students will delve into the theory behind these methods and explore their wide-ranging applications. In addition to theoretical knowledge, the course emphasizes practical skills. Students will learn how to calculate pH values for various acids, bases, salts, and buffers, enabling them to make accurate determinations in real-world scenarios. They will also develop the ability to evaluate and interpret the results obtained from titration experiments, enhancing their analytical capabilities. Throughout the course, selected classical quantitative analytical methods will be highlighted, giving students a deeper understanding of their importance and practical use. By the end of the course, students will have gained the necessary knowledge and skills to apply classical titration methods effectively in analytical chemistry, both in theory and practice. Indicative content includes the following. 1. Structural isomers and structures of alkanes; physical and chemical properties of alkanes, alkenes, and alkynes. 2. Terminology, essential ideas, and some basics of organic chemistry. 3. Basic reactions of alkanes, alkenes, alkynes, and cyclic compounds. 4. Naming and classification of organic compounds.
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Learning and Teaching Strategies إستراتيجيات التعلم والتعليم	
Strategies	The module will be conducted in a student-centered manner with a focus on developing critical thinking abilities and active involvement. Through a combination of classes, interactive tutorials, and purposeful experiments, students will be actively engaged in the learning process, fostering the development of their critical thinking abilities. The aim is to create an interactive and dynamic learning environment that encourages students to actively participate, think critically, and attain a profound comprehension of the subject matter. By adopting this strategy, students will have the opportunity to apply their knowledge, engage in analytical discussions, and enhance their overall learning experience.

Student Workload (SWL) الحمل الدراسي للطالب المحسوب ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	٦٤	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	136	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	٩
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	٣ and ٦
	Assignments	2	10% (10)	2 and 12	1 and 8
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	6 and 7
Summative assessment	Midterm Exam	2hr	10% (10)	7	1 -4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week no.	Material Covered
Week 1	Introduction to analytical chemistry, preparing solutions, and methods for the expression of concentration
Week 2	Volumetric analysis, volumetric analysis reaction types, volumetric calculations
Week 3	Ionic equilibria, the hydrogen-ion exponent (pH), hydrolysis
Week 4	Titration curves, titration of a solution of strong acid with a strong base, titration of solutions of weak acid or bases, acid-base indicators, titration with strong acid for one base, or a mixture of two bases
Week 5	Gravimetric methods of analysis, types of gravimetric methods, and calculation of results from gravimetric data
Week 6	Instrumental methods, instrumental methods of analysis, spectroscopic Instruments, filter photometer
Week 7	Mid-term exam
Week 8	Introduction to organic chemistry - structure and properties
Week 9	Alkanes - Structure and nomenclature
Week 10	Alkanes - Preparation and reactions
Week 11	Alkenes - Structure, geometric isomers and nomenclature
Week 12	Alkenes - Preparation and reactions
Week 13	Alkynes - Structure and nomenclature
Week 14	Alkynes - Preparation and reactions
Week 15	Final exam

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
Week no.	Material Covered
Week 1	Learn about laboratory tools and equipment and how to use them
Week 2	Learn the principles of descriptive analysis and the descriptive interactions of the first group of ions
Week 3	A test on the analysis of information samples for the first group, based on the descriptive analysis
Week 4	A test on the analysis of the anonymous samples of the first group, based on the descriptive analysis
Week 5	Characteristic descriptive interactions of the second group of ions
Week 6	A test on the analysis of the known samples from the second group
Week 7	A test on the analysis of anonymous samples of the second group
Week 8	Safety guidelines in the organic chemistry laboratory
Week ٩	Determination of the melting point
Week ١٠	Determination of the boiling point
Week ١١	Purification of the solid organic compounds (recrystallization process)
Week ١٢	Purification of the liquid organic compounds (simple distillation)
Week 1٣	Purification of the liquid organic compounds (fractional distillation)
Week 14	Qualitative analysis of the functional groups
Week 15	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Fundamental of analytical chemistry by Skoog, West, Holler & Crouch, 8 th , 2004.	Yes
	Organic Chemistry, Morrison and Boyd book, 6th edition	Yes
Recommended Texts	1-Fundamental of analytical chemistry by Skoog, West, Holler, 6 th , 1992. 2-Principles of instrumental analysis by Skoog, West, Holler & Crouch, 8 th , 2004. 3-K. Burger D, Sc, "Organic reagents in metal analysis", 1 st , New York, 1973. 4-J.N.Miller & J.C. Miller" Statistical for anal. Chem.", 2 nd , New York, 1988.	
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group(0 - 49)	FX – Fail	قيد (راسب المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks with decimal places above or below 0.5 will be rounded to the higher or lower full mark accordingly. For instance, a mark of 54.5 will be rounded up to 55, while a mark of 54.4 will be rounded down to 54. The University strictly adheres to a policy that does not allow for "near-pass fails," and therefore, the only adjustment made to the marks awarded by the original marker(s) will be the automatic rounding as described above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	<u>Mathematics and Biostatistics</u>		Module Delivery	
Module Type	<u>Support</u>		☒ Theory ☒ Tutorial.	
Module Code	<u>COS11003</u>			
ECTS Credits	<u>٧</u>			
SWL (hr/sem)	<u>1٧٥</u>			
Module Level		UG 1	Semester of Delivery	1
Administering Department		Type Dept. Code	College	Type College Code

Module Leader	Dr. Iraq T. Abbas	e-mail	Iraq.t@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D.
Module Tutor	/	e-mail	/
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The objectives of the academic program of teaching mathematics for the first stage in universities typically include the following: Developing fundamental mathematical skills: The first stage of university mathematics education aims to develop students' fundamental mathematical skills, including algebra, geometry, trigonometry, and calculus. Students are expected to master these skills to build a strong foundation for more advanced mathematical concepts. Promoting critical thinking: Mathematics education in universities aims to promote critical thinking skills by teaching students to solve problems using logical reasoning, deduction, and analysis. Students learn how to approach complex problems and break them down into simpler, more manageable parts. Fostering creativity: Mathematics education can also foster creativity by encouraging students to explore new ideas and develop their own approaches to problem-solving. By encouraging creativity, students can develop a deeper appreciation for the beauty and elegance of mathematics. Preparing students for advanced study: The first stage of university mathematics education is often a prerequisite for advanced study in mathematics and related fields. Therefore, one of the primary objectives is to prepare students for more advanced coursework by building a strong foundation in fundamental mathematical skills. Enhancing career prospects: Mathematics education can also enhance students' career prospects by providing them with the analytical and problem-solving skills that are highly valued in a wide range of industries, including finance, engineering, and computer science. Thus, the academic program of teaching mathematics at the first stage in universities aims to equip students with the necessary skills and knowledge to succeed in their future careers.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Module learning outcomes in math typically include the following: Knowledge: Students should be able to demonstrate a comprehensive understanding of mathematical concepts, theories, and principles relevant to the module. Problem-solving: Students should be able to apply mathematical knowledge and skills to solve problems and analyze real-world situations.

	3. Mathematical reasoning: Students should be able to use mathematical reasoning to derive conclusions and make predictions based on available data. 4. Communication: Students should be able to communicate mathematical ideas and concepts clearly and effectively, both in writing and orally. 5. Use of technology: Students should be able to use technology, such as calculators, computer software, and online resources, to enhance their understanding of mathematical concepts and solve problems. 6. Independent learning: Students should be able to engage in independent learning, such as reading relevant literature, conducting research, and applying mathematical concepts to novel problems. 7. Critical thinking: Students should be able to critically evaluate mathematical arguments and solutions, identify potential errors or weaknesses, and propose alternative solutions. 8. Numeracy: Students should be able to demonstrate proficiency in numerical skills, including arithmetic, algebra, geometry, and statistics, as appropriate to the module. 9. Mathematical modeling: Students should be able to create and interpret mathematical models of real-world phenomena, using appropriate mathematical tools and techniques. 1. Ethics and professionalism: Students should be able to apply mathematical knowledge and skills in an ethical and professional manner, respecting the rights and dignity of others and adhering to relevant codes of conduct and professional standards.
Indicative Contents المحتويات الإرشادية	The mathematics course for the first stage typically covers a range of fundamental mathematical topics, including calculus, The Rate of change of function, limit, Derivatives of algebraic function and Applications. The course aims to develop students' mathematical skills, including problem-solving, critical thinking, and analytical reasoning, and to prepare them for advanced study in mathematics and related fields.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	This module's contact teaching will be conducted through lecturing (15 lectures) and compulsory 15 practical sessions, which include learning videos and scientific animations. Students will be invited to participate in interactive discussion throughout this program.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	127	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	8.٥
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	١75		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	10% (10)	3, 6, 10, and 13	LO #1, #2 and #10
	Assignments	4	10% (10)	2, 5, 10, and 13	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	1. Slope, and equation of line. 2. Functions and their graphs. 3. Shifts, circle, and parabolas
Week 2	1. Limits. 2. Limits involving infinity. 3. Continuous functions. 4. Slopes, tangent lines, and derivatives. 5. Differentiation rules. 6. Velocity, speed, and other rates of change. 7. Derivatives of trigonometric functions. 8. Chain rule. 9. Maxima, minima.
Week 3	1. Definite integrals. 2. The fundamental theorem of integral calculus. 3. Indefinite integrals. 4. Integration by substitution. 5. A brief introduction to logarithms and exponentials. 6. Areas between curves, volumes of solids of revolution. 7. Areas of surfaces of revolution.
Week 4	1. Inverse function and their derivatives. 2. $\ln x$, e^x, and logarithmic differentiation. 3. Hospital rule. 4. The inverse trigonometric function. 5. Derivatives of inverse trigonometric functions.
Week 5	1. Basic integration formula. 2. Integrations by parts. 3. Trigonometric integrals. 4. Rational functions and partial fractions.

	5. Improper integrals.
Week 6	1. Sequences. 2. Series and absolute convergence. 3. Power series. 4. Taylor's series and Maclaurin series.
Week 7	Mid-Term exam
Week 8	1. polar coordinates. 2. Graphing in polar coordinates.
Week 9	Some Basic concepts Statistics, Data, Biostatistics, Variables: Types of Variables, Population, Sample
Week 10	Descriptive Statistics Frequency Distribution Measures of Central Tendency: Mean, Median, Mode, Percentiles and Quartiles Measures of Central Tendency: Grouped Data Measures of Variation: The Range, The Variance and the Standard Deviation, Moments, Skewness and Kurtosis Measures of Variation: Grouped Data
Week 11	Basic Probability Concepts Properties of Probability, Probability of an Event, Marginal Probability, Conditional Probability, Baye's Theorem
Week 12	Discrete Probability Distributions Probability Distributions for Discrete Random Variables, Expected Value and Variance of a Discrete Random Variable, Bernoulli Distribution, Binomial Distribution, Poisson Distribution
Week 13	Continuous Probability Distributions Continuous Probability Distribution, Expected Value and Variance of a Continuous Random Variable, The Normal Distribution, The Standard Normal Distribution
Week 14	Sampling Distribution Sampling Distribution(definition), Sampling Distribution of the Sample Mean, Sampling from Normal Population
Week 15	Central Limit Theorem: Sampling from Non-normal Population, The T-Distribution, Chi-Square Distribution, F- Distribution
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. . Stewart. J. "Calculus", 7th Edition, 2012. 2. Wayne W. Daniel (1995) "Biostatistics: Basic Concepts and Methodology for the Health Sciences", Sixth Edition, John Wiley and Sons M.	
Recommended Texts	1. Ataharul Islam, Abdullah Al-Shiha (2018) "Foundations of Biostatistics", Springer	
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded

(0 – 49)	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Computer Skill I		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	COS11004			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	UG 1	Semester of Delivery		1
Administering Department	Biology	College	Science	
Module Leader	Zainab J. Ahmed		e-mail	zainab.jawad@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Asst. Professor		Module Leader's Qualification	
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name	Name		e-mail	E-mail
Scientific Committee Approval Date	9/11/2023		Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	This module provides an introduction to essential computer skills. In this module, students will learn, - computer literacy, including hardware and software fundamentals in theory as well as practical. - various office applications (Microsoft Word, Excel, and PowerPoint), where students will use these software applications to create a current resume, and slide presentation. - basic computer knowledge and skills required to obtain an understanding of computer hardware, software, Internet, and web search.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students should be able to: - Understand computer hardware, software components, and peripheral devices, enabling them to use computers confidently. - Manage and organize files and folders on a computer effectively, including creating, renaming, moving, and deleting files and folders. - Efficiently employ Microsoft Office to execute fundamental tasks with ease. - Navigate the internet and communicate via email, while understanding internet safety. - Upon finishing the course, students will be aware of the ethical and security considerations when using computers, promoting safe and responsible digital behavior.
Indicative Contents المحتويات الإرشادية	Part A: Understanding Computer Components Starting with an introduction to computers, the first part introduces learners to identify computer peripherals, internal components, and the operation of the Windows operating system. Part B: Exploring Microsoft Office In this part, the student will learn how to work with Microsoft Office package to create Word documents and Excel spreadsheets and get ideas to create a PowerPoint presentation. Part C: Navigating the Internet In this part, the student will learn the knowledge of harnessing the power of the internet to search for information through web browsers. Part D: Computer Ethics In this part, the student will learn to address issues related to the misuse of computers and how they can be prevented.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Providing lectures to explain essential principles related to computer skills. 2. Projects and activities shared among students. 3. Examinations to gauge students' understanding and identify areas where additional support may be needed. 4. Providing guidance on textbooks, online resources, and supplementary references that can aid students in their studies more efficiently.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	45	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	30	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	١5% (١5)	4,9, and 13	1,2,3, and 4
	Assignments	3	15% (15)	4, 8 and 11	1,2,3, and 4
	Projects/ Lab	1	5% (5)	Continuous	All
	Report	1	5% (5)	Continuous	All
Summative assessment	Midterm exam	2 hr	1٠% (1٠)	٧	All
	Final Exam	3 hr	٩0% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Computer Fundamentals. Characteristics of Computers, Block Diagram of Computer: Input Unit, Storage Unit, Memory size, Output Unit, Arithmetic Logical Unit, Control Unit, Central Processing Unit, Data Representation: Binary Number System.
Week 2	Memory: Types, Units of memory, RAM, ROM, Secondary storage devices – HDD, Flash Drives, Optical Disks: DVD I/O Devices – Keyboard, Mouse, LCDs, Scanner, Plotter, Printer and Latest I/O devices in market

Week 3	MS Windows: Desktop, My Computer, Files and folders using windows explorer; Control Panel, Searching Files and folders
Week 4	MS Word: Introduction, Environment, Help, Creating and Editing Word Document. Saving Document, Working with Text: Selecting, Formatting, Aligning and Indenting
Week 5	MS Word: Finding Replacing Text, Bullets and Numbering, Header and Footer, Working with Tables, Properties Using spell checker, Grammar, AutoCorrect Feature, Synonyms and Thesaurus
Week 6	MS Word: Graphics: Inserting Pictures, Clipart, Drawing Objects, Using Word Art. Setting page size and margins; Printing documents. Mail Merge Practical
Week 7	Mid Exam
Week 8	MS-Excel: Environment, Creating, Opening, and Saving Workbook. Range of Cells. Formatting Cells, Functions: Mathematical, Logical, Date, Time, Auto Sum
Week 9	MS-Excel: Formulas. Graphs: Charts. Types and Chart Tool Bar. Printing: Page Layout, Header and Footer Tab
Week 10	MS PowerPoint: Environment, Creating and Editing presentation, Auto content wizard, using built-in templates
Week 11	MS PowerPoint: Types of Views: Normal, Outline, Slide, Slide Sorter, Slide Show, Creating customized templates; formatting presentations Graphics: AutoShapes, adding multimedia contents, printing slides
Week 12	Internet: Basic Internet terms: Web Page, Website, Home page, Browser, URL, Hypertext, ISP,
Week 13	Web Server Applications: WWW, e-mail, Instant Messaging, Internet Telephony, Videoconferencing, Web Browser and its environment
Week 14	Computer Ethics and Societal Impact: Computer ethics encompass a collection of moral principles that regulate the utilization of computers. It reflects society's perspectives regarding the use of computer hardware and software. These ethical considerations address a range of critical issues, including privacy concerns, intellectual property rights, and the broader societal impact of computer technology.
Week 15	Preparatory week

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Identifying hardware components (CPU, RAM, storage, etc.); Assemble and disassemble computer hardware components.
Week 2	Installing an operating system (e.g., Windows or Linux); Installing and uninstalling software applications.
Week 3	Understand the principles of data backup and recovery; the Importance of data backup, backup methods, and recovery procedures; Organize, manipulate, and maintain files and folders on a computer or other digital storage devices. It involves tasks such as creating, moving, copying, renaming, deleting, and searching for files.
Week 4	Word Processing. Understanding the Word interface and essential functions; Creating, saving, and opening documents; Formatting documents (headers, footers, styles).
Week 5	Word Processing (continued). Formatting text (font, size, style, and color); Formatting paragraph (alignment, spacing, and indentation); Setting up page layout (margins, orientation, and size).
Week 6	Word Processing (continued). Creating and formatting tables; Inserting images, shapes, and text boxes; Adding hyperlinks and bookmarks; Mail merge for personalized documents; Saving a PDF and setting options.
Week 7	Mid Exam
Week 8	MS-Excel. Overview of Excel and its interface; Basic spreadsheet concepts, including rows, columns, and cells; Entering data and formatting; Using basic functions like SUM, AVERAGE, and COUNT; Error handling in formulas; Absolute and relative references.
Week 9	MS-Excel (continued). More advanced functions, including IF, VLOOKUP, and HLOOKUP; Creating and formatting charts and graphs; Types of charts: bar, line, pie, and more; Adding titles, labels, and data labels to charts; Creating and working with Excel tables; Saving a PDF and setting options.
Week 10	MS-PowerPoint

	Overview of PowerPoint and its interface; Creating a presentation (Choosing a Template/Theme, Changing the Template/Theme, Adding Slides, and Typing in Content); Formatting slide layouts (Choosing a Slide Layout, Changing the Slide Layout); Adding and editing text with outline view.
Week 11	MS-Power Point (continued). Adding/Adjusting pictures and graphics (placing pictures into placeholders, cropping photos, sizing graphics, fixing stretched/squished photos, where to get photos, picture border, and effects); Running a presentation (starting and stopping a slide show, ways to navigate slide shows); Saving a PDF and setting options.
Week 12	Using Email: Understanding how to send and receive email is essential for communication in the modern workplace. Basic skills include composing, sending messages, and attaching files
Week 13	Using Web Browsers: Web browsers such as Google Chrome or Mozilla Firefox are used for browsing the internet. Basic skills include navigating websites, using bookmarks, and completing online forms.
Week 14	Understanding computer ethics issues: 1) Divide the students into small groups. 2) Provide each group with (a real-world privacy scenario. For example, a social media company's data collection practices or Present a case study involving intellectual property issues, such as software copyright infringement). 3) In their groups, students should discuss the ethical issues raised by the scenario, potential consequences, and possible solutions. 4) Each group presents their findings to the class.
Week 15	Preparatory week

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	-	
Recommended Texts	Wallace Wang, Absolute Beginners Guide to Computing, Apress, 2016. Michael Miller, Absolute Beginner's Guide to Computer Basics, Que, 2022. Chris Ewin, Carrie Ewin, Cheryl Ewin, Computers for Seniors: Email, Internet, Photos, and More in 14 Easy Lessons, William Pollock, 2017.	Available online
Websites	https://ebooks.lpude.in/library_and_info_sciences/DLIS/Year_1/DCAP101_BASIC_COMPUTER_SKILLS.pdf	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (قيد المعالجة)	(45-49)	More work is required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example, a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



Ministry of Higher Education and
Scientific Research - Iraq
University of Baghdad
College of Science
Department of Remote Sensing and GIS



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	<u>Democracy & Human rights</u>		Module Delivery	
Module Type	<u>Support</u>		☒ Theory ☐ Lecture ☐ Tutorial ☐ Seminar	
Module Code	UOB11006			
ECTS Credits	<u>2</u>			
SWL (hr/sem)	<u>50</u>			
Module Level	UG 1	Semester of Delivery	1	
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Ansam Faik Abdul - Rezzak Al-Obidi		e-mail	ansam.faik@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	M.Sc.	
Module Tutor	None		e-mail	None
Peer Reviewer Name		e-mail		
Review Committee Approval	9/11/2023	Version Number	1.0	

Relation With Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	
Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Aims	1. This course deals with the basic concept of human rights& democracy		

أهداف المادة الدراسية	2. Clarifying and training students on the most important principles of human rights and democracy. 3. Organizing discussions and presentations on the most vital and basic topics affecting community building, related to human rights and democracy.. 4. Adopting teamwork with students to develop their cognitive abilities and create a spirit of cooperation, initiative, creativity and exchange of views in an effort to build the foundations of peaceful community coexistence. 5. Providing society with conscious youth aware of the importance of its role in building society, its unity and cohesion through spreading the culture of human rights and establishing the rules of correct democracy. 6. Human rights guarantee the protection and respect of an individual's interests, even when he or she is not a majority. In a democratic climate, sustainable democratic power cannot be conceived without respecting, protecting and fulfilling human rights. Through their combined influence, they allow the individual a life based on the freedom of self-determination and collective. That is why the protection and realization of human rights truly form the basis of the democratic project.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Cognitive goals. 1. Educate students and inform them about the importance of human rights and democracy. 2. Recognize and understand the methods of teamwork for the exchange of ideas and creative discussions 3. Developing students' performance through guidance in preparing mini-research on modern vocabulary on vital topics related to human rights and democracy. 4. Providing students with creative development abilities in modern proposals and creative developmental ideas by discussing awareness videos presented on electronic classes. 5. Developing the skills of sharing opinions and ideas and respecting others opinion. 6. Objective Skills : 7. Basic knowledge in the principles of human rights and democracy. 8. Building the innovative personality of knowledge through online research and the transfer and exchange of information. 9. Discuss the various properties about everything related to human rights and their importance in our daily lives. 10. Identify everything related to democracy and the foundations of the performance of the electoral process and its importance in building the nation. 11. Identify the capacitor and inductor phasor relationship with respect to voltage and current.
Indicative Contents المحتويات الإرشادية	- Developing the student's analytical and critical skills regarding the reality and future of human rights and democracy - Training the student on the importance of active participation in aspects of public life, such as promoting respect for the principles of public human rights and active participation in political and cultural life. - Enable students to understand the importance of education and its role in spreading the culture of human rights and democracy in building a civilized society based on good governance, the most important component of which is belief in human rights, education and active participation in governance through free and fair elections.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the discussions, dialogues and group work lectures & exercises, while at the same time refining and expanding their critical thinking skills. There are many teaching and learning methods used, and the most important of these methods are: Theoretical lecture, discussion and dialogue, panel discussions on certain topics, theoretical student research

	Library and electronic activities (which helps students to reach the following results: 1- The scientific ability to distinguish between correct information and wrong information. 2- Ease of scientific drafting and ease of correction. 3. Ability to memorize and guess. 4- The ability to link concepts and principles with reality. 5. Ability to invoke, link, interpret.
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Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.25
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Attending lectures	1	10% (10)	1.5	41#15 weeks
	Report	1	10% (10)	13	LO # 5, 9 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري مادة الديمقراطية و حقوق الانسان	
	Material Covered
Week 1	Familiarity with the concept of human rights and the definitions approaching it, discussing, dismantling and criticizing them in a scientific way in order to reach the most accurate and objective. - Definition of right , of human, of the concept of human rights. Human rights qualities, Types of human rights Human Rights Categories
Week 2	The historical development of human rights: Orcagina Reforms 1- Urnamo Law.2- The law of Ishtar Bit. 3- The law of the Kingdom of Eshnuna.4- Code of Hammurabi.
Week 3	Human rights in other ancient civilizations: 1- Indian and Chinese civilization 2-Pharaonic civilization of Egypt 3- Greek civilization 4- Roman civilization

Week 4	Human rights in heavenly laws Human Rights in Judaism, Human rights in Christianity, Human Rights in Islam.
Week 5	Human rights in Renaissance - modern and contemporary societies Introducing the student to the most important UN document in the field of human rights, which was approved and approved by the Assembly on January 10, 1948 Universal Declaration of Human Rights 1948.
Week 6	Non-governmental organizations defending human rights: Amnesty International, b. International Committee of the Red Cross. Arab Organization for Human Rights.
Week 7	Definition of the phenomenon of administrative corruption, Types of administrative corruption, Causes of administrative corruption. The repercussions of the phenomenon of administrative corruption on human rights and society. Successful treatments to combat corruption and protect society from it.
Week 8	Introduction - Historical development of the concept of <u>democracy</u> , definition of democracy, freedom. The difference between freedom and democracy, The relationship between the rights and public freedoms of individuals and democracy, Islamic views in a democratic system of government , Shura and Democratic System
Week 9	Specifications and duties of the Islamic ruler reading, The era of Imam Ali "peace be upon him" to his governor over Egypt: Specifications of the Islamic ruler: First: The moral and doctrinal components of the ruler Second: The general culture of the Islamic ruler, Third: Acumen and good choice: -Fourth: Direct relationship with people: Fourth: Direct relationship with people. Duties of the Islamic ruler: First: Social Reform: Second: Achieving security and defense Third: The architecture of the country "economic development"
Week 10	Forms of democracy: (1): Direct democracy ,(2): Semi-direct democracy , (3): Parliamentary democracy (parliamentary representation)4): Liberal Democracy (5): consociation Democracy, (6): Delegated Democracy.
Week 11	Conditions for the success of the elements and pillars of the democratic system General conditions for the success of the democratic system: 1. Respect for human rights, 2. Political pluralism 3. Peaceful transfer of power 4. Political equality 5. Respect the principle of the majority 6. Existence of the rule of law.
Week 12	Components or elements of democracy: 1 – Citizenship 2- Political participation 3. Elections 4. MPs and Responsibility 5. Opposition 6- Separation of government and parliament 7- Constitutional legitimacy
Week 13	The concept of elections and their legal adaptation: First: The concept of election Second: Legal adaptation of the Election, Third: Conditions of Election, Fourth: Concepts of Elections, Fifth: Types of Electoral Systems. Assessing the Democratic System, Pros and advantages of the democratic system, Disadvantages and disadvantages of the democratic system, Implementing the democratic system in Iraq.
Week 14	Lobbyists: First: the concept and definition. Second: Types of pressure groups. Third: The methods of pressure groups that they use to achieve their goals. Fourth: Lobbying and Democracy.
Week 15	Preparatory Week
Week 16	Final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Martyrdom verses from the Holy Quran	Yes

	Mohammed Al-Tarawneh et al., International Humanitarian Law, ICRC, Amman, 2005 Diamond Larry, Democracy: Its Development and Ways to Enhance It, translated by Fawzia Naji, Dar Al-Mamoun for Translation, Iraq, 2005.	
Recommended Texts	journal.un.org Hadi, Riad Azabz. (2005). Human rights (evolving contents and protection) (Baghdad).	Yes
Websites	Universal Declaration of Human Rights United Nations https://sc.uobaghdad.edu.iq/?page_id=8415 https://www.youtube.com/@ansamalobidimanagerofhuman2891	

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54). The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

First Stage / Second Semester

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<u>General Botany</u>		Module Delivery
Module Type	<u>Core</u>		☒ Theory ☒ Lab ☐ Seminar
Module Code	<u>BIO12007</u>		
ECTS Credits	<u>1</u>		
SWL (hr/sem)	<u>200</u>		
Module Level	2	Semester of Delivery	2
Administering Department	Biology	College	Collage of science
Module Leader	Dr. Laith Mohammed Jawad		e-mail laith.alshamma@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Rasha Kareem Mohammed		e-mail rasha.kareem@sc.uobaghdad.edu.iq
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date		Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. recognize the plant cell and its properties. 2- recognize the properties of plant cell biochemistry and molecular biology 3- identifying the properties of each tissue in different plant body. 4- recognize the difference in basal physiological activity in plant cell. 5- understanding the differences in plant body parts.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- experience in recognizing the properties of plant cell wall and its living and nonliving component. 2- experience in understanding the biochemical and molecular of plant cell. 3- experience in understanding the cell division, and identification of different plant tissues. 4- experience in understanding the basic physiological cell pathways. 5- experience in identification the differences in plant body parts.
Indicative Contents المحتويات الإرشادية	The general botany module is designed to recognize the plant cell and its wall as well as its organelles, the properties of living and nonliving cell component as well as the properties of each tissue in different plant body, in addition to understanding the biochemistry and molecular biology of the cell, and identify the difference between basic physiological pathways and activity, lately to understanding the differences in plant body parts.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The general botany strategies is aimed to identified the internal structure, physiology and molecular of plant cell as well as its aimed to understanding the differences in plant body by using different theoretical and laboratory skills to create student knowledge can be used in different scientific specialties and researches.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	١٣٦	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	٩
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	٢٠٠		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	10	35% (35)	2, 3, 5, 7, 8, 9, 11, 12, 14, and 15	All
	Report	2	5% (5)	4,13	1,3
Summative assessment	Midterm Exam	2 hr	10% (10)	6,10	1,2
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Plant cell structures (living organelles)
Week 2	Plant cell structures (non-living organelles)
Week 3	Biochemistry compounds, their types, classification and properties
Week 4	Secondary plant chemicals, their types, classification and properties
Week 5	molecular biology of plant cell (DNA structure)
Week 6	molecular biology of plant cell (RNA structures)
Week 7	Mid exam
Week 8	Cell division (mitosis and meiosis)
Week 9	Diversity in Plant Life
Week 10	Photosynthesis
Week 11	Respiration
Week 12	Plant growth regulators
Week 13	Exchange through the cell membrane
Week 14	Plant tissues
Week 15	Plant body parts
Week 16	final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Plant cell structures (living organelles)

Week 2	Plant cell structures living organelles (plastids)
Week 3	Plant cell structures (non-living organelles)
Week 4	(report 1), cell division mitosis
Week 5	Cell division meiosis
Week 6	Plant internal structures
Week 7	Mid exam
Week 8	Scientific name and classification
Week 9	Respiration
Week 10	Photosynthesis
Week 11	Plant growth regulators
Week 12	Diversity in Plant Life
Week 13	(report 2) Exchange through the cell membrane
Week 14	Plant tissues
Week 15	Plant body parts
Week 16	final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Plant anatomy 2ed - - Introduction to Botany, Alexey Shipunov, 2018 General Cytology , Plant Science , Essentials of Genetics	yes
Recommended Texts	1-D.G.Mackean,2004. <i>GCSE Biology</i> . Third edition 2-Bowsher, C.,M.Steer, and Tobin. 2008. <i>Plant Biochemistry</i> . London: garland science 3-William, S. Klug and Michael R. Cumming <i>Essential of Genetic.</i> , 1990. <i>Fifth edition</i> . 4-Hopkins, W.G., AND N. A.P.Honer.2004. <i>Introduction to Plant Physiology</i> . 3 rd ed. Hoboken, NJ:John Wiley and Sons.	Some of them
Websites	1- Li M, Jiang H, Hao Y, Du K, Du H, Ma C, Tu H, He Y. A systematic review on botany, processing, application, phytochemistry and pharmacological action of Radix Rehmanniae. Journal of Ethnopharmacology. 2022 Mar 1; 285:114820. 2- Gray A. Manual: The Botany, the Northern United States. BoD–Books on Demand; 2021 Nov 4.	

- 3- Van Duppen, J. (2021). Book review: The Botanical City.
 4- Cunha AR, Soares AL, Vasconcelos T, Duarte MC. Advances in Botanical Research. Advances in Botanical Research. 2021:224.
 5- Hall M. The imagination of plants: A book of botanical

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



Ministry of Higher Education and
Scientific Research - Iraq
University of Baghdad
College of Science
Department of Biology



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	Bacteriology			Module Delivery	
Module Type	Core			☒ Theory ☒ Lab.	
Module Code	BIO1201				
ECTS Credits	1				
SWL (hr/sem)	10				
Module Level		UG 1	Semester of Delivery		2
Administering Department		Type Dept. Code	College	Type College Code	

Module Leader	Prof. Dr. <u>Harith Jabbar Fahad Al-Mathkhury</u>	e-mail	harith.fahad@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Prof. Dr. Ayaid K. Zgair	e-mail	ayaid.zgair@sc.uobaghdad.edu.iq
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	- Getting general information about bacteria. - Understanding the technique of isolating and identification of bacteria - Understanding cellular structure and metabolic mechanisms of bacteria - Getting information about the genotype and phenotype of bacteria.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Knowledge of the basics of bacteriology. - Understanding the replication and pathogenicity mechanisms and how the bacteria infect the host. - How to isolate and identify the bacteria. - Knowing the bacterial infectious diseases.
Indicative Contents المحتويات الإرشادية	In this course, the module will begin with a brief introduction outlining the module's goals, content, and evaluation criteria, as well as the learning outcomes. Following that, the module material is divided into separate themes, offering the key pathways that drive pathogenesis. In this context, we will also examine how such knowledge might help with bacterial isolation and identification, prevention, and prophylaxis ways. Laboratory sessions of a 2-hour duration will give active practice in a variety of bacterial methodologies in tandem with lecture topics.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	This module's contact teaching will be conducted through lecturing (15 lectures) and compulsory 15 practical sessions, which include learning videos and scientific animations. Students will be invited to participate in interactive discussions throughout this program.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
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Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	٨٦	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	1٥٠		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	6	20	2, 4, 6, 9,10, 12	LO #1, #2, #4
	Assignments	3	20	5, 7, 11	LO #4
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO #1, #2, #3
	Final Exam	4 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المناهج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to bacteriology
Week 2	Structure of bacterial cells
Week 3	Cytoplasmic ultra-structures
Week 4	Microbial genetics, DNA replication
Week 5	RNA, Protein synthesis
Week 6	Microbial metabolism
Week 7	Mid-Term Exam
Week 8	Microbial Enzymes
Week 9	Microbial Growth and multiplication
Week 10	Types of bacterial culture, Growth curve
Week 11	Factors affecting growth: Temperature, Hydrostatic pressure
Week 12	Factors affecting growth: pH, Osmotic pressure, Radiation
Week 13	Nutrition of microorganisms
Week 14	Control of microbial growth by physical techniques
Week 15	Control of microbial growth by biological and chemical techniques
Week 16	Final exam

Delivery Plan (Weekly Lab. Syllabus)

المناهج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to microbiology, aseptic technique safety
Week 2	The microscope
Week 3	Tools and equipment
Week 4	Culture media
Week 5	Bacterial staining ,negative stain
Week 6	Bacterial staining, Simple stain
Week 7	Mid-Term Exam
Week 8	Differential stain, acid fast stain, Differential stain, Gram stain
Week 9	Selective stain, capsule stain
Week 10	Selective stain, Spore stain
Week 11	Selective stain, Flagella stain
Week 12	Bacterial count, total count(Breed,haemocytometer,optical density
Week 13	Bacterial count, viable plate count
Week 14	Methods of culturing
Week 15	Introduction to microbiology, aseptic technique safety, and The microscope
Week 16	Final exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1. Riedel, S., Morse, S., Mietzner, T., and Miller, S. (2019). Jawetz, Melnick, and Adelberg's Medical Microbiology, 28 ed. McGraw-Hill New York. 2. Trivedi, P. C., Pandey,S., Bhadauria, S. Text book of microbiology. Aavishkar Publishers, India	No
Recommended Texts	Shors, T. (2009). Understanding viruses. 1st ed. Jones and Bartlett Publishers, Sudbury, Massachusetts, 639 pp.	No
Websites	https://www.cdc.gov ; www.who.int	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors

	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Biochemistry		Module Delivery		
Module Type	Support		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar		
Module Code	COS12008				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level	UG 1				
Administering Department		Department of Chemistry	College	Science College/ University of Baghdad	
Module Leader	Dr. Nuha Nihad Aburahma		e-mail	noha.n@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title		Lecturer	Module Leader's Qualification		Ph.D.
Module Tutor	Dr. Maysoon Khalid Hussein		e-mail	Maysoon.K@sc.uobaghdad.edu.iq	
Peer Reviewer Name		Name	e-mail	E-mail	

Scientific Committee ApprovalDate	9/11/2023	Version Number	1.0
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Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	General Chemistry	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives اهداف المادة الدراسية	Teaching the subject of biochemistry for the second stage (Department of Biological Technologies) aims : - To introduce the biochemical structure of living systems mainly dealing with biomolecules like carbohydrates, proteins, lipids, and nucleic acids. - To provide and display the most important foundations necessary to understand the relationship of chemistry to the functions of the body through multiple examples that depend on modern information. It also aims to clarify the chemical reactions and changes that occur within the body in normal and pathological conditions. - To give students basic concepts of biochemistry and its nature of interdisciplinary importance. - To expose students in basic biochemistry practical laboratory to see basic tools used in practical. To acquire confidence, interest, challenge and discipline laboratory behaviour in biochemistry practical. - The course gives an idea for the maintenance of laboratory and the practices that should be accomplished in a laboratory. The course explains how to prepare solutions and reagents, various methods of qualitative tests for proteins, carbohydrates and lipids. - Preparing specialists with a solid foundation in biochemical processes, to develop analytical, technical and critical thinking skills and to make them scientifically literate so as to contribute to the discipline after graduation.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Recognize the basic life compounds such as carbohydrates, fats, amino acids, peptides, nucleotides, and nucleic acids, their classification and their importance. - Describe and explain their most important physical and chemical properties. - Be able to detect and distinguish between the basic life compounds. - Be able to read relevant scientific research and literature. - Be able to benefit from scientific references and the Internet to extract research and summary reports on the prescribed practical subject. - Conduct appropriate laboratory investigations safely and skillfully. - Be able to work in particular and individually on research projects in the government and private sectors. - Providing students with skills that meet local requirements that enable them to work in the academic, research, industry, or health fields.
Indicative Contents المحتويات الإرشادية	1. Carbohydrates: [12 hr] - Principles, importance, and roles of carbohydrates in living organisms - Classification of carbohydrates: monosaccharides, disaccharides, oligosaccharides, and polysaccharides - Exploration of carbohydrate physical properties, including isomers, enantiomers, and projection formulas 2. Lipids: [12 hr] - Overview of lipids, their principles, importance, and roles in living organisms - Examination of lipid properties and classification: simple, compound, and derived lipids - Understanding the significance of compound and complex lipids 3. Amino Acids and Proteins: [12 hr]

	- Principles, importance, and roles of amino acids in living organisms - Properties and classification of amino acids: polar, nonpolar, acidic, and basic - Study of protein structure and importance: primary, secondary, tertiary, and quaternary structures
	4. Nucleic Acids: [12 hr] - Principles, importance, and roles of nucleic acids in living organisms - Classification of nucleic acids: purines and pyrimidines

Learning and Teaching Strategies إستراتيجيات التعلم والتعليم	
Strategies	Clarifying the scientific material through approved biochemistry books, creating electronic lectures to clarify the mechanisms and some chemical structures. Motivate students to conduct reports and research regarding the subjects they study, use modern technologies in research, and develop their research skills. Preparing some electronic courses and seminars that have a great role in educating students and constructive discussion between the student and tutor.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	86	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	٤ and ١٠	LO; 1, 2, and ٦
	Assignments	2	10% (10)	3 and 11	LO; 3 and 8
	Projects / Lab.	15	10% (10)	Continuous	All.
	Report	1	10% (10)	13	LO; 8.
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO; 1 – 5.
	Final Exam	3hr	50% (50)	16	All.
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Carbohydrates overview : principles of carbohydrates include their important and roles in the living organisms.
Week 2	Carbohydrates classification : monosaccharides, disaccharides, oligosaccharides and polysaccharides Carbohydrates physical properties : carbohydrate isomers, enantiomers, epimers, fisher and haworth projection formula etc.
Week 3	Disaccharides: disaccharides properties, conjugation and glycosidic bond formation.
Week 4	Polysaccharides : polysaccharides properties, important and their types.
Week 5	Lipids overview : principles of lipids include their important and roles in the living organisms.
Week 6	Lipids properties and classification: simple, compound and derived lipids.
Week 7	Mid Term Exam
Week 8	The important of compound and complex lipids.
Week 9	The role of lipids in cell membrane.
Week 10	Amino acids overview: principles of amino acids include their important and roles in the living organisms.
Week 11	Amino acids properties and classification: polar, nonpolar, acidic and basic aminoacids.
Week 12	Protein's structure and important: primary, secondary, tertiary, quaternary structures.
Week 13	Protein functions and roles.
Week 14	Nucleic acids overview: principles of nucleic acids include their important and roles in the living organisms.
Week 15	Nucleic acids classification: purines and pyrimidines.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	A comprehensive review of all calculations related to the preparation of chemical solutions, acids and bases
Week 2	Study the tests that distinguish the different types of monosaccharides
Week 3	Study the tests that distinguish the different types of disaccharides and sucrose hydrolysis
Week 4	Study the tests that distinguish the different types of polysaccharides and starch hydrolysis
Week 5	Detection the type of unknown sugar in solution (part I)
Week 6	Detection the type of unknown sugar in solution (part II)
Week 7	Mid Term Exam
Week 8	Study the tests that distinguish the different types of fats and fatty acids
Week 9	Study of rancidity and acid value
Week 10	Study of saponification value and iodine number
Week 11	Detection the type of fat in an unknown solution using of qualitative tests
Week 12	Study the tests that distinguish the different types of amino acids
Week 13	Detection of the type of amino acid in an unknown solution using qualitative tests (part I)
Week 14	Detection of the type of amino acid in an unknown solution using qualitative tests (part II)
Week 15	Detection of vitamin C in an unknown solution using volumetric test (titration)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- Nelson D. & Cox M., "Lehninger Principles of Biochemistry", W.H. Freeman and Company, New York, 8 th ed. 2021. -Abali EA, <i>et al.</i> "Lippincott's illustrated reviews: Biochemistry". 8 th , Wolters Kluwer Health; 2022. -Naik P. "Essentials of Biochemistry", 1 st ed. 2012. - Campbell NA and Reece JB. Biology, 9 th edition 2009.	Yes
Recommended Texts	Kennelly PJ, Botham KM, McGuinness O, Rodwell VW, Weil PA. Harper's illustrated biochemistry. McGraw Hill Professional; 32 th , 2022.	No
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Biosafety and Biosecurity		Module Delivery		
Module Type	Core		☒ Theory ☐ Lab		
Module Code	UOB120٠٠٩				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level		UG 1	Semester of Delivery		2
Administering Department		Biology	College	Science	
Module Leader	Ahmed Jasim Mohammed		e-mail	Ahmed.jasim@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title		Assist.Professor	Module Leader's Qualification		Ph.D.
Module Tutor	Faiza Kadhim Emran		e-mail	Faiza.kadhim@sc.uobaghdad.edu.iq	
Peer Reviewer Name		/	e-mail	/	
Scientific Committee Approval Date		14/6/2023	Version Number		1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	-
Co-requisites module	None	Semester	-

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The student learns the basic concepts in safety and biosecurity, the student learns how to deal with laboratory materials, biological devices and equipment, the student learns how infection and pathogens are transmitted and how to deal with them with care, the student learns how to protect himself and his colleagues by following the international guidelines for safety and biosecurity, Teaching the student the ethics of scientific research and not disclosing important information
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The student learns what safety and biosecurity. 2. the student learns how to use instrument carefully and protect himself by following the guiding rules. 3. dealing with biological materials and wearing special laboratory clothes 4. Identifying the local and international guiding rules and how to apply them with caution through the use of the projector.
Indicative Contents المحتويات الإرشادية	Knowing the local and international guidelines and how to apply them with caution, guiding the student and developing his desire for specialization, expanding the student's ability to understand

	biosafety laws, dealing with biological materials professionally, safely and ethically, not dealing with any party outside the laboratory or scientific institution.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The use of modern projectors and films, the use of drawings and charts on the board, the use of PowerPoint to present information, written tests, Ask intellectual questions during the lecture

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	18	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	10	20	1, 3, 5, 8, 11, 12, 13, 14, 15	All
	Assignments	7	20	2, 4, 6, 8, 9, 10, 12	All
Summative assessment	Midterm Exam	2 hr.	10% (10)	7	LO #1, #2, #3
	Final Exam	٣ hrs.	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Occupational Safety and Health, Biosafety, Technical Definitions, Biological waste
Week 2	Treatment and drainage methods, Mitigation and drainage
Week 3	Procedures and methods of trading and dealing with laboratory waste
Week 4	The responsibility of management in achieving safety at work sites
Week 5	Why we need Biosafety? What is Biosecurity? Biosafety is related to several fields, Biosafety containment levels

Week 6	Biohazard Symbol, Biosafety Issues, What are biological hazards?
Week 7	Mid term exam
Week 8	Biohazards Materials, Types of pathogens, Biohazardous Materials
Week 9	Control of biological hazards, Methods of control biological hazards
Week 10	Biological Agent, Standard Microbiological Practices
Week 11	Biological Safety Cabinets (BSCs), Biohazardous Waste Containers, Transportation
Week 12	Some factors influencing biosecurity, What are the Biosecurity hazards?
Week 13	Biosecurity in laboratories, Laboratory Risks, A Biosecurity Risk Assessment and Management Process
Week 14	Biosecurity risks, Laboratory biosecurity program , The Virtual Biosecurity Center (VBC)
Week 15	Responsibility for VBM (Valuable Biological Material), Elements of a Strong Biosecurity Program
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Salerno, R.M and Gaudioso, J. Laboratory Biosecurity Handbook , CRC Press. 2007	No
Recommended Texts	Harding, A.L., and Brandt Byers, K. Epidemiology of laboratory-associated infections . In: Fleming, D.O., and Hunt, D.L. Biological safety: principles and practices. Washington, DC: ASM Press, 2000;35-54	No
Websites	Salerno, R.M and Gaudioso, J. Laboratory Biosecurity Handbook , CRC Press. 2007	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				



Ministry of Higher Education and
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University of Baghdad
College of Science
Department of Biology



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	English Language / First Year		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	UOB12013		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UG 1	Semester of Delivery	2
Administering Department	Biology	College	Science
Module Leader	Dr. Muthana Hameed Khalaf	e-mail	muthana.khalaf@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	9/11/2023	Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	New Headway Beginner Plus is a Beginner course in English intended to provide students with the fundamentals of the language and a foundation at
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	First Year students / college of science, moving towards a higher level of proficiency at this stage. - Listening Objectives: - Understand and respond to basic greetings, introductions, and simple instructions. - Comprehend and extract information from short, simple spoken passages related to everyday topics. - Identify and understand common vocabulary and expressions in spoken English. - Speaking Objectives: - Engage in basic conversations using simple greetings, introductions, and expressions related to personal information. - Ask and answer simple questions about personal details, daily routines, and familiar topics. - Participate in short dialogues and role-plays to practice communication skills. - Reading Objectives: - Read and comprehend simple texts, such as signs, labels, short passages, and dialogues. - Recognize and understand basic vocabulary words and phrases in context. - Extract information from texts related to everyday situations and topics. - Writing Objectives: - Write short sentences and paragraphs about personal information, experiences, and familiar topics. - Fill out basic forms with personal details, such as name, age, and nationality. - Write simple messages, notes, and emails related to everyday situations. - Vocabulary and Grammar Objectives: - Acquire a basic vocabulary related to common topics, such as greetings, numbers, time, family, food, and everyday objects. - Understand and use basic grammatical structures, including present simple, present continuous, simple past, and basic question forms. - Recognize and use common prepositions, articles, and basic sentence structures. - Cultural Awareness Objectives: - Develop an understanding of cultural customs and practices related to greetings, social norms, and everyday interactions in English-speaking countries. - Gain exposure to cultural elements through reading or listening to texts about customs, traditions, and holidays.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the course, the students will be able to: - Listening and Speaking Skills: - Understand and respond appropriately to basic questions and statements. - Engage in simple conversations related to personal information, daily routines, and immediate surroundings. - Follow simple instructions and directions. - Develop basic pronunciation and intonation skills. - Reading Skills: - Recognize and understand basic vocabulary words and phrases in simple texts.

	• Comprehend and extract information from short, simple texts such as signs, notices, and labels. • Understand basic sentence structures and common grammatical patterns. 3. Writing Skills: • Write simple sentences and short paragraphs about personal information, experiences, and familiar topics. • Fill out simple forms and write basic personal information. • Write simple messages, notes, and emails related to everyday situations. 4. Vocabulary and Grammar: • Acquire and use a basic range of vocabulary related to everyday topics, such as greetings, numbers, time, family, food, and common objects. • Understand and use basic grammatical structures, including present simple, present continuous, simple past, and basic question forms. • Recognize and use common prepositions, articles, and basic sentence structures. 5. Cultural Awareness: • Develop an understanding of cultural customs and practices related to greetings, social norms, and everyday interactions in English-speaking countries. • Gain exposure to cultural elements through reading or listening to texts about customs, traditions, and holidays.
Indicative Contents المحتويات الإرشادية	1. Use simple forms of polite expressions to establish basic social contact and to perform everyday functions including making requests and offers, conducting simple phone conversations, asking and telling time, giving simple directions, asking about price, ordering a meal, etc. 2. Use a narrow range of positive and negative adjectives to describe objects, people and places. 2.3. Exchange information by forming and responding to simple questions. 3. Produce simple sentences using the correct word order and punctuation marks. 4. Use capital and lower case letters accurately in writing. 5. Construct a short guided paragraph on a familiar topic concerning home, family, friends and holidays. 5. Use the basic tenses including the present and past simple, and present continuous correctly. 6. Use the basic auxiliary verbs (am/is/are/was/were/can) and a range of regular and irregular verbs. 7. Demonstrate awareness of the essential grammatical features and functions including questions and negatives, plural nouns, frequency adverbs, possessives, pronouns and determiners.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1.Communicative Approach: Emphasize communicative activities that promote interaction among students. Encourage pair and group work, role-plays, and discussions to practice language skills in meaningful contexts. 2.Integrated Skills: Integrate the four language skills (speaking, listening, reading, and writing) in lessons to create a balanced approach to language learning. Provide opportunities for students to use and develop these skills simultaneously. 3.Vocabulary Expansion: Incorporate vocabulary-building exercises and activities throughout the course. Use real-life contexts, visuals, and practical examples to help students learn and remember new words. 4.Grammar Focus: Teach and reinforce grammar structures in a systematic and progressive manner. Provide clear explanations, examples, and practice exercises to ensure students understand and can apply the grammar rules correctly. 5.Authentic Materials: Include authentic texts, such as articles, newspaper clippings, songs, and videos, to expose students to real-world language usage. This helps develop their reading and listening comprehension skills and exposes them to cultural aspects of English-speaking countries. 6.Cultural Awareness: Integrate cultural topics and discussions into the lessons to foster cultural awareness and sensitivity. Encourage students to share their own cultural backgrounds and experiences to promote understanding and appreciation of diverse perspectives. 7.Error Correction: Provide constructive feedback and error correction during speaking and writing activities. Help students identify and correct their mistakes, focusing on accuracy while encouraging fluency and self-expression. 8.Technology Integration: Utilize technology tools, such as interactive whiteboards, online resources, and language learning apps, to engage students and enhance their language learning experience. Incorporate multimedia materials for listening and speaking practice. 9.Regular Assessment: Assess students' progress regularly through quizzes, tests, and assignments. Provide timely feedback to guide their learning and address areas that need improvement. 10.Individualization: Cater to the individual needs and learning styles of students. Offer differentiated tasks and activities to ensure all learners are appropriately challenged and supported. 11.Cooperative Learning: Promote collaboration and teamwork among students through pair work, group projects, and peer feedback. This encourages active participation and a supportive learning environment. 12.Review and Revision: Schedule regular review sessions to consolidate previously learned material. Encourage students to revise and practice independently, providing resources for self-study and additional practice.
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Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	Hello! p6 <i>am/are/is, my/your</i> <i>I'm Pablo.</i> <i>My name's Judy.</i> <i>What's your name?</i> p6 This is ... <i>This is Ben.</i> <i>Nice to meet you.</i> p7
Week 2	Your world p12 <i>he/she/they, his/her</i> <i>He's from the United States.</i> <i>Her name's Karima.</i> p13 <i>They're on holiday.</i> p16 Questions <i>What's his name?</i> <i>Where's she from?</i> p13
Week 3	All about you p18 <i>am/are/is</i> <i>We're all singers.</i> p20 Negatives <i>She isn't a nurse.</i> p18 <i>I'm not from Scotland.</i> p20 <i>They aren't builders.</i> p20 Questions <i>What's her address? How old is she?</i> <i>Is she married?</i> p19 Short answers <i>Yes, she is. / No, she isn't.</i> p20
Week 4	Family and friends p24

	Possessive adjectives <i>my, your, our, their</i> p24 Possessive 's <i>Annie's husband Jim's office</i> p24 has/have <i>I have a small hotel. She has a job.</i> <i>We have three sons.</i> p27 Adjective + noun <i>a small hotel a big house a good job</i> p27 <i>apples, beer, bread, cake</i> p36 Shopping <i>newsagent's, chemist's,</i> <i>off-licence</i> p36 Can you come for dinner? <i>Would you like some more rice?</i> <i>Could you pass the salt, please?</i> <i>How would you like your coffee?</i> <i>This is delicious!</i> p37
Week 5	The way I live p32 Present Simple I/you/we/they <i>I like ice-cream. I don't like tennis.</i> <i>Do you like football?</i> p33 <i>Where do you work? Do you live in Dundee?</i> p34 <i>In Brazil they speak Portuguese.</i> p36 a and an <i>a waiter, an actor, an Italian restaurant</i> p34 Adjective + noun <i>an American car Spanish oranges</i> p37
Week 6	Every day p40 Present Simple he/she <i>He gets up at 6.00.</i> <i>He has lunch in his office.</i> p42 <i>She lives in a small house.</i> p44 Questions and negatives <i>What time does he have breakfast?</i> <i>He doesn't live in London.</i> p43 Adverbs of frequency <i>He always works late.</i> <i>He never goes out.</i> p42
Week 7	Mid-term Exam
Week 8	My favourites p48 Question words <i>who, where, why, how</i> p48 Pronouns Subject/Object/Possessive <i>I/me/my we/us/our they/them/ their</i> p49 this and that <i>I like this wine. Who's that?</i> p50
Week 9	Where I live p56 There is/are ... <i>There's an old sofa.</i> <i>Are there any armchairs?</i> <i>There are some books.</i> p57

	Prepositions <i>in, on, under, next to</i> p58
Week 10	Times past p64 was/were born <i>When were you born?</i> <i>I was born in 1996.</i> p65 Past Simple – irregular verbs <i>went, came, saw</i> <i>She went shopping.</i> p68
Week 11	We had a great time! p72 Past Simple – regular and irregular <i>played, got, watched, did</i> p72 Questions <i>What did you do?</i> <i>Did you go out?</i> p73 Negatives <i>They didn't go to work.</i> p73 ago <i>I went to Rome ten years ago.</i> p78
Week 12	I can do that! p80 can/can't <i>He can speak French. I can't draw.</i> <i>Can she run fast?</i> p80 Adverbs <i>I can cook a little bit. I can't cook at all.</i> <i>really well, fluently</i> p82 Requests and offers <i>Can you tell me the time? Can I help you?</i> p83
Week 13	Please and thank you p88 I'd like ... <i>I'd like some ham.</i> <i>How much would you like?</i> p88 some and any <i>I'd like some cheese.</i> <i>Do you have any Emmental?</i> <i>I don't have any apple juice.</i> p89 like and would like <i>I like Coke.</i> <i>I like going to the cinema.</i> <i>I'd like to go out.</i> p91
Week 14	Here and now p96 Present Continuous <i>She's wearing a T-shirt.</i> <i>What's he doing?</i> p97 Present Simple and Present Continuous <i>He lives in London.</i> <i>They're staying in a hotel.</i> p98
Week 15	It's time to go!

	p104 Future plans <i>They're going on holiday.</i> <i>Which countries are you going to visit?</i> <i>I'm leaving on Tuesday.</i> <i>What are you doing this evening?</i> p104 Revision Question words – <i>when, where, who, how</i> p106 Tenses – present, past, and future tenses p110
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Soars, John and Liz, (2011), New Headway Plus, Special Edition, Beginner Level, Oxford University Press.	Yes
Recommended Texts	New Headway Plus provides an integrated skills course with each unit divided into grammar, vocabulary, skills work and everyday English segments	yes
Websites	Oxford University Press: The New Headway series is published by Oxford University Press. Visit their website at www.oup.com and search for "New Headway Plus, Special Edition, Beginner Level " or browse their English language teaching section for information on the course.	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Second Stage / First Semester

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<u>Invertebrate</u>		Module Delivery
Module Type	<u>Core</u>		☒ Theory ☒ Lab ☐ Seminar
Module Code	<u>BIO23013</u>		
ECTS Credits	<u>5</u>		
SWL (hr/sem)	<u>125</u>		
Module Level	2	Semester of Delivery	1
Administering Department	Department of Biology	College	College of Science
Module Leader	Dr. Harith Saeed Al-Warid	e-mail	harith.saeed@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Amjed Qais Ibrahim AlQaisi	e-mail	amjed.alqaisi@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Jabbar H. Yenzeel	e-mail	Jabbar.yenzeel@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. Study the taxonomic, anatomical and physiological characteristic features of the Invertebrates. 2. Considering the main taxonomic Phyla of invertebrates down to the lower taxonomic ranks (Class, Order), with an example for each taxonomic rank. 3. Considering the comparisons between the animal phyla in terms of structure and their impact on the environment and their importance (benefits and harms).
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the module it is expected that the student will be able to: 1- Differentiate the animals at the level of phyla 2-Recognize main exponents within the most abundant phyla (e.g. at the level of Class and Order) 3- Identify and explain major anatomical and physiological characteristics 4-Understand the disparity of models underpinning phylogeny of invertebrates 5-Describe particular aspects of a unique group of animals 6-Know the multiplicity of interactions between invertebrates and other organisms 7-Be up to date with day to day discoveries on evolution, physiology, genetics and behavior of invertebrates.
Indicative Contents المحتويات الإرشادية	The vast majority of animals are invertebrates - they do not have backbones. This module provides an overview of the major invertebrate groups, highlighting the variety of body types while illuminating how basic functional needs like nutrition, reproduction, respiration, and excretion are done. The module begins with the most basic animals, such as protozoa, sponges and jellyfish, and explores the possibility that these early creatures descended from earlier. The description of the many worm groups, as well as the molluscs and arthropods. The echinoderms, which are near invertebrate relatives of vertebrate creatures like us, were the last significant group to be covered. The economic, social, and scientific impact that invertebrates have on human society is identified. The evolutionary relations between the various groups is the common thread that binds this diversity into a coherent story. A series of practical exercises reinforces and complements the lecture component of this module.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Using presentation lecture (discussion, survey, brainstorming). Support by showing pictures and showing some videos the movement and feeding of some invertebrates Give the student an opportunity to search for similar materials and discuss them in the next lesson.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعاً

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	6 ^٣	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	6 ^٢	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	١25		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	٥	10%	٣,5,8, 11,14	LO1-LO4
	Assignments	2	10%	9 and 12	LO4-LO6
	Report	1	10%	13	LO7
	Projects/Lab	10	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO1-LO3
	Final Exam	٣ hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction, Classification, Taxonomical categories and importance of invertebrates
Week 2	Phylum Protozoa - Structure and physiology - Type of nutrition - Digestion and excretion - Respiration - Locomotion - Reproduction Classification - Class Sarcodina (Amoeba , Globigerina) - Class Flagellata (Euglena, Opalina, Paramecium, Ephelota)
Week 3	Phylum Porifera - Main characters - Types of sponges - Classification Structure and physiology Phylum Porifera - Main characters - Types of sponges - Classification

Week 4	Phylum: Cnidaria - Main characters - Classification - a- Class Hydrozoa (<i>Hydra</i>, <i>Obelia</i>) - b- Class Scyphozoa (<i>Aurelia</i>) - c- Class Anthozoa
Week 5	Phylum: Platyhelminthes Phylum platyhelminthes - Main characters - Classification - a- Class Turbellaria (<i>Planaria</i>)
Week 6	Phylum Annelida - Main characters - Classification - a- Class Polychaeta (<i>Nereis</i>) - b- Class Oligochaeta (<i>Lumbricus</i>) - c- Class Hirudinea (<i>Hirudo medicinalis</i>)
Week 7	Mid-Term Exam
Week 8	Phylum Arthropoda - Main characters - Classification - Subphylum Onchophora(<i>Peripatus</i>)
Week 9	Phylum: Arthropoda - a- Subphylum Mandibulata(<i>Cambarus</i>) - Class: Chilopoda(<i>Scolopendra</i>)
Week 10	Phylum: Arthropoda - Class:Diplopoda(<i>Julus</i>) - a- Subphylum Chelicerata - Class:Arachnida(<i>Buthus</i>,<i>Argiope</i>)
Week 11	Phylum: Mollusca Phylum: Mollusca - Main characters - Classification - a- Class: Aplacophora (<i>Neomenia</i>) - b- Class: Polyplacophora (<i>Chiton</i>) - c- Class: Monoplacophora (<i>Neopilina</i>) - d- Class: Gastropoda(<i>Helix</i>) - e- Class: Scaphopoda(<i>Dentalium</i>)
Week 12	- a- Class: Pelecypoda(<i>Andonata</i>) - b- Class: Cephalopoda (<i>Sepia</i>, <i>Octopus</i>, <i>Nautilus</i>) - Economic importance of Mollusca
Week 13	

	Phylum Echinodermata - Main characters - Classification - a- Class: Asteroidea (<i>Asterias</i>) - b- Class: Ophiuroidea (<i>Ophiothrix</i>)
Week 14	- c- Class: Echinoidea (<i>Echinus</i>) - d- Class: Holothuroidea (<i>Holothuria</i>) - e- Class: Crinoidea (<i>Antedon</i>)
Week 15	Seminar
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction, Invertebrate Taxonomy and binomial nomenclature
Week 2	Phylum: Protozoa Class: Flagellata 1- Order Cryptomonadina (<i>Chilomonas</i>) 2- Order Phytomonadina (<i>Volvox</i>) 3- Order: Euglenoidin (<i>Euglena</i>) + (<i>Astasia</i>) 4- Order: Dinoflagellata (<i>Ceratium</i>) + (<i>Noctiluca</i>) Class Sarcodina 1- Order: Amoebozoa (<i>Amoeba</i>) + (<i>Pelomyxa</i>) 2- Order: Testacea (<i>Arcella</i>) 3- Order: Foraminifera (<i>Globigerina</i>) 4- Order: Heliozoa (<i>Actinosphaerium</i>) 5- Order: Radiolaria, different shells of Radiolaria
Week 3	Phylum: Protozoa Class: Ciliata Order: Holotricha (<i>Paramecium</i> , <i>Didinium</i> , <i>Tetrahymena</i>) Order: Spirotricha (<i>Stentor</i> , <i>Stylonychia</i>) Order: Peritricha (<i>Vorticella</i>) Order: Suctorina (<i>Ephelota</i>)
Week 4	Phylum: Porifera Body type 1- Class: Calcarea - Order: Homocoela – <i>Leucosolenia</i> - Order: Heterocoela- <i>Grantia</i>

	2- Class: Hexactinellidae <i>Euplectlla</i> spicules 3- Class: Demospongia -Order: Monaxonida – <i>Spongilla, Ephydatia, Chalina</i> -Order: Keratosa – <i>Euspongia</i>
Week 5	Phylum: Cnidaria Class: Hydrozoa Order: Calyptoblastea Order: Gymnoblaster Order: Hydrida Order: Hydrocorallina Order: Trachylina Order: Siphonophora
Week 6	Phylum: Cnidaria Class: Scyphozoa Order: Semaestomeae (<i>Aurelia</i>) Class: Anthozoa Order: Alcyonaria Order: Zonotharia
Week 7	Mid-Term Exam
Week 8	Phylum: Platyhelminthes Class: Turbellaria Super-Phylum: Aschelminthes Phylum: Rotifera Phylum: Nematoda
Week 9	Phylum: Annelida - Class: Polychaeta - Class: Oligochaeta - Class: Hirudinea
Week 10	Phylum: Arthropoda
Week 11	Phylum: Mollusca Phylum: Mollusca 1-class: Polyplacophora Ex: Chitons 2- class: Gastropoda Order: Pulmonata Ex: <i>Helix</i> 3- class: Scaphopoda Ex: <i>Dentalium</i> 4- class: Lamellibranchiata

	Order: Eulamellibranchiata Ex: <i>Anodonta</i> 5- class: Cephalopoda Order: Dibranchiata Ex: <i>Octopus</i> , <i>Sepia</i> Order: Tetrabranchiata Ex: <i>Nautilus</i>
Week 12	Phylum Echinodermata 1- Class: Asteroidea Order: Forcipulata Ex: <i>Asterius</i> 2- Class: Ophiuroidea Order: Ophiuræ Ex: <i>Ophiura</i> 3- Class: Echinoidea Order: Camarodonta Ex: <i>Echinus</i> 4- Class: Holothuroidea Order: Aspidochirota Ex: <i>Holothuria</i> 5- Class: Crinoidea Ex: <i>Antedon</i>
Week 13	seminar
Week 14	seminar
Week 15	seminar

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Verma, P. S. <i>Invertebrate Zoology (Multicolour Edition)</i> . S. Chand Publishing, 2001.	no
Recommended Texts	Moore, Janet. <i>An introduction to the invertebrates</i> . Cambridge University Press, 2001. Brusca, Richard C., and Gary J. Brusca. <i>Invertebrates</i> . No. Ed. 2. Sinauer Associates Incorporated, 2002.	no
Websites	https://www.northwestinvertebrates.org.uk/taxon-group-overviews/ https://lanwebs.lander.edu/faculty/rsfox/invertebrates/	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded

(0 – 49)	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Entomology			Module Delivery	
Module Type	Core			☒ Lecture ☒ Lab ☐ Seminar	
Module Code	BIO23014				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	2		Semester of Delivery	1	
Administering Department	Department of Biology		College	College of Science	
Module Leader	Prof. Dr. Hayder Badri Ali		e-mail	hayder.badri@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.	
Module Tutor	Asst. prof. Dr. May Ibrahim Younis		e-mail	may.ibraheem@sc.uobaghdad.edu.iq	
Peer Reviewer Name	Dr. Jabbar H. Yenzeel		e-mail	jabbar.yenzeel@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	14/6/2023		Version Number	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
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Co-requisites module	None	Semester	
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Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	Study of the class of Insecta, in general and their Morphology, Anatomy Developments and life histories of insects Relationships and their habits and habitats
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Definition of the taxonomic position of insects 2- Acquire the skill of collecting and preserving insects 3- Introducing the general characteristics of the insect class 4 - Identify the phenotypic characteristics of insects 5- Familiarity with the types of insect body appendages 6- Familiarity with the internal anatomy and various body systems of insects 7 - Identify the taxonomic structure of the insect class.
Indicative Contents المحتويات الإرشادية	1. Including the scientific names of insects, species descriptions and overviews, taxonomic orders, and classifications of evolutionary and insects' histories 2. Studying the diversity of organisms and the differentiation between extinct and living creatures. Biologists study the well-understood relationships between them 3. Explaining the biodiversity of the insect's orders. The systematic study is that of conservation

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Preparation of PowerPoint lectures and the use of the presentation screen, using charts of the most prominent information from modern sources
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
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Formative assessment	Quizzes	5	10% (10)	2,4,6,8,10	L1, L2, L3, L5, L6
	Assignments	1	10% (10)	8	L2 – L6
	Project	1	10% (10)	15	L7
	lab	5	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2 hrs.	10% (10)	7	L1-L5
	Final Exam	٣ hrs.	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction in Entomology
Week 2	Basic Insect Morphology / Head, Mouthparts types
Week 3	Head appendage / Antennae
Week 4	Thorax / Thorax appendages / Insect legs / Insect wings
Week 5	Thorax/ Insect wings
Week 6	Insect Abdomen/ Abdomen Appendages
Week 7	Mid Exam
Week 8	Integument (the body wall) and Internal anatomy /Digestive system
Week 9	Internal anatomy: Respiratory system
Week 10	Internal anatomy: Respiratory system
Week 11	Internal anatomy: Nervous system
Week 12	Internal anatomy: Nervous system
Week 13	Internal anatomy: Circulatory system
Week 14	Internal anatomy: Circulatory system and Reproductive system
Week 15	Internal anatomy: Reproductive system
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introductory remarks (Definition of the insect relationships with other Arthropods) Insects Techniques
Week 2	The body parts (head, Antennae (American cockroaches)
Week 3	Antennae, mouth parts) (American cockroaches)
Week 4	(American cockroaches) (thorax, abdomen, sex differentiation)

Week 5	Locust (thorax, abdomen, sex differentiation)
Week 6	American cockroaches (Thorax appendages (legs and wings)
Week 7	Mid Exam.
Week 8	Internal Anatomy: Respiratory and circulatory system, Alimentary canal, digestive glands (American cockroaches)
Week 9	Internal Anatomy: Reproductive system (American cockroaches)
Week 10	Internal Anatomy: nervous system (American cockroaches)
Week 11	Types of mouth parts
Week 12	Types of Antenna
Week 13	Type of the Legs
Week 14	Types of wings, wings venation and wing –coupling apparatus
Week 15	Development and metamorphosis, embryology, development
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Imms outlines of entomology , O.W Richards and R. G. Davies, chapman and hall , 1978	
Recommended Texts	- Principle of insect morphology, E.J. Boell , R. E. Snodgrass 1935 new york and london - The insects structure and function.	
Websites	https://www.jstor.org/stable/10.7591/j.ctv1nhm1j.3 https://doi.org/10.4039/Ent67183-8	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Ecology			Module Delivery	
Module Type	Core			☒ Theory ☒ Lab ☐ Seminar	
Module Code	BIO2301٦				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	2		Semester of Delivery	1	
Administering Department	Department of Biology		College	College of Science	
Module Leader	Dr. Ithar Kamil Abbas		e-mail	Ithar.Kamil@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.	
Module Tutor	Dr. Hind Suhail		e-mail	Hind.suhail@sc.uobaghdad.edu.iq	
Peer Reviewer Name	Dr. Adel M. Rabee		e-mail	adel.mashaan@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	14/6/2023		Version Number	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1.Introducing students to the concept of ecology. 2.Ecology and its relationship with other sciences. 3.Explanation and description of variation patterns of environment and the divisions of Ecological systems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1.The student learns the living and non-living components of an ecosystem ٢. The student gets to know the principles of limiting factors and their influence on the distribution and abundance of living organisms 3.The student acquires ecological scientific knowledge (by studying the effect of biotic and abiotic factors, population size, population growth, the formation of groups of living organisms, and the change of population characteristics over time). 4. The student acquires sufficient knowledge about the structure of the living communities of living organisms 5. The student learns biogeochemical cycles and its importance in nutrient and energy cycling in the ecosystem 6. The student acquires sufficient knowledge about some kinds of ecosystems 7. Developing theoretical and scientific ecological skills for the purpose of conducting ecological research (in environmental disciplines).
Indicative Contents المحتويات الإرشادية	1. Ecological systems and what they are (types, description and relationships) 2.the correlated sciences with Ecology such as chemical ecology, radiation ecology and applied ecology and their relationships, effects with environmental pollution and its danger to human later. 3.patterns of population groups distribution and their type of distribution in environment (random , regular...etc) , their density (with all the types of it)..etc.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	-Ecology is the link to several sciences such as genetics, behavior, physiology and atmospheric science, all of which are useful in how to control the balance and health of the ecosystem. -learning how the ecosystems keep their hemostasis by the relationships and communication through the biogeochemical cycles from hand and the association among the living organism with each other from another hand.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	6 ^٣	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	6 ^٢	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	١25		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	٥	10% (10)	2,5, 7,11,13	LO1-LO7
	Assignments	2	10% (10)	4 and 12	LO4-LO6
	Report	1	10% (10)	12	LO7
	Projects/Lab	5	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO1-LO3
	Final Exam	٣ hr	50% (50)	1-15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to ecology and ecosystem.
Week 2	Ecosystem structure: Abiotic environment factors
Week 3	The physical factors as limiting factors.
Week 4	Temperature and light, biological clocks
Week 5	Water, Atmospheric gases, currents and pressure.
Week 6	Biotic components of ecosystems
Week 7	Mid-Term exam
Week 8	Population growth models
Week 9	Concept of ecological dominance.
Week 10	Ecosystem function-energy flow through ecosystem
Week 11	Productivity of ecosystem
Week 12	Biogeochemical cycles
Week 13	Sedimentary cycles
Week 14	Ecosystem diversity
Week 15	Lotic and lentic communities.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Principles of biosafety in laboratories
Week 2	Introduction to practical ecology

Week 3	Relative humidity measurement
Week 4	Atmospheric pressure measurement
Week 5	Instruments and devices used for different purposes -1
Week 6	Instruments and devices used for different purposes -2
Week 7	Mid-Term Exam
Week 8	Turbidity and nephelometer
Week 9	Sampling in ecology
Week 10	Animal populations sampling
Week 11	Soil sampling and textures
Week 12	Measurement of productivity -1
Week 13	Measurement of productivity -2
Week 14	Solar soil sterilization
Week 15	Free lecture for discussion
Week 16	Preparation work before the final examination

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	<u>Fundamentals of Ecology –Odum</u>	yes
Recommended Texts	Ecology and pollution –Dr.Hussain Ali Al-Saadi	yes
Websites	https://www.amazon.com/Fundamentals-Ecology-Eugene-Odum/dp/0534420664	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
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	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	Ecology			Module Delivery	
Module Type	Core			☒ Theory ☒ Lab ☐ Seminar	
Module Code	BIO2301٦				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	2		Semester of Delivery	1	
Administering Department	Department of Biology		College	College of Science	
Module Leader	Dr. Ithar Kamil Abbas		e-mail	Ithar.Kamil@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.	
Module Tutor	Dr. Hind Suhail		e-mail	Hind.suhail@sc.uobaghdad.edu.iq	
Peer Reviewer Name	Dr. Adel M. Rabee		e-mail	adel.mashaan@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	14/6/2023		Version Number	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1.Introducing students to the concept of ecology. 2.Ecology and its relationship with other sciences. 3.Explanation and description of variation patterns of environment and the divisions of Ecological systems.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	-Ecology is the link to several sciences such as genetics, behavior, physiology and atmospheric science, all of which are useful in how to control the balance and health of the ecosystem. -learning how the ecosystems keep their hemostasis by the relationships and communication through the biogeochemical cycles from hand and the association among the living organism with each other from another hand.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	6 ^٣	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	6 ^٢	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	١25		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	٥	10% (10)	2,5, 7,11,13	LO1-LO7
	Assignments	2	10% (10)	4 and 12	LO4-LO6
	Report	1	10% (10)	12	LO7
	Projects/Lab	5	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO1-LO3
	Final Exam	٣ hr	50% (50)	1-15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to ecology and ecosystem.
Week 2	Ecosystem structure: Abiotic environment factors
Week 3	The physical factors as limiting factors.
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Week 5	Water, Atmospheric gases, currents and pressure.
Week 6	Biotic components of ecosystems
Week 7	Mid-Term exam
Week 8	Population growth models
Week 9	Concept of ecological dominance.
Week 10	Ecosystem function-energy flow through ecosystem
Week 11	Productivity of ecosystem
Week 12	Biogeochemical cycles
Week 13	Sedimentary cycles
Week 14	Ecosystem diversity
Week 15	Lotic and lentic communities.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Principles of biosafety in laboratories
Week 2	Introduction to practical ecology

Week 3	Relative humidity measurement
Week 4	Atmospheric pressure measurement
Week 5	Instruments and devices used for different purposes -1
Week 6	Instruments and devices used for different purposes -2
Week 7	Mid-Term Exam
Week 8	Turbidity and nephelometer
Week 9	Sampling in ecology
Week 10	Animal populations sampling
Week 11	Soil sampling and textures
Week 12	Measurement of productivity -1
Week 13	Measurement of productivity -2
Week 14	Solar soil sterilization
Week 15	Free lecture for discussion
Week 16	Preparation work before the final examination

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	<u>Fundamentals of Ecology –Odum</u>	Yes
Recommended Texts	Ecology and pollution –Dr.Hussain Ali Al-Saadi	Yes
Websites	https://www.amazon.com/Fundamentals-Ecology-Eugene-Odum/dp/0534420664	

Grading Scheme

مخطط الدرجات

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	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	<u>Mycology</u>			Module Delivery	
Module Type	<u>Core</u>			☒ Lecture ☒ Lab	
Module Code	<u>BIO23018</u>				
ECTS Credits	<u>4</u>				
SWL (hr/sem)	<u>100</u>				
Module Level	2		Semester of Delivery	1	
Administering Department	Department of Biology		College	College of Science	
Module Leader	Rusol Mohammed Jasim		e-mail	Rusol.Jasim@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.	
Module Tutor	Asst. Prof. Dr. Alaa Mohsin Yaseen Al-Araji		e-mail	alaraji.alaa@sc.uobaghdad.edu.iq	
Peer Reviewer Name	Dr. Israa Abdul Razzaq Aldobaissi		e-mail	israa.aldobaissi@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	14/6/2023		Version Number	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. Providing a broad understanding of fungi, emphasizing the most important species of pathogenic fungus for plants and humans. 2. Defining the student how to classify and diagnose fungi. 3. Explain the fungi's life cycle. 4. Studying its epidemiology and different control methods. 5. Studying some pathogenic fungi for humans, symptoms, causes, and treatment of infection.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	6. Knowledge of the basics of fungi, especially those that are pathogenic to plants and humans, and methods of diagnosis. 7. Understanding the pathogenicity mechanisms and how they occur. 8. Learning methods of combating fungi that cause plant diseases in Iraq to avoid crop losses and prevention methods. 9. Learn to grow fungi on culture media in the laboratory, deal with them, and diagnose fungi morphologically. 10. Learning to diagnose disease symptoms resulting from infection with fungi, whether of plants, humans, or animals and the ways to prevent infection with fungus and ways to treat it
Indicative Contents المحتويات الإرشادية	The module will begin with a brief introduction outlining the module's goals, content, evaluation criteria, and learning outcomes. The module material is divided into themes, offering the key pathways driving pathogenesis. In this context, we will also examine how such knowledge might help diagnose fungi, pathogens, prevention, and treatment. Laboratory sessions of a 2-hour duration will give active practice in various fungal methodologies in tandem with lecture topics.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	This module's contact teaching will be conducted through lecturing (15 lectures) and compulsory 15 practical sessions, which include learning videos and scientific animations. Students will be invited to participate in interactive discussions throughout this program.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	6 ^٣	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem)	3 ^٧	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.5

الحمل الدراسي غير المنتظم للطالب خلال الفصل		
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100	

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	3,6,9,11,13	LO1-LO5
	Assignments	2	10% (10)	8 and 12	LO4-LO5
	Report	2	10% (10)	6 and 10	LO3-LO5
	Projects/Lab	10	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO1-LO3
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Defining fungi, their benefits, and harms
Week 2	Fungal reproduction, methods of feeding them, and culture media for fungi
Week 3	Classification of fungi: Division 1: Myxomycota.
Week 4	Division 2: Eumycota; Sub-division 1:- Mastigomycotina: Class 1: Chytridiomycetes; Class 2: Hypochytridiomycetes
Week 5	Class 3: Oomycetes:
Week 6	Sub-division 2: Zygomycotina:- Class 1: Zygomycetes
Week 7	Mid-Term Exam
Week 8	Sub-division 3: Ascomycotina: - Class 1: Hemiascomycetes;
Week 9	Class 2: Plectomycetes; Class 3: Pyrenomycetes:-
Week 10	Class 4: Discomycetes; Class 5: Loculoascomycetes
Week 11	Sub-division 4: Basidiomycotina:- Class 1: Teliomycetes:
Week 12	Class 2: Hymenomycetes; Class 3: Gasteromycetes:
Week 13	Sub-division 5: Deutromycotina:- Class 1: Hyphomycetes; Class 2: Coelomycetes
Week 14	Medical mycology: Fungal Pathogenicity; Clinical groupings for fungal infections
Week 15	Diagnosis of Systemic Mycoses
Week 16	Preparatory week before the Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to fungi and their morphology
Week 2	Preparation of PDA; Fungi Isolation Methods
Week 3	Division 1: Myxomycota 1. Class: Myxomycetes 1) Sub-class: Ceratiomyxomycetidae:- Order: Ceratiomyxales:- ex : <i>Ceratiomyxa</i> 2) Sub-class : Myxogastromycetidae:- Order: Liceales;- ex: <i>Lycogala</i> ; Order: Trichiales:- ex: <i>Arcyria</i>, ex : <i>Hemitrichia</i> Order: Stemonitales:- ex: <i>Stemonitis</i>, ex : <i>Diachea</i> Order: Physarales:- ex: <i>Physarum</i>, ex : <i>Didymium</i> 2. Class: Plasmodiophoromycetes:- Order: Plasmodiophorales 1. ex: <i>Plasmodiophora brassicae</i> ➤ (Causes: Club-root disease in <i>Cruciferae</i>) ➤ C.S. in host tissue showing resting spores and plasmodium. 2. ex: <i>Spongospora subterranea</i> ➤ (Causes: powder scab of potato) ➤ C.S. in host tissue showing spore balls.
Week 4	Division 2: Eumycota Subdivision 1: Mastigomycotina 1. Class: Chytridiomycetes:- Order: Chytridiales:- Family : Synchytriaceae Ex: <i>Synchytrium endobioticum</i> ➤ (Cause black wart disease on potato tubers) ➤ We see sorus, prosorus, germinating prosours, resting spores Order: Blastocladales:- Ex: Allomyces ➤ Sporothallus (zoosporangium, resting sporangium) ➤ Gametothallus (male and female gametangium)
Week 5	2. Class: Oomycetes: - Order: Saprolegniales:- Family : Saprolegniaceae Ex: <i>Saprolegnia parasitica</i> (Water mold). ➤ We see: (Asexual reproduction): sporangium, gemmae bodies, internal proliferation ➤ (Sexual reproduction): oogonium, antheridium. Order: Peronosporales: - Family 1: Pythiaceae Ex: <i>Phytophthora infestans</i> ➤ (Cause: the late blight of potato and tomato) ➤ We see: lemon shape sporangium and sporangiophore Ex: <i>Pythium debaryanum</i> ➤ (Cause: damping off seedlings) ➤ We see Sporangium, oogonium, oosphere, and oospore. Family 2: Peronosporaceae:- Ex: <i>Peronospora spp.</i> (Cause: downy mildew on radish) Ex: <i>Plasmopara viticola</i> (Cause: downy mildew on grape) Ex: <i>Bremia lattucaae</i> (Cause: downy mildew on lettuce) ➤ We see sporangium and sporangiophore. Family 3: Albuginaceae:- Ex: <i>Albugo candida</i> (Cause: white rust on Crucifers) ➤ We see Conidia, conidiophore, oogonium, and antheridium.
Week 6	Sub-division 2: Zygomycotina:- Class 1: Zygomycetes Order 1: Mucorales Ex: <i>Rhizopus spp</i> (Bread mold) ➤ We see: Sporangium, Rhizoid, stolon, sexual reproduction, Zygosporangium, (young & mature) Ex: <i>Mucor spp</i> ➤ We see: Sporangium, sexual reproduction,, Zygosporangium, (young & mature) Order 2: Entomophthorales Ex: <i>Entomophthora muscae</i> ➤ We see Conidia and conidiophore.
Week 7	Mid-Term exam

Week 8	Sub-division 3: Ascomycotina Fruiting bodies 1. naked asci <i>Taphrina deformans</i> 2. Cleistothecium <i>Aspergillus sp.</i> 3. Perithecium <i>Claviceps</i> 4. Apothecium <i>Sclerotinia</i> 5. Ascostroma (Pseudothecium) <i>Venturia</i> Class 1: Hemiascomycetes (naked asci) Order 1: Endomycetales:- Family 1: Endomycetaceae Ex: <i>Schizosaccharomyces octosporus</i> ➤ We see ascus (8) ascospores & asexual rep. (fission cell) Family 2: Saccharomycetaceae Ex: <i>Saccharomyces cerevisiae</i> ➤ We see Budding, ascus (4) ascospores. Order 2: Taphrinales Ex: <i>Taphrina deformans</i> (causes: Peach Leaf curl disease) We see ascus with ascospores.
Week 9	Subdivision 3: Ascomycotina:- Class 2 : Plectomycetes Order 1: Eurotiales:- Family: Eurotiaceae Ex: <i>Aspergillus</i> We see sexual rep. (cleistothecium ascocarp) & asexual rep. Ex: <i>Penicillium</i> We see asexual rep. Order 2: Erysiphales Ex: <i>Erysiphe</i> We see Cleistothecium with many asci and myceloid appendages Ex: <i>Sphaerotheca</i> We see Cleistothecium with one ascus and myceloid appendages Ex: <i>Microsphaera</i> We see Cleistothecium with many asci and Dichotomous appendages Ex: <i>Podosphaera</i> We see Cleistothecium with one ascus and Dichotomous appendages Ex: <i>Uncinulla</i> We see Cleistothecium with many asci and Hook-shaped appendages Ex: <i>Phyllactinia</i> We see Cleistothecium with many asci and Bulbous appendages Class 3: Pyrenomycetes:- Order1: Hypocreales Family 1: Claviceptaceae Ex: <i>Claviceps purpurea</i>
Week 10	Class 4: Discomycetes:- A. Epigean inoperculate discomycetes Order: Helotiales:- Family: Sclerotinaceae Ex: <i>Sclerotinia (Monilinia) fructicola</i> causes the brown rot of peach and other stone fruits. We see the conidial stage, Apothecium, mummified fruit Order: Phacidiales:- Family: Phacidiaceae Ex: <i>Rhytisma acerinum</i> causes Tar spot of maple; We see Apothecium + Tar like stroma Order: Lecanorales (Lichen) Ex: <i>Xanthoria</i> ; We see ascus + ascospore, fungal hyphae B. Epigean operculate discomycetes: Ordre 2: Pezizales:- Family 1 : Pezizaceae: Ex: <i>Peziza spp.</i>; We see external feature, Apothecium , operculate asci Family 2: - Morchellaceae Ex: <i>Morchella</i>; We see external feature, Apothecium Group 2: Hypogean: which is present under the surface of soil. Order 3: Tuberales Ex: Terfezia; We see external feature , ascus + ascospore Class 5: Loculoascomycetes:- Order: Pleosporales:- Family: Venturiaceae Ex: <i>Venturia inaequalis</i>; We see Ascostroma, conidial stage
Week 11	Sub-division 4: Basidiomycotina Class 1: Teliomycetes :- Order 1 : Termellales Ex: <i>Auricularia</i> Order 2: Uridinales (Rust fungi):- Family 1: Puccinaceae Ex: <i>Puccinia graminis</i> causes Rust on graminia We see Uridial stage (2); Telial stage (3); Promycelium (4); Spermgaoia (0); Aecial stage (1).

	Ex: <i>Gymnosporangium</i> causes Rust on Juniper We see Aecial and Telial stages and infected plant Ex: <i>Phragmidium</i> causes Rust on Rose; We see the Telial stage and infected plant Ex: <i>Uromyces fabae</i> causes Rust on <i>Vicia fabae</i>; We see Telial stage and infected plant Family 2: Melampsoraceae Ex: <i>Melampsora</i> causes Rust on Euphorbia; We see infected plant Order 3: Ustilaginals (Sumt fungi):- Family 1: Ustilaginaceae Ex: <i>Ustilago hordei</i> causes Covered Smut of Barley; We see Teliospores and infected plant Ex: <i>Ustilago nuda</i> causes Loose Smut of Wheat; We see Teliospores and infected plant Family 2: Tilletiaceae Ex: <i>Tilletia foetida</i> and <i>Tilletia caries</i> cause Bunt Smut of Wheat. We see Teliospores and infected plants. Ex: <i>Urocystis agropyri</i> and <i>Urocystis cepulae</i> cause Flag Smut of Wheat We see Teliospores and infected plants.
Week 12	Class 2: Hymenomycetes:- Order 1: Agaricales:- Family1: Agaricaceae Ex: <i>Agaricus bisporus</i>; we see external feature (White color) Ex: <i>Agaricus campestris</i> we see an external feature (Brown color) Ex: <i>Agaricus xanthodermus</i> (Yellow staining fungus) Ex: <i>Inocybe</i> (Red staining fungus); Ex: <i>Coprinus</i> (Black liquid like ink) Ex: <i>Amanita muscaria</i> Its scales are red in color and called fly fungus Order 2: Polyporales:- Family1: Polyporaceae Ex: <i>Polyporus</i> (Pore fungi) we see external feature Family 2: Clavariaceae Ex: <i>Clavaria</i> (Coral fungi) we see an external feature. Family 3: Telephoraceae Ex: <i>Sternum</i> (Shelf fungi) We see an external feature. Family 4: Hydnnaceae Ex: <i>Hydnum</i> (Tooth fungi) We see an external feature. Class 3: Gasteromycetes:- Order 1: Lycoperdales Family1: Lycoperdaceae Ex: <i>Lycoperdon</i> (Puff ball) Family2: Gasteraceae Ex: <i>Gasterum</i> (Earth star) Order 2: Nidulariales Ex: <i>Cyathus</i> (Bird's nest) Order 3: Hymenogasterales Ex: <i>Podaxis</i>
Week 13	Subdivision 5: Deutromycotina:- Class 1 : Hyphomycetes:- Order 1: Moniliales Family 1: Moniliaceae:- Ex: <i>Candida albicans</i> (cause Candidiasis of skin and nail) We see budding, Blstospore , Chlamydospore Ex: <i>Botrytis fabae</i> cause a chocolate spot of bean. We see septate mycelium, conidia Family 2: Dematiaceae Ex: <i>Alternaria solani</i> cause Early blight of tomato; We see conidia Ex: <i>Helmenthosporium</i> cause Leaf blotch of gramine; We see conidiophore, conidia Ex: <i>Cladosporium</i> cause Leaf Spot of Spinach; We see septate mycelium, conidia (small one cell, two cells) Family 3: Tuberculariaceae Ex: <i>Fusarium oxysporum</i> (Fusarium wilt); We see types of conidia (macroconidia and microconidia) Order 2: Myceliasterial (Agonomycetales)

	Ex: <i>Rhizoctonia solani</i> (cause Damping off disease) We see mycelium without conidia Class 2: Coelomycetes: - Order 1: Sphaeropsidales:- Family: Sphaeropsidaceae Ex: <i>Septoria apii</i> (cause late blight disease on celery) we see conidiophores arise inside pycnidia Order 2: Melanconiales:- Family: Melanconiaceae Ex: <i>Colletotrichum lindemuthianum</i> (cause Anthracnose of beans) We see conidiophores arise inside acervulus
Week 14	A. <i>SKIN MYCOLOGY</i> 1. The Superficial Mycoses Ex: <i>Malassezia furfur</i> cause Pityriasis (tinea) versicolor 2. The Cutaneous Mycoses:- Dermatophyte Species:- Ex: <i>Trichophyton spp.</i> ; ex: <i>Microsporum spp.</i> 3. The Subcutaneous Mycoses: Ex: <i>Sporothrix schenckii</i> cause Sporotrichosis Ex: <i>Actinomyces</i> spp. cause Mycetoma B. <i>INFECTIOUS DISEASE MYCOLOGY</i> 1. Dimorphic Systemic Mycoses: - Ex: <i>Histoplasma capsulatum</i> cause Histoplasmosis 2. Opportunistic Systemic Mycoses: - Ex: <i>Candida</i> and <i>Cryptococcus</i>
Week 15	Diagnosis of Systemic Mycoses Laboratory Specimen Processing Ex: - <i>Candida spp.</i>; Ex: - <i>Cryptococcus spp.</i>; Ex: - <i>Rhizopus spp.</i> ; Ex: - <i>Aspergillus spp.</i>
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Webster, J. and Weber, R. (2007). Introduction to fungi. 3 rd . ed. Cambridge.	
Recommended Texts	<u>Alexopoulos, J.; Mims, C. W. and Blackwell, M. M. (1996). Introductory Mycology. 4th ed. John Wiley. New York.</u>	
Websites	1. Mycology journal (https://www.tandfonline.com/toc/tmyc/current) 2. https://drfungus.org/	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<u>Plant anatomy</u>		Module Delivery
Module Type	<u>Core</u>		☒ Lecture ☒ Lab ☐ Seminar
Module Code	<u>BIO2311^v</u>		
ECTS Credits	<u>4</u>		
SWL (hr/sem)	<u>100</u>		
Module Level	2	Semester of Delivery	1
Administering Department	Department of Biology	College	College of Science
Module Leader	Dr. Nemat Jameel Al-Judy	e-mail	nemataljudy@gmail.com
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Sukeyna Abaas Aliwy	e-mail	Sukeyna.abaas@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Israa Abdul Razzaq Aldobaissi	e-mail	Israa.aldobaissi@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. recognize the plant cell wall and its pits. 2- recognize the properties of living and non living cell component. 3- identifying the properties of each tissues in different plant body. 4- recognize the difference between monocot and diocot plant sections.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- experience in recognizing the properties of plant cell wall and its living and nonliving component. 2- experience in identification of different ground and dermal tissues. 3- experience in recognizing the propertied in vascular tissues. 4- experience in identification the plant group according to the properties of different tissues.
Indicative Contents المحتويات الإرشادية	The plant anatomy module is designed to recognize the plant cell wall and its pits, the properties of living and non living cell component as well as the properties of each tissues in different plant body, in addition to identify the difference between Monocotyledonand Dicotyledon plant sections. and these aims increase the student skill in recognizing the properties and difference in these tissue betweendifferent plants in addition to identification the plant group according to the properties of different tissues.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The plant anatomy strategies is aimed to identified the internal structure of plant body by using different theoretical and laboratory skills to create student knowledge can be used in different scientific specialties and researches.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4,5	Lo 1
	Assignments	2	10% (10)	10 th , 11 th	Lo 2
	Projects / Lab.	5	10% (10)	continuous	All
	Report	2	10% (10)	14, 15	All

Summative assessment	Midterm Exam	2 hr.	10% (10)	7	Lo 1, 2
	Final Exam	3hr.	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Plant cell wall
Week 2	pits
Week 3	Cell living and non living content
Week 4	Reviewing and quiz
Week 5	Meristematic tissue
Week 6	Epidermal tissue
Week 7	Mid. exam
Week 8	Parenchyma tissue and collenchyma tissue
Week 9	Sclerenchyma tissue
Week 10	Xylem tissue Assignment
Week 11	Phloem tissue
Week 12	Secondary growth report1
Week 13	Dicot stem
Week 14	Monocot stemreport2
Week 15	Preparatory week before the final Exam
Week 16	final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Plant cell wall and intercellular space
Week 2	PitsProject 1
Week 3	Cell living content and non livingcontentProject 2
Week 4	Meristematic tissueProject 3
Week 5	Reviewing & quiz
Week 6	Epidermal tissue
Week 7	Mid 1
Week 8	Parenchyma tissue and collenchyma tissue
Week 9	Sclerenchyma tissue

Week 10	Xylem tissueProject 4
Week 11	Assignment
Week 12	Phloem tissue
Week 13	Secondary growthProject 5
Week 14	Dicot stem and Monocot stemReport 1
Week 15	Report 2 and Preparatory week before the final Exam
Week 16	final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- كتاب التشريح العام – Plant anatomy 2ed - كتاب التشريح العملي	yes
Recommended Texts	- Ash, 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 2end ed. Pergamon press, New York. USA	Some of them
Websites	Research gate Google scholar Academia	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings

	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
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	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Remote Sensing and GIS	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title	<u>Baath Regime Crimes in Iraq</u> <u>جرائم نظام البعث في العراق</u>			Module Delivery	
Module Type	<u>Support</u>			☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	<u>UOB105</u>				
ECTS Credits	<u>2</u>				
SWL (hr/sem)	<u>50</u>				
Module Level		٢	Semester of Delivery		١
Administering Department		Department of Biology	College	College of Science	
Module Leader	Dr. Mohanad Ahmed Yaseen		e-mail	mohannad.ahmed@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title		Lecturer	Module Leader's Qualification		Ph.D.
Module Tutor	Dr. Mohanad Ahmed Yaseen		e-mail	mohannad.ahmed@sc.uobaghdad.edu.iq	
Peer Reviewer Name		Dr. Farah Diea Hussain Mubarak	e-mail	E-mail Farah@copolicy.uobaghdad	
Scientific Committee Approval Date		13/09/2023	Version Number		1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1- أن الأجيال الحالية لم تعيش فترة الدكتاتورية والكثير منهم لا يعرف معاناة الشعب والجرائم التي ارتكبها النظام المقتور. 2- بيان مدى سوء حكم النظام الشمولي والذي لم يقتصر فقط على داخل العراق بل على دول المجاور له 3- توعية الطلبة على الأضرار الكبيرة التي أحدثها النظام البائد والجرائم التي ارتكبها بحق الشعب العراقي. 4- أظهر الأضرار الاقتصادية والاجتماعية والتنموية التي أحدثها النظام السابق. 5- بيان مدى وحشية النظام البائد والإعدامات الجماعية. 6- بيان الأساليب القمعية التي مارسها النظام البائد والتهجير القسري. 7- كبح الحريات العامة وتدهور مستوى الاعلام والثقافة. 8- توضيح الأضرار البيئية والزراعية التي ظهرت آثارها في السنوات السابقة والحالية. 9- بيان مدى سوء حكم النظام الشمولي والذي لم يقتصر فقط على داخل العراق بل على دول المجاورة ايضاً. 10- أن الهدف من تدريس هذه المادة لمعرفة تاريخ تلك الحقبة السوداء. 11- الهدف من هذه المادة أن الحكم في العراق لن يدوم باستخدام أدوات العنف والقوة مهما كانت مفرطة. والعراق يجب أن يحكم بنظام سياسي يحترم العراقيين ومعتقدات ودياناتهم وقومياتهم وأن يؤمن بالتعدد في المجتمع العراقي
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- التعرف على الجرائم النظام البائد في كبح الحريات العامة 2- دراسة الانظمة السياسية في العراق نبذة تاريخية 3- معرفة ابرز انتهاكات النظام البعثي للحقوق والحريات 4- معرفة اثر سلوكيات النظام البعثي المقتور على المجتمع العراقي 5- التوضيح للأجيال الحالية حقيقة حقبة تاريخية سوداء في تاريخ العراق المعاصر التي شهدت الظلم والاستبداد 6- الاطلاع على وحشية واستبداد وقمع النظام البائد للشعب العراقي 7- معرفة ان الظلم والاستبداد والحكم الدكتاتوري لن يدوم مهما كانت قسوته 8- تعليم الطلبة وارشادهم على النظام السياسي الصحيح لحكم هذا الشعب الطيب. والذي يجب ان يبتعد عن الدكتاتورية والظلم وان يكون مبني على العدالة واحترام التعددية الدينية والمذهبية والقومية 9- توعية الطلبة الى حجم الدمار والتلوث البيئي الذي أحدثته الحروب واستخدام اسلحة محرمة دولياً 10- بيان مدى قسوة النظام البعثي وقمعه للشعب والمقابر الجماعية التي ضمت وفاة آلاف الشهداء الأبرياء 11- توعية الطلبة الى ما قام به النظام السابق من تهجير ابناء هذا البلد وكفائته العلمية والادبية
Indicative Contents المحتويات الإرشادية	يتضمن المحتوى الإرشادي ما يلي: مقدمة في البداية تتضمن نبذة تاريخية عن النظام السياسي في العراق من قبل بريطانيا وصولاً الوصول حزب البعث المقتور الى السلطة وكذلك دراسة جريم حزب البعث منذ توليه السلطة والعبث بها كذلك توضيح ما اصاب العراق من اثار وكوارث على يد هذا النظام الدكتاتوري المجرم الذي جسد اقصى انواع التعسف والظلم والطغيان والاستبداد كذلك ارشاد الطلبة الى ان الظلم والاستبداد يدمر الشعوب ويجر الويلات عليها وبيان الاثار التي حدثت نتيجة الحروب العنيفة التي خلفت ورائها تدمير في كل مفاصل البلاد فدمرت البنى التحتية والتربة والمياه والسماء والاشجار وكل شئ في هذه البلاد والتي كانت من افضل بلدان الشرق الاوسط. كذلك تم تدمير حتى البيئة المائية من خلال تسريب النفط في حرب الكويت والخسائر الاقتصادية الهائلة وتضرر الابار النفطية والبنى التحتية والصناعة وفرض حصار دمر البيئة الاجتماعية والاقتصادية التي لازلنا الى يومنا هذا نرفع اثار النظام البائد على الصعيد الدولي والداخلي.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	الإستراتيجية المهمة التي تم تبنيها في هذه الوحدة هي توعية الطلبة وعملية تنمية مداركهم العقلية على فهم النظام السياسي العراقي البائد ومعرفة الجرائم التي ارتكبها النظام البائد وعملية تحفيز الطلبة على التأمل والتفكير في التحليل هذه الجرائم وانعكاساتها والعمل على محاربة الظلم والاستبداد ورفض اي شكل من اشكال الدكتاتورية كذلك استخدام البرامج التفاعلية والتعليمية في استخدام الادوات التحليلية والنقدية وتشجيع الطلبة على البحث والحوار والنقاش على اسس معرفية تستند الى عمليات البحث العلمي والتدقيق والقراءة العميقة والفهم الجيد والرصانة العلمية وكذلك استخدام الوسائل العلمية والاساليب التفاعلية سواء كانت المسموعة والمرئية واعطاء الادلة المادية الواضحة على وحشية النظام السابق لكي يطلع الطلبة وتصبح لديهم قناعة علمية راسخة على هذه الحقبة السوداء والجرائم التي لم تشهد لها البشرية مثال بذلك تنمية القدرة الذهنية والفكرية لدى الطلبة على معرفة الأنظمة الصالحة. كذلك تفعيل الدور الأخلاقي وزرع الأخلاق والقيم والمبادئ الحميدة لدى الطلبة

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	5	10% (10)	2,3,6,8,10	LO #3, #4 and #6, #7
	Attending lectures	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	1hr:	10% (10)	8	LO #1 - #7
	Final Exam	3hr	50% (50)	14	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	مقدمة عن انتهاكات الحقوق والحريات
Week 2	نبذة وصفية عن الانظمة السياسية في العراق
Week 3	انتهاكات النظام البعثي للحقوق والحريات العامة
Week 4	اثر سلوكيات النظام البعثي في المجتمع وتسارعه على الدولة
Week 5	اثر المرحلة الانتقالية في محاربة السياسة الاستبدادية
Week 6	الميدان النفسي والاجتماعي
Week 7	الدين والدولة
Week 8	Mid Exam
Week 9	عسكرة المجتمع والثقافة والاعلام
Week 10	اثر القمع والحروب على البيئة والسكان
Week 11	التلوث البيئي واستعمال الاسلحة المحرمة دوليا
Week 12	سياسة الارض المحروقة وتجفيف الاهوار
Week 13	المقابر الجماعية وتدمير البيئة الزراعية
Week 14	Mid Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	منهاج جرائم حزب البعث البائد ٢٠٢٣/جمهورية العراق/وزارة التعليم العالي والبحث العلمي/دائرة الدراسات والتخطيط	
Recommended Texts		
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Second Stage / Second Semester

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Protozoan Parasitology		Module Delivery
Module Type	<u>Core</u>		☒ Lecture ☒ Lab.
Module Code	<u>BIO24120</u>		
ECTS Credits	<u>6</u>		
SWL (hr/sem)	<u>150</u>		
Module Level	2	Semester of Delivery	2
Administering Department	Biology	College	Science
Module Leader	Dr. Khawla Hori Zghair	e-mail	Khawla.hoori@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Hayder Zuhair Ali	e-mail	hayder.zuhair@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Hayder Badri Ali	e-mail	Hayder.badri@sc.uobaghdad.edu.iq

Scientific Committee Approval Date	14/6/2023	Version Number	1.0
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Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Invertebrates	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Providing a broad understanding and diagnosing the the most important species of pathogenic and non-pathogenic parasites that parasitize humans and its domestic animals. - Explaining the stages of the parasite and its life cycle. - Demonstrating how to diagnose the parasite and its epidemiology. - Outlining control modalities and different types of treatment.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the module, it is expected that the student will be able to: - Identify the parasites and how to diagnose them microscopically. - Knowing the anatomical drawing of the parasite and mark its important parts. - Urge the students to collect samples for parasite detection. - Urge the student to think deductively and differentiate between parasites that differ in appearance, location of infection and type of reproduction. - Guiding the student and developing the desire to specialize in the field of biological laboratories.
Indicative Contents المحتويات الإرشادية	The module will begin with a brief introduction outlining the module's goals, content, and evaluation criteria, as well as the learning outcomes. Following that, the module material is divided into separate themes, offering the key pathways that drive parasitic infection. In this context, we will also examine how such knowledge might help with parasitic pathogen diagnosis, prevention, and treatment. Laboratory sessions of 2-hours duration will give active practice in a variety of parasitic methodologies in tandem with lecture topics. Moreover, directing the student to spread the healthy culture in his environment.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This module's contact teaching will be conducted through lecturing (15 lectures) and compulsory 15 practical sessions - Preparing a Power Point lecture and using the Data Show in its presentation. - Using modern sources from the information network to obtain accurate information and graphics. - Students will be invited to participate in interactive discussion throughout this program.

Student Work load (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	86	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10%	2-6, 8-12	LO1-LO4
	Assignments	2	10%	8 and 12	LO4-LO6
	Report	1	10%	13	LO7
	Projects/Lab	5	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO1-LO3
	Final Exam	3 hr	50% (50)	1-15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Parasitology and importance of pathogenic parasites
Week 2	Classification of parasites, Taxonomical categories
Week 3	Phylum Protozoa: Sarcodina (<i>Entameba histolytica</i> , <i>Entameba coli</i>)
Week 4	Phylum Protozoa: Sarcodina (<i>Endolimax nana</i> , <i>Iodameba butchlii</i> , <i>Entamoeba gingivalis</i>)
Week 5	Phylum Protozoa: Ciliata
Week 6	Phylum Protozoa: Intestinal Flagellate
Week 7	Phylum Protozoa: Tissue Flagellate
Week 8	Mid-term Exam
Week 9	Phylum Protozoa: Hemoflagellate (<i>Leishmania spp.</i>)
Week 10	Phylum Protozoa: Hemoflagellate (<i>Trypanosoma spp.</i>)
Week 11	Phylum Protozoa: Apicomplexa (<i>Plasmodium spp.</i>)
Week 12	Phylum Protozoa: Apicomplexa (<i>Toxoplasma</i> , <i>Isospora</i>)

Week 13	Phylum Protozoa: Apicomplexa (<i>Cryptosporidium</i> , <i>Cyclospora</i> and <i>Sarcocystis</i>)
Week 14	Seminar
Week 15	Seminar
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to Parasitology
Week 2	Classification of parasites
Week 3	Phylum Protozoa: Sarcodina (<i>Entameba histolytica</i> , <i>Entameba coli</i>)
Week 4	Phylum Protozoa: Sarcodina (<i>Endolimax nana</i> , <i>Iodameba butchlii</i> , <i>Entamoeba gingivalis</i>)
Week 5	Phylum Protozoa: Ciliata
Week 6	Phylum Protozoa: Intestinal Flagellate
Week 7	Phylum Protozoa: Tissue Flagellate
Week 8	Mid-term Exam
Week 9	Phylum Protozoa: Hemoflagellate (<i>Leishmania</i> spp.)
Week 10	Phylum Protozoa: Hemoflagellate (<i>Trypanosoma</i> spp.)
Week 11	Phylum Protozoa: Apicomplexa (<i>Plasmodium</i> spp.) part 1
Week 12	Phylum Protozoa: Apicomplexa (<i>Plasmodium</i> spp.) part 2
Week 13	Phylum Protozoa: Apicomplexa (<i>Toxoplasma gondi</i>)
Week 14	Phylum Protozoa: Apicomplexa (<i>Cryptosporidium parvum</i> , <i>Isospora</i>)
Week 15	Diagnosis methods of protozoan parasitic infection
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Lectures scheduled by the professors of the subject and according to the available methodological books related to parasitology. Cox F.E.G. (1990). Modern Parasitology (Second Edition). Blackwell Science. Anthony J.Nappi, Emily Vas. (2002). Parasites of Medical Importance. Lands Bioscience. Texas, U.S.A.	

Recommended Texts	Rohela Mahmud, Yvonne Ai Lian Lim, Amirah Amir. (2017). Medical parasitology. Springer International Publishing. Buton J. Bogitsh, Clint E. Carter, Thomas N. Oel Tmann. (2013). Human Parasitology. Elsevier Inc.USA.
Websites	1. https://ia802700.us.archive.org/6/items/b21996763/b21996763.pdf 2. https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/MedicalParasitology.pdf 3. https://www.slideshare.net/meducationdotnet/parasitology-lecture-series

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

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5MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	<u>Plant taxonomy</u>	Module Delivery
Module Type	<u>Core</u>	☒ Lecture ☒ Lab ☐ Seminar
Module Code	<u>BIO24021</u>	
ECTS Credits	<u>5</u>	
SWL (hr/sem)	<u>120</u>	

Module Level	2	Semester of Delivery	2
Administering Department	Biology	College	Collage of science
Module Leader	Dr. Sukeyna Abaas Aliwy	e-mail	Sukeyna.abaas@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Lamia A. Gharab	e-mail	Lamya.gharb@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Israa Abdulrazzaq Aldobaissi	e-mail	Israa.aldbaissi@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- Identify the science of plant taxonomy, learn about its scientific history, its applications and its relation to other science. 2- Learn about the changes that occurred in the structure of plants as a result of the evolutions during geological era 3- Lear about the morphological characteristics that help in identify and classify the plants. 4- Learn about how to find and use other biological evidences that support the process of plant taxonomy. 5- Identifying the wild plant families that grow in Iraq and know their importance as a botanical wealth. 6- Learn about the modern techniques that can used in science of plant classification. 7- Identify the types of taxonomic keys that can used in plant classification.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. understanding the science of taxonomy in plant and its relation to other sciences. 2- understanding and learning the terms of vegetative parts description . 2- understanding and learning the terms of reproductive parts description . 3. Reviewing the mechanism of reproduction in plants, studying the characteristics of pollen grains and their importance in classification, as well as studying the mechanism of plant migration. 4. Use different taxonomic keys to classify plants. 5- understanding the main differences between dicot and monocot plants
Indicative Contents المحتويات الإرشادية	The plant taxonomy module is designed to understand the science of taxonomy and its relation to other sciences, as well as recognize the plant parts, learning the terms that use in description the vegetative and reproductive parts. in addition to understand the reproduction in Angiosperm, pollination and dispersal mechanisms. the difference between Monocotyledon and Dicotyledon plants. and these aims increase the student skill in recognizing and identifying different

	plant grown in surrounding environment.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in this module is to encourage students' participation in the process of plant taxonomy and expanding their thinking skills. The process starts with finding a plant and try to identify it by comparing it with previous collected specimens or with the aid of books or herbarium lists. The morphological characteristics are the most important to identify the plants, once the plant has been identified, its name and its ranks are known. The ICN set rules and recommendations for formal botanical nomenclature, including plants. Plant description is a formal description of a newly discovered species, usually in the form of scientific paper using ICN guidelines. Before the availability of genetic evidence, the classification of angiosperms was based on morphology and biochemistry, after 1980s, detailed genetic evidence analyzed by phylogenetic methods became available and while confirming or clarifying some relationships in existing classification systems, it radically changed others. This knowledge including all the classification characteristics will be achieved through classes.

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%	4 th , 5 th	LO1-LO2
	Assignments	2	10%	10 th , 11 th	LO3
	Report	2	10%	12 th , 14 th	LO3, LO4, LO5
	Projects/Lab	5	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO1-LO3
	Final Exam	3 hr	50% (50)	1-15	All
Total assessment			100% (100 Marks)		

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	The science of Plant taxonomy
Week 2	Objectives of taxonomy
Week 3	Angiosperm (Seed plants) general terms, Principles of classification
Week 4	Basics of plant identification and classification (vegetative parts) 1
Week 5	Basics of plant identification and classification (vegetative parts) 2 , Quiz
Week 6	Basics of plant identification and classification (reproductive parts) flowers 1
Week 7	Basics of plant identification and classification (reproductive parts) flowers 2
Week 8	Midterm Exam
Week 9	Basics of plant identification and classification (reproductive parts) inflorescence
Week 10	Pollination, and migration (dispersal) in plants ,
Week 11	Reproduction in plants, Assignment
Week 12	Basics of plant identification and classification 1 (reproductive parts) fruits
Week 13	Basics of plant identification and classification 2 (reproductive parts) seed, report
Week 14	Plants families that grow wild in Iraq 1 (Monocot, Dicots)
Week 15	Preparation of final exam , report
Week 16	final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction, herbarium specimens
Week 2	roots and stems
Week 3	Leaves
Week 4	Review, quiz
Week 5	flower parts
Week 6	flower parts
Week 7	Inflorescences
Week 8	Midterm Exam
Week 9	Fruits and seeds
Week 10	Review , Assignment
Week 11	floral equation and taxonomic key. identifying some plant families using the taxonomic key 1
Week 12	Report 1 ,identifying some plant families using the taxonomic key 3
Week 13	identifying some plant families using the taxonomic key4
Week 14	Report 2 identifying some plant families using the taxonomic key 5
Week 15	identifying some plant families using the taxonomic key 6
Week 16	final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	-الكاتب، يوسف منصور (١٩٨٨) تصنيف النباتات البذرية، الطبعة الاولى، دار الكتب للطباعة والنشر، جامعة الموصل، العراق، 958 -الموسوي، علي حسين (١٩٨٧)، علم تصنيف النبات، دار الكتب للنشر، جامعة الموصل، 918 ص.	yes
Recommended Texts	A Brief Review on Plant Taxonomy and its Components /20188 Plant Taxonomy and Biosystematics / 2000	yes
Websites	https://www.worldfloraonline.org/taxon/wfo-4000019533 - The World Flora Online https://efloraindia.bsi.gov.in/eFlora/taxonList.action?id=6&type=2 https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:2968261-4	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

Module Information		
Module Title	<u>Phycology and Archegoniata</u>	Module Delivery
Module Type	<u>Core</u>	☒ Lecture

Module Code	BIO24024	☑Lab.	
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	٢	Semester of Delivery	2
Administering Department	Biology	College	Science
Module Leader	Prof. Dr. Ibrahim jabber abed	e-mail	ibrahim.abed@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Prof. Dr. Rusol Mohammed	e-mail	rusol.jasim@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Israa Abdul Razzaq Aldobaissi	e-mail	Israa.aldobaissi@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	13. Providing a broad understanding of plant groups with an emphasis on the most important species. 14. Explaining the characters of plant groups . 15. Study the main chracters of plant group. 16. Comparision between plant groups
Module Learning Outcomes	11. Knowledge of the characters for plant groups. 12. Understanding the main characters for all plant groups . 13. Recall of information and attempting to connect them to reach the proper diagnosis of plant . 14. Comparison between characteristic of plant groups .
Indicative Contents	The module will begin with a brief introduction outlining the module's goals, content, and evaluation criteria, as well as the learning outcomes. Following that, the module material is divided into separate themes, offering the key pathways that drive characteristic. In this context, we will also examine how such knowledge might help with plant groups diagnosis, study the main character for all groups Laboratory sessions of 2-hours duration will give active practice in a variety of characteristic of plant groups in tandem with lecture topics.

Learning and Teaching Strategies

Strategies	This module's contact teaching will be conducted through lecturing (15 lectures) and compulsory 15 practical sessions, which include learning videos and scientific animations.Students will be invited to participate in interactive discussion throughout this program.
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Student Workload (SWL)			
Structured SWL (h/sem)	63	Structured SWL (h/w)	4
Unstructured SWL (h/sem)	87	Unstructured SWL (h/w)	6
Total SWL (h/sem)	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10%	3-6, 8-12	LO1-LO4
	Assignments	2	10%	8 and 12	LO1-LO3
	Report-	1	10%	13	All
	Projects/Lab	5	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8 th	LO1-LO3
	Final Exam	3 hr	50% (50)	16 th	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Overview
Week 2	Study algae Habitat and distributions
Week 3	Study algal thallus structures and reproduction
Week 4	Study of blue green algae
Week 5	Study of green algae
Week 6	Study of phaeophyta
Week 7	Study of Rhodophyta
Week 8	Midterm Exam
Week 9	Study of charophyta
Week 10	Study of Bacillariophyta
Week 11	Study of chrysophyta
Week 12	Study of marchantia

Week 13	Overview of sphagnum
Week 14	Sphagnum
Week 15	Preparatory week before the final Exam
Week 16	final Exam

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Overview
Week 2	Diagnosis of blue green algae
Week 3	Diagnosis of cladophoreles
Week 4	Diagnosis of oedogoniales
Week 5	Diagnosis of zegnametales
Week 6	Diagnosis of desmadales
Week 7	Diagnosis of charophyta
Week 8	Midterm Exam
Week 9	Diagnosis of phaeophyta
Week 10	Diagnosis of Rhodophyta
Week 11	Diagnosis of Diatoms
Week 12	Diagnosis of marchantia
Week 13	Overview of sphagnum
Week 14	Diagnosis of Sphagnum
Week 15	Preparatory week before the final Exam
Week 16	Final exam.

Learning and Teaching Resources		
	Text	Available in the Library?

Required Texts	Geneset, P.G., Wamser, A.F. (2001). Introduction to the plant Kingdom. Cambridge University Press.	No
Recommended Texts	Judd, W.S., Kellogg, E.A., Stevens, P.F., Donghue, M.J. (2020). Plant Systematics: A phylogenetic Approach. Sinauer Associates	No

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	<u>Pollution</u>	Module Delivery
Module Type	<u>Core</u>	☒ Lecture ☒ Lab
Module Code	<u>BIO24023</u>	

ECTS Credits	٦		
SWL (hr/sem)	١٥٠		
Module Level	2	Semester of Delivery	2
Administering Department	Biology	College	science
Module Leader	Dr. Adel M. Rabee	e-mail	adel.mashaan@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Ahmed Jassim Mohammed	e-mail	ahmed.jassim@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Ithar Kamil Abbas	e-mail	Ithar.kamil@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	This subject aims to provide: 1. An understanding of the global environmental problems caused by human activities 2. The importance of pollution in our lives 3. The main sources of pollutants and their various effects on man and the environment 4. Fundamental concepts of air, noise, water, solid waste and nuclear pollution: their nature, generation and impact on the environment
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completion of the subject, students will be able to: 1. Understand and identify the properties, transport pathways and fate of key contaminants in the environment 2. Understand the source, type and effect of air pollution and related global environmental problems such as green house effect , ozone hole and radiation pollution 3. Understand the fundamental concept of water quality, types of water pollutants and methods to treatment ٤. The student learn about the heavy metals and their effect on human 5. Understand the soils pollution and focusing on the environmental problems that arise from the widespread use of pesticides and fertilizers
Indicative Contents المحتويات الإرشادية	- The module will begin with a brief introduction to understand this vital subject by the academic content includes the concept of pollution, types of pollutants, their sources and potential risks, especially to humans Air Pollution Principal atmospheric and indoor air pollution: sources, characteristics and effects on human and community Water Pollution

	Water quality; Sources of water pollution; Municipal and industrial waste water; Water treatment processes. Soil Pollution Soil pollution: fertilizers and pesticides and their properties
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	This course aiming at arousing students' interest and awareness in multiple complex problems in our environment caused by pollution produced by human activities at the international and national levels. In addition to the traditional classroom lectures, small-group discussions will be used whenever appropriately. In order to understand the multi-dimensional pollution problems including their generation, effects on our community, inter-changes between different types, and monitoring and control, students need to search and learn the fundamental knowledge in environmental pollution. Every student is also required to complete a mini project, regarding the pollution problems encountered in Iraq and their possible solutions and produce a written report to satisfy the writing requirement.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10%	2-6, 8-12	All
	Assignments	2	10%	8 and 12	LO ² -LO5
	Report	1	10%	13	LO5
	Projects/Lab	5	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO1-LO ²
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Definition of environmental pollution and characteristics of important pollutants

Week 2	Air pollution and the most important air pollutants, their sources and effects
Week 3	Environmental phenomena related to air pollution, especially global warming and the ozone hole
Week 4	This week, students will learn about radiation and its different biological effects
Week 5	This week, the student learns an introduction to water pollutants, water properties, and water quality indicators
Week 6	In this lecture, the student learns about the types of water pollutants
Week 7	Nutrient and eutrophication and the traditional and advanced methods of water treatment
Week 8	Midterm Exam
Week 9	The student will be familiar with the concept of heavy metals, the sources and fate in ecosystem
Week 10	The general effect of heavy metals especially on human
Week 11	This week, the student learns about a general introduction to the topic of soil pollution and soil properties
Week 12	This week, students will learn about the most important soil pollutants
Week 13	Students learn concentrated on agricultural chemicals and agricultural pollution concepts
Week 14	This week, the student will learn about the types of pesticides and their properties
Week 15	Cross resistance and the effects of pesticides on targeted and non-targeted species
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	An introduction for students about the ecosystem and important pollutants
Week 2	Determination of dissolved oxygen (Winkler method)
Week 3	Determination of Biological Oxygen Demand
Week 4	Determination of Free CO ₂ in water
Week 5	Measuring salinity by titration
Week 6	Measuring acidity and alkalinity by titration
Week 7	Measuring Free chlorine in water
Week 8	Midterm Exam
Week 9	Determination of Calcium in Water
Week 10	Determination of Magnesium in Water
Week 11	Determination of Total hardness in Water
Week 12	Determination of TDS in Water
Week 13	Determination of COD in Water
Week 14	Measuring pH of Water, Measuring turbidity of Water

Week 15	Air Pollution Laboratory	
Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	<u>Hodges, L. Environmental Pollution. Edition, 2, illustrated. Publisher, Holt, Rinehart and Winston, 1977.</u>	Yes
Recommended Texts	1. Warneck, P., <i>Chemistry of the Natural Atmosphere</i> , International Geophysics Series. Vol. 41, Academic Press, San Diego, 1988. 2. Owa , F. W. Water pollution: sources, effects, control and management. <i>International Letters of Natural Sciences</i> , 2014.	No
Websites	1. https://www.worldwildlife.org/threats/pollution 2. https://www.livescience.com/22728-pollution-facts.html	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
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	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<u>Computer II</u>		Module Delivery
Module Type	<u>Basic</u>		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	UOB203		
ECTS Credits	<u>3</u>		
SWL (hr/sem)	<u>75</u>		
Module Level	2	Semester of Delivery	2
Administering Department	Biology	College	College of Science
Module Leader	Saif Basheer Mohammed	e-mail	saif.basheer@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	Master Degree
Module Tutor	Zainab Jawad Ahmed	e-mail	zainab.jawad@sc.uobaghdad.edu.iq
Peer Reviewer Name	Dr. Rawaa Hassan	e-mail	rawaa.hassan@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	14/6/2023	Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	Computer Skills I	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	- Learn programming for non-CS students a programming language that is as suitable as the purpose for which it is being used in the department, like Python, R, or Matlab. - Learn basic syntax and logic of things like variables, data types, input/output, if-else statements, loops, functions, and data visualization.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students should be: - Learn the basics of a program code as a collection of one or more standard functions, syntax rules, semantic rules, symbols, special words, and comments. - Learn what a stream is and examine input and output streams.

	- Learn mathematical operators and expressions. - Learn how to form and evaluate logical (Boolean) expressions. - Learn how to use the selection control structures: if, if... else, nested if, and nested if...else. - Learn how to construct and use looping structures. - Learn to program any loop. - Learn how to form and use single, multiple disjoint, and nested loop structures. - Learn how to exploit built-in functions. - Learn how to visualize data with different plot structures.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises and daily quizzes, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials, and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	45	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	30	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	٢	10% (10)	3 and 7	3, 7
	Assignments	٢	10% (10)	9 and 10	9 and 10
	Projects / Lab.	1	10% (10)	Continuous	3, 5, 7 (Lab)
	Report	1	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2hr	10% (10)	8	All
	Final Exam	٣hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Main rules for problem-solving techniques.
Week 2	Output statements.
Week 3	Input statements.
Week 4	Assignment operator, declaration, and assignment statements.
Week 5	Mathematical operators and expressions.
Week 6	If statements and nested if statements.
Week 7	if...else statements.
Week 8	Midterm Exam
Week 9	Loop and body of loop.
Week 10	Nested loops.
Week 11	Arrays.
Week 12	Arrays: continue.
Week 13	Data Visualization 1: Visualizing data with several types of visualizations, for example: Scatter plots bar charts Box plots Histograms Area charts
Week 14	Data Visualization 2: continue.
Week 15	Preparatory week before the final Exam.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Be familiar with the Editor and run window.
Week 2	Lab 2: output statements.
Week 3	Lab 3: Input statements.
Week 4	Lab 4: Assignment statement
Week 5	Lab 5: Playing with mathematical operators and expressions.
Week 6	Lab 6: if statement and nested if statements.
Week 7	Lab 7: if...else statement.
Week 8	Midterm Exam
Week 9	Lab 8: loop.
Week 10	Lab. 9: nested loops.
Week 11	Lab 10: 1D arrays and 2D arrays.
Week 12	Lab. 11: 1D arrays and 2D arrays: continue.
Week 13	Lab 12: Data visualization.
Week 14	Lab. 13: Data visualization: continue.
Week 15	Preparatory week before the final Exam.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Python Programming for Biology: Bioinformatics and Beyond, TIM J. Stevens & WAYNE Boucher, CAMBRIDGE 2015	No
Recommended Texts	Python Crash Course: A hands-on, Project Based Intro to Programming, Eric Mattes, 2019 Python Programming An Introduction to Computer Science, John M. Zelle, Wartburg, College 2012	No
Websites	www.python.org	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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Ministry of Higher Education and
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University of Baghdad
College of Science
Department of Biology



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	English Language /Second Year		Module Delivery	
Module Type	Support		☒ Theory ☒ Lecture ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	UOB206			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	UGx 2	Semester of Delivery		2
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Ranea Yahya Khudhur		e-mail	rania.y@coeduw.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	MA
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name	Dr. Muthana Khalaf		e-mail	muthana.khalaf@sc.uobaghdad.edu.iq
Scientific Committee Approval Date			Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	a pre-intermediate level course aiming to build and further improve language proficiency for second year students/ college of science, 1. Listening Objectives: • Understand and respond appropriately to a variety of spoken English in familiar contexts.
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	• Comprehend main ideas, specific details, and implied information in spoken texts. • Develop listening strategies to enhance understanding. 2. Speaking Objectives: • Engage in conversations on a range of topics using appropriate vocabulary and grammar. • Express opinions, preferences, and experiences. • Develop speaking strategies for effective communication, such as turn-taking and seeking clarification. 3. Reading Objectives: • Read and understand a variety of texts, including articles, stories, and informational passages. • Comprehend main ideas, details, and implied information in written texts. • Develop reading strategies for comprehension and vocabulary acquisition. 4. Writing Objectives: • Write coherent paragraphs and short texts on different topics. • Express ideas clearly and logically using appropriate grammar and vocabulary. • Develop writing strategies for organization, coherence, and accuracy. 5. Grammar and Vocabulary Objectives: • Develop a solid understanding and usage of a wide range of grammatical structures appropriate for the pre-intermediate level. • Expand vocabulary knowledge to include a broader range of words, idiomatic expressions, and collocations. • Apply grammar and vocabulary knowledge to express oneself accurately and effectively. 6. Pronunciation and Intonation Objectives: • Improve pronunciation accuracy of individual sounds, stress patterns, and intonation. • Use appropriate rhythm, stress, and intonation for effective communication. • Recognize and produce connected speech features to enhance fluency and naturalness. 7. Cultural Awareness Objectives: • Develop an understanding of cultural practices, customs, and social norms in English-speaking countries. • Demonstrate cultural sensitivity and adapt communication accordingly. • Recognize the impact of culture on language use and communication styles.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Learner training is essential to the achievement of the Learning Outcomes. 1. Listening and Speaking: • Understand and respond appropriately to a range of everyday spoken English in familiar contexts. • Engage in conversations and discussions on a variety of topics using appropriate language and strategies. • Comprehend and extract information from spoken texts, such as interviews, dialogues, and narratives. 2. Reading: • Read and understand a variety of texts, including articles, stories, and informational passages.

	• Comprehend main ideas, details, and specific information from the texts. • Apply reading strategies to infer meaning from context and make predictions. 3. Writing: • Write coherent and well-organized paragraphs and short texts on various topics. • Express ideas and opinions clearly and concisely. • Demonstrate control of grammar, vocabulary, and sentence structures appropriate for the pre-intermediate level. 4. Grammar and Vocabulary: • Understand and use a wide range of grammatical structures and tenses, including present perfect, past simple, future forms, and conditionals. • Expand vocabulary knowledge to include a broader range of words, idiomatic expressions, and collocations. • Apply grammar and vocabulary in context to enhance communication skills. 5. Pronunciation and Intonation: • Develop accurate pronunciation of individual sounds and common word stress patterns. • Use appropriate intonation and stress patterns to convey meaning effectively. • Understand and produce connected speech features, such as linking sounds and contractions. 6. Cultural Awareness: • Gain insights into cultural practices, traditions, and customs in English-speaking countries. • Develop intercultural competence and sensitivity in communication. • Understand cultural influences on language use and behavior.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1: Greetings and Introductions • Vocabulary: Greetings, introductions, personal information • Grammar: Present simple, present continuous, subject pronouns, possessive adjectives • Skills: Listening to and giving personal information, role-playing introductions, writing short personal profiles 2: Daily Routines • Vocabulary: Daily activities, time expressions • Grammar: Present simple, adverbs of frequency, prepositions of time • Skills: Talking about daily routines, describing habits and schedules, writing a daily routine diary 3: Family and Relationships • Vocabulary: Family members, relationships, adjectives to describe people • Grammar: Possessive 's, can/can't, imperatives • Skills: Talking about family members, describing people's appearance and personality, writing about a family member 4: Free Time and Hobbies • Vocabulary: Leisure activities, hobbies, sports • Grammar: Present simple vs. present continuous, question words • Skills: Discussing leisure activities, talking about hobbies and interests, writing about favorite pastimes 5: Shopping and Money • Vocabulary: Shops, money, prices, clothes • Grammar: Countable and uncountable nouns, plurals, quantifiers

	Skills: Role-playing shopping conversations, describing clothes, writing a shopping list
	6: Travel and Transportation - Vocabulary: Means of transport, travel destinations, directions - Grammar: Present perfect, past simple, adverbs of time - Skills: Discussing travel experiences, giving and following directions, writing about a memorable trip
	7: Food and Eating Habits - Vocabulary: Food items, meals, cooking, restaurants - Grammar: Countable and uncountable nouns, articles, some/any - Skills: Talking about food preferences, ordering in a restaurant, writing a recipe
	8: Health and Well-being - Vocabulary: Health issues, symptoms, remedies - Grammar: Should/shouldn't, modals for advice and obligation - Skills: Discussing health problems, giving advice, writing a health blog post
	9: Jobs and Careers - Vocabulary: Professions, job descriptions, skills - Grammar: Past continuous, comparatives and superlatives - Skills: Talking about jobs and career aspirations, describing job experiences, writing a resume
	10: Future Plans and Ambitions - Vocabulary: Future forms (will, going to, present continuous), ambitions, goals - Grammar: Future forms, time clauses - Skills: Discussing future plans, setting goals, writing a letter to your future self
	11: Technology and Communication - Vocabulary: Communication devices, social media, technology-related terms - Grammar: Present perfect continuous, future continuous, indirect questions - Skills: Discussing technology and its impact, describing communication habits, writing an email or text message
	12: Environment and Sustainability - Vocabulary: Environmental issues, natural disasters, conservation - Grammar: Conditional sentences, passive voice - Skills: Discussing environmental concerns, expressing opinions on sustainability, writing an article on environmental conservation
	13: Culture and Traditions - Vocabulary: Festivals, customs, cultural practices - Grammar: Reported speech, relative clauses - Skills: Talking about cultural events, comparing traditions, writing a description of a cultural celebration
	14: Education and Learning - Vocabulary: School subjects, learning methods, educational institutions - Grammar: Past perfect, modals for possibility and certainty - Skills: Discussing educational experiences, describing favorite subjects, writing an opinion essay on the benefits of education
	15: Travel and Tourism - Vocabulary: Tourist attractions, accommodation, travel experiences - Grammar: Comparative and superlative adjectives, phrasal verbs - Skills: Talking about travel preferences, recommending destinations, writing a travel blog post or itinerary

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1.Communicative Approach: Emphasize communicative activities that promote interaction among students. Encourage pair and group work, role-plays, and discussions to practice language skills in meaningful contexts.

	2.Integrated Skills: Integrate the four language skills (speaking, listening, reading, and writing) in lessons to create a balanced approach to language learning. Provide opportunities for students to use and develop these skills simultaneously. 3.Vocabulary Expansion: Incorporate vocabulary-building exercises and activities throughout the course. Use real-life contexts, visuals, and practical examples to help students learn and remember new words. 4.Grammar Focus: Teach and reinforce grammar structures in a systematic and progressive manner. Provide clear explanations, examples, and practice exercises to ensure students understand and can apply the grammar rules correctly. 5.Authentic Materials: Include authentic texts, such as articles, newspaper clippings, songs, and videos, to expose students to real-world language usage. This helps develop their reading and listening comprehension skills and exposes them to cultural aspects of English-speaking countries. 6.Cultural Awareness: Integrate cultural topics and discussions into the lessons to foster cultural awareness and sensitivity. Encourage students to share their own cultural backgrounds and experiences to promote understanding and appreciation of diverse perspectives. 7.Error Correction: Provide constructive feedback and error correction during speaking and writing activities. Help students identify and correct their mistakes, focusing on accuracy while encouraging fluency and self-expression. 8.Technology Integration: Utilize technology tools, such as interactive whiteboards, online resources, and language learning apps, to engage students and enhance their language learning experience. Incorporate multimedia materials for listening and speaking practice. 9.Regular Assessment: Assess students' progress regularly through quizzes, tests, and assignments. Provide timely feedback to guide their learning and address areas that need improvement. 10.Individualization: Cater to the individual needs and learning styles of students. Offer differentiated tasks and activities to ensure all learners are appropriately challenged and supported. 11.Cooperative Learning: Promote collaboration and teamwork among students through pair work, group projects, and peer feedback. This encourages active participation and a supportive learning environment. 12.Review and Revision: Schedule regular review sessions to consolidate previously learned material. Encourage students to revise and practice independently, providing resources for self-study and additional practice.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2.3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #4, #5
	Assignments	2	10% (10)	2 and 8	LO #2, #3 and #4, #6

	Projects	1	10% (10)	11	All
	Report	1	10% (10)	13	LO #2, #3 and #4, #6
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #3, #4 and #6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	New Headway Plus provides an integrated skills course with each unit divided into grammar, vocabulary, skills work and everyday English segments as follows:
Week 1	Getting to know you p6 Tenses <i>Present, past, future</i> p6 Questions <i>Where were you born?</i> <i>What do you do?</i> p6 Question words <i>Who ...?, Why ...?,</i> <i>How much ...?</i> p7 Right word, wrong word Verbs of similar meaning <i>speak/talk, say/tell</i> Adjectives and nouns that go together Prepositions <i>to, from, at, about, of, on, in,</i> etc. Words with two meanings <i>I met my husband on a blind date.</i> <i>Dates are good for you.</i> p12 Social expressions <i>Have a good weekend!</i> <i>Same to you.</i> p13
Week 2	Whatever makes you happy p14 Present tenses Present Simple <i>She lives alone in Bristol.</i> p14 Present Continuous <i>She's planning ...</i> p14 <i>have/have got</i> <i>He has his own company.</i> <i>I've got an idea for ...</i> p15 Things I like doing <i>play games</i> <i>have a lie-in</i> <i>get up late</i> p17 Making conversation <i>What a lovely day it is today!</i> <i>Are you having a good time in London?</i> <i>Have a good weekend!</i> p21
Week 3	What's in

	the news? p22 Past tenses Past Simple <i>How far did he walk?</i> <i>I had a shower last night.</i> p23 Past Continuous <i>I was having a shower when ...</i> p23 Adverbs <i>drive carefully</i> <i>speak furiously</i> <i>work hard</i> p28 Saying when <i>What's the date today?</i> <i>It's June the twentysecond.</i> <i>When did you last go to the cinema?</i> <i>Two weeks ago.</i> p29
Week 4	Eat, drink, and be merry! p30 Quantity <i>much and many</i> <i>How much milk?</i> <i>How many eggs?</i> p31 <i>some and any</i> <i>some apples, any bananas</i> p31 <i>a few, a little, a lot/lots of</i> p31 <i>something / someone / somewhere</i> p32 Articles <i>a shopkeeper, an old village, the north of England, He came by bus.</i> p32 Food <i>apples, beer, bread, cake</i> p36 Shopping <i>newsagent's, chemist's, off-licence</i> p36 Can you come for dinner? <i>Would you like some more rice?</i> <i>Could you pass the salt, please?</i> <i>How would you like your coffee?</i> <i>This is delicious!</i> p37
Week 5	Looking forward p38 Verb patterns <i>want/hope to do</i> <i>like/enjoy doing</i> <i>looking forward to doing</i> <i>'d like to</i> p38 Future forms <i>going to, will and Present Continuous</i> <i>I'm going to stay with a friend.</i> <i>I'll call or text you.</i> <i>I'm working late this evening.</i> p40 Phrasal verbs – literal <i>move back</i> <i>take away</i> <i>grow up</i> p44 Phrasal verbs – idiomatic <i>give up</i> <i>take off</i> <i>look after</i> p44 Expressing doubt and certainty

	<i>Of course he will.</i> <i>He might do.</i> <i>Mmm ... maybe.</i> <i>I doubt it.</i> <i>No chance.</i> p45
Week 6	The way I see it p46 What ... like? <i>What's your teacher like?</i> p46 Comparative and superlative adjectives <i>big, bigger, biggest</i> <i>good, better, best</i> p47 <i>as ... as</i> <i>It isn't as hot as Dubai.</i> p47 Relative pronouns <i>who/that/which/where</i> p110 Synonyms and antonyms <i>lovely, beautiful</i> <i>brilliant, terrible</i> p52 What's on? <i>How much is it to go</i> <i>in the museum?</i> <i>Is it open on Sunday?</i> <i>What film is suitable</i> <i>for children?</i> p53
Week 7	Mid-term Exam
Week 8	Living history p54 Present Perfect <i>John has lived there for three</i> <i>years.</i> p55 <i>for and since</i> <i>for two hours</i> <i>since six o'clock</i> p55 <i>ever and never</i> <i>Have you ever been ...?</i> <i>I've never been to South America.</i> p56 Present Perfect or Past Simple <i>Have you had an ordinary job?</i> <i>I worked in a restaurant.</i> p57 Word endings Jobs <i>philosopher, historian,</i> <i>economist</i> p57 Nouns and adjectives <i>competition, famous</i> p57 Word stress <i>danger, dangerous</i> <i>invite, invitation</i> p57 Agree with me! <i>It's wonderful, isn't it?</i> <i>You come from</i> <i>Scotland, don't you?</i> <i>It wasn't easy, was it?</i> <i>You've lived here for</i> <i>years, haven't you?</i> p61
Week 9	Girls and boys p62 have to <i>She has to train hard.</i> <i>I don't have to train every day.</i> <i>Do you have to work at</i> <i>weekends?</i> p63 should <i>You should show him this letter.</i> p64 must

	<i>He must get professional help.</i> p64 Things to wear <i>belt, cap, boots, jumper,</i> <i>make-up</i> p68 Materials <i>leather, wool, denim,</i> <i>cotton</i> p68 Situations <i>job interview, party, beach</i> <i>holiday</i> p68 At the doctor's <i>a sore throat, flu, food</i> <i>poisoning</i> <i>I've got a fever.</i> <i>My body aches.</i> <i>My glands are</i> <i>swollen.</i> p69
Week 10	Time for a story p70 Past Perfect <i>They had walked twenty miles.</i> p71 Narrative tenses <i>They saw a bear.</i> <i>They were looking for work.</i> p71 Joining sentences <i>although, because</i> <i>when, while, before, after, as, until,</i> <i>as soon as</i> p72 Feelings <i>angry, nervous, delighted,</i> <i>stressed</i> p76 Exclamations with so and such <i>I was so scared!</i> <i>It was such a shock!</i> <i>We had such terrible</i> <i>weather!</i> <i>I've got so much work!</i> p77
Week 11	Our interactive world p78 Passives <i>Mobile phones are used by almost</i> <i>6 billion people.</i> <i>The first mobile phone call was made</i> <i>in 1973.</i> <i>Camera phones have been sold since</i> <i>2002.</i> <i>Landline telephones will be replaced</i> <i>by mobile phones.</i> p79 Words that go together Noun + noun <i>text message,</i> <i>businessman</i> p81 Verb + noun <i>take notes,</i> <i>send a text message</i> p81 Adverb + adjective <i>well-known,</i> <i>badly-behaved</i> p81 On the phone 07700 900333 <i>Can I speak to</i> <i>Patrick, please?</i> <i>I'm calling because ...</i> <i>Sorry, you're breaking</i> <i>up ...</i>

	p85
Week 12	Life's what you make it! p86 Present Perfect Continuous <i>He's been making programmes since 2007.</i> <i>How long has she been working there?</i> p87 Present Perfect Simple versus Continuous <i>He's made three programmes.</i> <i>He's been teaching for three years.</i> p87 Birth, marriage, death <i>pregnant, born</i> <i>engaged, divorced</i> <i>funeral, died of</i> p92 Good news, bad news <i>Congratulations!</i> <i>That's fantastic news!</i> <i>What a shame!</i> <i>I'm so sorry.</i> p93
Week 13	Just wondering ... p94 First conditional <i>if + will</i> <i>If it's sunny, we'll go for a picnic.</i> <i>We won't go out if it rains.</i> p95 <i>going to and might</i> <i>What are you going to do tonight?</i> <i>I might go out ...</i> p95 Second conditional <i>if + would</i> <i>If I had a brother, I'd play with him.</i> <i>If I were you, I'd stop smoking.</i> p96 Prepositions <i>connected to</i> <i>on a date</i> <i>listen to</i> <i>think about</i> p100 Thank you and goodbye! <i>It's late. I must be going now.</i> <i>Thank you for a lovely evening.</i> <i>My pleasure!</i> p101
Week 14	Living in a stately home <i>Living history</i> Chatsworth House and the family who call it home p58 A family history David Taylor Bews from Perth, Australia researches his family history p60 What do you think? Stately homes Aristocracy Inherited wealth p58 Talking about you Have you ever ...? p57 The lives of your grandparents p60 What do you think? Family history p60 A biography Ordering paragraphs: Two Kennedys Researching facts about a famous

	person and writing a biography p111
Week 15	Families with all boys or all girls <i>Sons and daughters</i> The parents of four daughters swap homes with the parents of four sons p66 Heptathlon champion An interview with Jessica Ennis – Britain's first world heptathlon champion p65 What do you think? Talking about successful people p65 Pros and cons of all-girl or all-boy families The ideal family p66 Dress person X Describing an outfit p68 Letters and emails Formal and informal expressions <i>Dear Sir or Madam,</i> <i>Yours sincerely,</i> <i>Hi Cathy,</i> <i>Love Steve</i> Writing a formal letter to a language school and an email to an English friend p112
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	The core textbook is Soars, John and Liz, (2011), New Headway Plus Pre-Intermediate Student's Book, Special Edition, Oxford University Press	Yes
Recommended Texts	New Headway Plus provides an integrated skills course with each unit divided into grammar, vocabulary, skills work and everyday English segments	No
Websites	Oxford University Press: The New Headway series is published by Oxford University Press. Visit their website at www.oup.com and search for "New Headway Plus, Special Edition, pre-Intermediate" or browse their English language teaching section for information on the course.	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings

	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department of Biology	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية (اللغة العربية)

Module Information					
معلومات المادة الدراسية					
Module Title	<u>Arabic Language</u>			Module Delivery	
Module Type	<u>Basic</u>			☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	<u>UOB201</u>				
ECTS Credits	<u>2</u>				
SWL (hr/sem)	<u>50</u>				
Module Level	٢		Semester of Delivery		
Administering Department	Biology		College	Science	
Module Leader	Dr. Leqaa faleh owdaa		e-mail	leqaa.falih@ircoedu.uobaghdad.edu.iq	
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	Name (if available)		e-mail	E-mail	
Peer Reviewer Name	Assistant lecturer. A'laa Sabah Hammood		e-mail	alaa.sabah@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	11/06/202٤		Version Number	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

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Module Aims, Learning Outcomes and Indicative Contents			
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية			
Module Objectives أهداف المادة الدراسية	١- تهدف إلى تنمية روح الإعتزاز باللغة العربية للمحافظة على الهوية العربية. ٢- تهدف إلى تأهيل الطلبة بالمعارف والمخرجات الخاصة علم النحو، والصرف، والإملاء؛ لتمكنه من الكتابة الصحيحة والتعبير السليم وتقويم لسانه. ٣- تهدف إلى تنمية ذوق الطالب الأدبي وإثراء تحصيله وإغناء زاده من الفكر العربي والإسلامي. ٤- تهدف إلى تطوير مهارات الطلاب اللغوية التي تؤهلهم للإبداع المتميز. ٥- تهدف إلى تنمية مهارات التحدث بـ (اللغة العربية). ٦- تهدف إلى الارتقاء بمستوى الطلبة من الجانب المهني والبحثي.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	١- التعرف على الظواهر اللغوية كونها إحدى خصائص اللغة العربية التي تميزت بها. ٢- التعرف على قواعد كتابة الألف اللينة في آخر الكلمة، والتمييز بين الألف الطويلة والقصيرة عن طريق ذكر مواضع كل منهما وتوضيح ذلك بذكر الأمثلة. ٣- التعرف على الإستثناء من حيث تعريفه وأدواته وحكمه وبيان ذلك بالأمثلة التوضيحية. ٤- التعرف على الحال من حيث تعريفه وحكمه وبيان ذلك بالأمثلة التوضيحية. ٥- التعرف على التمييز من حيث تعريفه وحكمه وبيان ذلك بالأمثلة التوضيحية. ٦- التعرف على المفاعيل الخمسة وبيان أحكامها كونها من منصوبات الأسماء وبيان ذلك بالأمثلة التوضيحية. ٧- التعرف على حروف الجر كونها من مجرورات الأسماء، والتمييز بين معانيها، وبيان حكمها مع توضيح ذلك بذكر الأمثلة. ٨- التعرف على الاسم المذكر والاسم المؤنث من حيث تعريفهما، وأقسامهما مع ذكر الأمثلة التوضيحية. ٩- التمييز بين اللام الشمسية واللام القمرية من حيث النطق والكتابة، وذلك من حيث تعريفهما ومعرفة حروف كل منهما. ١٠- التعرف بحروف الحذف والزيادة في الكلمة، وبيان ذلك بالأمثلة التوضيحية. ١١- تعريف الطالب بمواضع الوقف في اللغة العربية لما فيه من أهمية لإصال المعلومات إلى المتلقي بشكل صحيح فضلاً عن تمكنه من فهم النص فهماً صحيحاً. ١٢- تمكين الطالب من معرفة المواضع الإعرابية للكلمات داخل النص، ومعرفة معاني بعض الكلمات، فضلاً عن استخراج الأهداف منه. ١٣- التعرف على الشاعر المتنبي كونه من شعراء العصر العباسي. ١٤- التعرف على الشاعر نازك الملائكة كونها إحدى رواد الشعر الحر الحديث في العراق.		
Indicative Contents المحتويات الإرشادية تتضمن الكلمات المفتاحية المهمة للمحاضرات	- الظواهر اللغوية: الترادف، المشترك اللفظي، التضاد. - الألف اللينة: الألف الطويلة، الألف القصيرة. - الإستثناء. - الحال. - التمييز. - المفاعيل الخمسة: منصوبات الأسماء، المفعول به، المفعول فيه، المفعول المطلق، المفعول لأجله، المفعول معه. - حروف الجر: مجرورات الأسماء، معاني حروف الجر. - الاسم المذكر والمؤنث: تعريف الاسم المذكر، والاسم المؤنث، أقسام الاسم المذكر والمؤنث. - اللام الشمسية، اللام القمرية، الحذف والزيادة. - الوقف. - سورة لقمان، إعراب سورة لقمان، تفسير سورة لقمان. - الشاعر المتنبي: حياته، مؤلفاته. - الشاعرة نازك الملائكة: حياتها، مؤلفاتها.		

٢

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	الاستراتيجية الرئيسية التي سيتم تبنيها في تقديم هذه الوحدة هي تشجيع الطلاب على المشاركة في التمارين والتطبيقات النحوية والإملائية، مع تحسين مهارات التفكير والتحليل في الوقت نفسه. ويتم تحقيق ذلك عن طريق الفصول والبرامج التعليمية التفاعلية والنظر في أنواع التطبيقات التي تتضمن بعض الأنشطة التي تهتم الطلبة.
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	٣٣	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	٢
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	١٧	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	1.13
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	٥٠		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	٣, ٩	LO #١, ٢ and ٨
	Assignments	2	10% (10)	٥, ٨	LO # 4 and ٦
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	1٠	LO # ,١,٢, ٣,٤,٥,٦,7 ١٣ ٩,١٠,١١,١٢, and ١٤
Summative assessment	Midterm Exam	٢hr	10% (10)	٧	LO # 1-٦
	Final Exam	٣hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	الظواهر اللغوية: الترادف ، المشترك اللفظي، التضاد.
Week 2	قواعد كتابة الألف اللينة في آخر الكلمة.
Week 3	الإستثناء.
Week 4	الحال.
Week 5	التمييز.

Week 6	المفاعيل الخمسة: المفعول به، المفعول فيه، المفعول المطلق، المفعول لأجله، المفعول معه.
Week 7	حروف الجر ومعانيها.
Week 8	امتحان نصف الفصل.
Week 9	الاسم المذكر والمؤنث.
Week 10	الحروف من حيث النطق والكتابة: اللام الشمسية والقمرية، الحذف والزيادة.
Week 11	الوقف.
Week 12	نص من سورة لقمان.
Week 13	الشاعر المتنبي.
Week 14	الشاعرة نازك الملائكة.
Week 15	مراجعة للمنهج قبل الإمتحان النهائي.
Week 16	امتحان ختامي.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	القرآن الكريم - الأدب العربي في العصر العباسي: د. ناظم رشيد. - إعراب القرآن وبيانه: محيي الدين درويش. - التطبيق الصرفي: د. عبده الراجحي. - تفسير الكشاف: للزمخشري. - جامع الدروس العربيّة: الشيخ مصطفى الغلاييني. - ديوان المتنبي. - ديوان نازك الملائكة.	Yes
Recommended Texts	- شرح ابن عقيل: ابن عقيل، تحقيق: محمد محي الدين عبد الحميد. - الشعر العراقي الحديث مرحلة وتطور: د. جلال الخياط. - فقه اللغة العربيّة وخصائصها: د. إميل بديع يعقوب. - المفيد في أحكام التلاوة والتجويد: القارئ الشيخ رافع العامري. - الوجيز في اللغة العربيّة: أ.د. محيي هلال السرحان.	yes
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

المرحلة الرابعة/ الفصل الأول

نموذج وصف المقرر

١. اسم المقرر: علم الديدان الطبية – العملي – مرحلة رابعة	
٢. رمز المقرر	
٣. الفصل / السنة ٢٠٢٤ – ٢٠٢٥	
٤. تاريخ إعداد هذا الوصف ٢٠٢٤/١٠/١	
٥. أشكال الحضور المتاحة محاضرة نظري – حضوري	
٦. عدد الساعات الدراسية(الكلية)/ عدد الوحدات (الكلية) ٢ ساعات نظري اسبوعيا	
٧. اسم مسؤول المقرر الدراسي (إذا أكثر من اسم يذكر) الاسم: أ.د.خولة حوري	
khawla.hoori@sc.uobaghdad.edu.iq hayder.zuhair@sc.uobaghdad.edu.iq entsar.saheb@sc.uobaghdad.edu.iq rasha.hussain@sc.uobaghdad.edu.iq dina.khudhair@sc.uobaghdad.edu.iq zainab.khidhair@sc.uobaghdad.edu.iq israa.salim@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
١- ان يتمكن الطالب من تشخيص الديدان الطفيلية على مستوى الدودة البالغة و الاطوار اليرقية ٢- ان يميز الطالب الصفات التشخيصية لكل دوده طفيلية ٣- ان يتمكن الطالب من تمييز الانواع المرضيه منها يقوم الطالب بتشخيص الدودة بمراحل حياتها المختلفة ، تحت المجهر ٤ – يرسم الطالب الدودة البالغة و اطوارها اليرقية مع التأشير ٥ – دراسة الامراضية النسيجية التي	اهداف المادة الدراسية

تسببها الديدان ، تحت المجهر 6- يقوم بأعداد بحث حول احد الديدان الطفيلية					
٩. استراتيجيات التعليم والتعلم					
الاستراتيجية		استخدام show Data لغرض عرض المادة على شكل power point اعداد تقارير وبحوث تعدها مجاميع منتظمه من الطلبة التدريب صيفي في المراكز والمختبرات الطبيه ينمي خبرات الطلبة			
١٠. بنية المقرر					
الاسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	2	General characteristics, Main classes, and main Sub Classes and Orders, Morphological physiological adaptations	Introduction, Helminthes classification Phylum Platyhelminthes:	محاضرة مختبر + شرائح تفحص تحت المجهر	Data Show + Microscope
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	محاضرة مختبر + شرائح تفحص تحت المجهر	Data Show + Microscope
3	2	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	Fasciola gigantica Clonorchis sinensis Opisthorchis viverrini O. felineus Dicrocoelium dendriticum	محاضرة مختبر + شرائح تفحص تحت المجهر	Data Show + Microscope

Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	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	محاضرة مختبر + شرائح تفحص تحت المجهر	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	محاضرة مختبر + شرائح تفحص تحت المجهر	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	محاضرة مختبر + شرائح تفحص تحت المجهر	Order Pseudophyllidae Diphyllbothrium latum Spirometra mansonioides (human) Sparganosis Order Cyclophyllidae Taenia saginata	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	7

		Taenia solium Cysticercosis			
Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	Taenia multiceps Echinococcus granulosus Hydatid cyst Echinococcus multilocularis	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	8
Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	Dipylidium caninum Moniezia expansa Hymenolepis nana Hymenolepis diminuta H. carioca	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	9
Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	Aschelminthes Classification Egg shell formation Hatching & Molting	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	10
Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	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	محاضرة مختبر + شرائح تفحص تحت المجهر	Toxocara canis visceral larva (migrans) T. cati Toxascaris leonine Lagochilascaris minor Anisakis spp	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	12
Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	Ancylostoma deudenale Necator americanus Ancylostoma caninum (cutaneous larva) migrans Oesophagostomum Ternidens	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	13
Data Show + Microscope	محاضرة مختبر + شرائح تفحص تحت المجهر	Trichostrongylus Haemonchus contortus Angiostrongylus	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	14

١١. تقييم المقرر	
توزيع الدرجة من ١١ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	محاضرات مقررة من قبل اساتذة المادة توفر الكتاب المنهجي (علم الديدان) وكتب عالمية متنوعة حول علم الطفيليات الاستعانة بالبحوث والتقارير الحديثة بالانترنت
المراجع الرئيسية (المصادر)	Medical Parasitology, Satoskar, et al. ٢٠٠٩, LANDES Bioscience, USA. Atlas of Medical Helminthology and Protozoology, Chiodini, et al. ٢٠٠٣, ٤ th edition, ELSEVIER Science limited.
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير)	Iraqi Journal of Science Elsevier journals
المراجع الإلكترونية ، مواقع الانترنت	Google Scholar

نموذج وصف المقرر

١. اسم المقرر : علم الديدان الطفيلية – النظري- مرحلة رابعة
٢. رمز المقرر:
٣. الفصل / السنة: ٢٠٢٤-٢٠٢٥
٤. تاريخ إعداد هذا الوصف: ٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة: محاضرة نظري – حضوري
٦. عدد الساعات الدراسية(الكلي)/ عدد الوحدات (الكلي): ٢ ساعات نظري أسبوعيا
٧. اسم مسؤول المقرر الدراسي (إذا أكثر من اسم يذكر):—

: hayder.zuhair@sc.uobaghdad.edu.iq الاس م: أ.د. حيدر زهير علي الأيميل
rasha.hussain@sc.uobaghdad.edu.iq أ.م.د. رشا حسين كبة
israa.salim@sc.uobaghdad.edu.iq أ.م. اسراء سالم موسى

٨. اهداف المقرر

اهداف المادة الدراسية	1-دراسة الديدان الطفيلية ذات الالاهميه الطبية والاقتصادية 2-دراسة دورات حياة هذه الديدان و التعرف على مضانفها من حيوانات اخرى 3-دراسة طرق الاصابه بالديدان و طرق تشخيصها والوقايه منها والعلاجات المستخدمه
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٩. استراتيجيات التعليم والتعلم

الاستراتيجية	المعرفة والفهم ١- ان يتعرف الطالب على علم الديدان الطفيلية المنتشرة محليا و عالميا ٢- ان يتعرف الطالب على كيفية تشخيص الديدان و امراضيتها و طرق الوقاية منها ٣- ان يتمكن الطالب من تمييز الانواع المرضيه منها ٤- توجيه الطالب لبث الثقافه الصحيه في بيته و عائلته المهارات الخاصة بالموضوع - يقوم بأعداد بحث حول احد الديدان الطفيلية - استخدام show Data لغرض عرض المادة على شكل power point - اعداد تقارير وبحوث تعدها مجاميع منتظمه من الطلبة - التدريب صيفي في المراكز والمختبرات الطبيه ينمي خبرات الطلبة
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١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	2	General characteristics, Main classes, and main Sub Classes and Orders, Morphological physiological adaptations .	Introduction, Helminthes classification Phylum Platyhelminthes:	محاضرات نظري	امتحانات يومية + امتحان فصل ي
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	محاضرات نظري	امتحانات يومية + امتحان فصل ي

امتحانات يومية +امتحان فصل ي	محاضرات نظري	Fasciola gigantica Clonorchis sinensis Opisthorchis viverrini O. felinus Dicrocoelium dendriticum	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	3
امتحانات يومية +امتحان فصل ي	محاضرات نظري	Intestinal flukes Fasciolopsis buski Heterophyes heterophyes Metagonimus yokogawai Paramphistomum cervi Echinostomailocanum	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	4
امتحانات يومية +امتحان فصل ي	محاضرات نظري	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
امتحانات يومية +امتحان فصل ي	محاضرات نظري	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
امتحانات يومية +امتحان فصل ي	محاضرات نظري	Order Pseudophyllidae Diphyllobothrium latum Spirometra mansonioides (human) Sparganosis Order Cyclophyllidae Taenia saginata Taenia solium Cysticercosis	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	7

امتحانات يومية +امتحان فصل ل ي	محاضرات نظري هـ	Taenia multiceps Echinococcus granulosus Hydatid cyst Echinococcus multilocularis Ech. Vogeli Ech. Oligarthus	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	8
امتحانات يومية +امتحان فصل ي	محاضرات نظري هـ	Dipylidium caninum Moniezia expansa Hymenolepis nana Hymenolepis diminuta H. carioca	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	9
امتحانات يومية +امتحان فصل ي	محاضرات نظري هـ	Phylum Aschelminthes (Nematoda) Classification Egg shell formation Hatching & Molting.	General characteristics Cuticle, Excretory system, Digestive system, Nervous system, Reproductive system	2	10
امتحانات يومية +امتحان فصل ي	محاضرات نظري هـ	Trichinella spiralis Capillaria hepatica C. philippinensis Dioctophyma renale Enterobius vermicularis Syphacia spp	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	11
امتحانات يومية +امتحان فصل ي	محاضرات نظري هـ	Toxocara canis visceral larva (migrans) T. cati Toxascaris leonine	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	12

امتحانات يومية +امتحان فصلي	محاضرات نظري هـ	Ancylostoma deudenale Necator americanus Ancylostoma caninum (cutaneous larva) migrans Oesophagostomum Ternidens	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	13
امتحانات يومية +امتحان فصلي	محاضرات نظري هـ	Mammomonogamus syngamiasis Trichostrongylus Haemonchus contortus Angiostrongylus	Geographic distribution, disease, life cycle, diagnosis, symptoms, treatment.	2	14

١١. تقييم المقرر	
توزيع الدرجة من ٠١١ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشهوية والشهرية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	محاضرات مقررة من قبل اساتذة المادة توفر الكتاب المنهجي (علم الديدان) وكتب عالمية متنوعة حول علم الطفيليات الاستعانة بالبحوث والتقارير الحديثة بالانترنت
المراجع الرئيسية (المصادر)	Medical Parasitology, Satoskar, et al. ٢٠٠٩, LANDES Bioscience, USA. Atlas of Medical Helminthology and Protozoology, Chiodini, et al. ٢٠٠٣, ٤ th edition, ELSEVIER Science limited.
الكتب والمراجع السائدة التي يوصى بها (المجلات العلمية، التقارير)	الاستخدام المتزايد لتقنية المعلومات أو مراجع الإنترنت، والتغيرات في المحتوى كنتيجة لمواكبة التطور الكبير في عالم التكنولوجيا والمعلومات Iraqi Journal of Science Elsevier journals
المراجع الإلكترونية ، مواقع الانترنت	Google Scholar

وصف المقرر

١. اسم المقرر	علم الاجنة - نظري
٢. رمز المقرر	
٣. الفصل/السنة	٢٠٢٤ - ٢٠٢٥ / الفصل الدراسي الاول
٤. تاريخ إعداد هذا الوصف	٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة	محاضرة تقليدية

6. عددالساعات الدراسية(الكلية)(/ عددالوحدات)(الكلية) 4 ساعات نظري اسبوعيا / 3 وحدات				
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذ كر) د.ياسمين لطيف جاسم عبد المطلب				
: yasmin.alsaadi@sc.uobaghdad.edu.iq الاس م:الأيمل				
8. اهداف المقرر				
اهداف المادة الدراسية		1- تهدف المادة الى دراسة علم الاجنة والتعرف على مراحل التطور الجنيني للكائن الحي 2- دراسة دورة الخلية و تركيب الكروموسوم ودور الكروموسومات في انقسام الخلية 3- دراسة عملية الاخصاب في الفقريات والعمليات التي تحدث للحيمن لتسهيل عملية الاخصاب بالاضافة الى دراسة مراحل الاخصاب 4- دراسة التفلق ونواتج التفلق بالاضافة الى التعرف على انواع ومسارات التفلق وعمل مقارنة بينهما 5- دراسة التطور الجنيني في الانسان خلال الاسبوع الثاني والثالث من الحمل 6- دراسة تكوين الحبل الظهري والانبوب العصبي بالاضافة الى عملية تكوين الاعضاء		
9. استراتيجيات التعليم والتعلم				
الاستراتيجية		أ- الاهداف المعرفية دراسة الفرق بين مفهوم التطور والتكوين دراسة مراحل انقسام الخلايا خلال المراحل الجنينية دراسة تسلسل مراحل النمو الجنيني لنماذج حيوانية مختلفة بدءا من النماذج البدائية حتى الانسان دراسة العوامل البيئية والمرضية التي لها دور في احداث الضرر في التكوين الجنيني للكائن الحي ب- الاهداف المهاراتية دراسة عمليات الانقسام للخلايا الحيوانية ومقاطع محضره او جاهزة تحت المجهر تأشير الاجزاء المهمة		
10. بنية المقرر				
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم طريقة التقييم

اختبار شفهي أو تحريري	اعداد محاضرة power point data استخدام show	Introduction to embryology the stages of the embryogenesis of the animal specie Branches of Embryolog	مدخل - مبسط لعلم الاجنه والتعرف على مراحل التطور الجنيني لدى الكائن الحي	4 نظري	1
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Cell cycle and Chromosomes -Regulation of cell cycle Role of chromosomes in cell division -Structure of chromosome	دراسة دورة الخلية- الية تنظيم دورة الخلية - دور الكروموسومات في انقسام الخلية	4 نظري	2
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Cell Division - nuclear division: mitosis)steps of mitosis(meiosis)stages of meiosis) Gametogenesis: Spermatogenesis - Spermatocytogenesis Gametogenesis: Oogenesis - Phases of Oogenesis Classification of eggs	- تركيب الكروموسوم دراسة انقسام الخلية - دراسة انواع الانقسام النووي - فهم الية تكوين الخلايا التكاثرية في الذكور	4 نظري	3
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Based on the amount of the yolk Based on the distribution of the yolk Formation of egg membranes classification of egg membranes The ovarian cycle - Types of follicles: Primary follicle Secondary follicle 3- graafian follicle Phases of the ovarian cycle	- - - - - - - فهم الية تكوين الخلايا التكاثرية الانثوية انواع البويض اعتمادا على كمية المح وعلى توزيع المادة المحية - دراسة تشكيل اغشية البيضة وانواع الاعشبة	4 نظري	4
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Ovulation Corpus luteum and	دراسة الدورة المبيضية ومعرفة انواع الجريبات المبيضية - مراحل الدورة المبيضية	4 نظري	5

اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Corpus albicans Oocyte transport -	دراسة التطور الجنيني بدءا من مرحلة الاباضة - تكوين الجسم - الاصفر والجسم الابيض - انتقال البويضة المخصبة الى الرحم	4 نظري	
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Fertilization - Spermatozoa undergo two processes: 1- Capacitation 2- Acrosome reaction The phases of fertilization -	دراسة عملية الاخصاب في الفقرات والعمليات التي تحدث للحيمين لتسهيل عملية الاخصاب - مراحل الاخصاب	4 نظري	6
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Cleavage - product of cleavage - (morula versus blastula) (blastula versus blastocyst) Types of cleavage - - Planes of Cleavage	تعريف التفلق - نواتج التفلق و عمل مقارنات بينهما انواع التفلق - مسارات التفلق blastocyst - تكوين blastocyst	4 نظري	7
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	Uterus at time of implantation Second week of human embryonic development: Bilaminar germ discGastrulation: Types of morphogenetic movements that occur during gastrulation:	نبذة مختصرة عن طبقات الرحم في الفقرات عند انغراس البويضة	4 نظري	8
اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام show	المخصبة في الرحم دراسة التطور الجنيني في الانسان في الاسبوع الثاني من الحمل عملية المعيدة والية تكوينها	المخصبة في الرحم دراسة التطور الجنيني في الانسان في الاسبوع الثاني من الحمل عملية المعيدة والية تكوينها	4 نظري	9

اختبار شفهي او تحريري	اعداد محاضرة power point data استخدام 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	الاسبوع الثالث من التطور الجنيني في الانسان - الناتج النهائي خلال عملية تكوين المعيدة في الفقريات - الخارطة المصيرية خلال تكوين المعيدة - تكوين الحبل الظهري - تكوين الانبوب العصبي - تكوين الاعضاء	4 نظري	10
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١١. تقييم المقرر	
توزيع الدرجات من ١١ على وفق المهام المكلف بها الطالب مثلاً لتحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريري والنقارير....الخ	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	د.كوكب عبد القادر و د. امل الخطيب) علم الاجنة
المراجع الرئيسية (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 الانترنت	www.embryology.com www.embryology.ch www.nature.com

نموذج وصف المقرر

١. اسم المقرر علم الاجنة
٢. رمز المقرر
٣. الفصل / السنة ٢٠٢٤-٢٠٢٥ الفصل الاول
٤. تاريخ إعداد هذا الوصف ٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة محاضرة تقليدية
٦. عدد الساعات الدراسية(الكلية)/ عدد الوحدات (الكلية) ٤ ساعات نظري + ١٢ ساعة عملي / اسبوعياً عدد الوحدات ٣
٧. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)
الاسم أ.م.د. لينا عبد المطلب صالح الأيمل @yahoo.com ٢٠١١lina_salih:
٨. اهداف المقرر

أهداف المادة الدراسية - تهدف المادة الى التعرف على طبيعته بداية تكوين أنسجة وأعضاء الجسم منذ نشأته الأولى خلال الفترة الجنينية وتوضيح أهم التغيرات النسجية والكيميائية والوظيفية التي تحدث خلال هذه المرحلة وحتى مرحلة بلوغ الكائن الحي وتأثيره في محيطه الخارجي. - دراسة مدى التشابه والاختلاف في المراحل الجنينية المبكرة لمختلف الحيوانات والتعرف على نقاط الاختلاف - فهم كيفية تكوين الأعضاء والأنسجة في نماذج حيوانية مختلفة ومقارنتها مع الإنسان والتعرف على مفهوم التطور في تاريخ حياة الكائن الحي	
٩. استراتيجيات التعليم والتعلم	
المعرفة والفهم للمادة اكتساب المهارات للفهم والتحليل والمنطق العلمي تنوع طرائق التعليم والتعلم من خلال الامتحانات الفصلية والنهائية والتقارير ان امكن مهارات التفكير من خلال اختبارات شفوية مفاجئة	الاستراتيجية

1. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / المساق أو الموضوع	طريقة التعليم	طريقة التقييم
1	2 نظري	- مدخل مبسط لعلم الاجنه والتعرف على مراحل التطور الجنيني لدى الكائن الحي	Insight of Embryology and development Biology - the stages of the embryogenesis of the animal specie	شرح مباشر على اللوحة	اختبار شفهي او تحريري
2	2 نظري	التعرف على مفهوم الدورة الخلوية وتأثيرها في عملية نمو وانقسام الخلايا والتطرق لميكانيكية عملها داخل الخلايا الحية ودور الكروموسومات في الخلية	Cell cycle and Chromosomes	شرح مباشر على اللوحة	اختبار شفهي او تحريري
3	2 نظري	- التعرف على انواع الانقسام الخلوي والية عمله في مختلف انواع الخلايا	Cell division	شرح مباشر على اللوحة	اختبار شفهي او تحريري
4	2 نظري	- فهم اليه تكوين الخلايا التكاثرية الذكرية	Gametogenesis - Spermatogenesis Spermatocytogenesis Spermeiogenesis	شرح مباشر على اللوحة	اختبار شفهي او تحريري
5	2 نظري	- فهم اليه تكوين الخلايا التكاثرية الانثوية -انواع البيوض	Oogenesis. Amount and distribution of yolk and types of eggs Comparison of spermatogenesis	شرح مباشر على اللوحة	اختبار شفهي او تحريري
6	2 نظري	- توضيح عملية الاباضه والاختصاب - عملية التفلقج -نواتج عملية التفلقج -عملية التكوين النسجي وتكوين الاعضاء	Ovulation Fertilization- Oocyte activation Cleavage Products of the cleavage Gastrulation -Histogenesis & Organogenesis	شرح مباشر على اللوحة	اختبار شفهي او تحريري

اختبار شفهي او تحريري	شرح مباشر على اللوحة	Embryogenesis of Amphioxus Reproduction - Ovulation and - spawning Fertilization - Fate map - Cleavage and - Blastulation	التكوين الجنيني في الرميح	2 نظري	7
اختبار شفهي او تحريري	شرح مباشر على اللوحة	Nervous system Mesoderm Notochord Foregut	دراسة تكوين الجهاز العصبي دراسة الطبقات الجنينية وملحقاتها	2 نظري	8
اختبار شفهي او تحريري	شرح مباشر على اللوحة	Embryogenesis of the Amphibians Reproduction -The membranes surrounding the amphibians' eggs Fertilization Penetration and Copulation	-التكوين الجنيني في البرمائيات - فهم الية التكاثر والاختصاص	2 نظري	6
اختبار شفهي او تحريري	شرح مباشر على اللوحة	Cleavage and Blastulation in frog Fate map of blastula of frog Gastrulation Neurulation	-توضيح عملية التفلق -فهم الخارطة المصيرية وعملية المعيدة وتكوين الجهاز العصبي في الضفدع	2 نظري	7
اختبار شفهي او تحريري	شرح مباشر على اللوحة	Formation of the Notochord Differentiation of the mesoderm -Differentiation of the endoderm	توضيح طريقة تكوين الحبل العصبي تمايز الاديم المتوسط والباطن	2 نظري	8

		Embryogenesis of chick egg Anatomy of the ovary Ovulation The layers of the ovum Fertilization Cleavage and blastulation	-التكوين الجنيني في الطيور- الدجاج-توضيح التشريح الداخلي لمبيض الدجاج فهم الطبقات المحيطة بالبيضة وعملية التفلق والخرطة المصيرية	2 نظري	9
		Fate map of discoblastula			
		Gastrulation Comparison of Blastopore and Primitive Streak Ectoderm . Mesoderm Endoderm	- - فهم عملية تكوين المعيدة توضيح التكوين الجنيني لكل من الاديم المتوسط والبطن - - -	2 نظري	10
		Chick-development during the first day (24 hours) of incubation: Neural folds & neural groove Foregut Mesoderm Blood & blood vessels notochord	توضيح عملية التكوين الجنيني لجنين الدجاجة في عمر 24 ساعة حضانة ودراسة اهم التغيرات الناتجة	2 نظري	11

اختبار شفهي او تحريري	شرح مباشر على اللوحة	Chick-development during the (24-33hours) of incubation:- Neural tube Neural tube differentiation Foegut - Somites Heart &vessels	دراسة التكوين الجنيني لجنين الدجاجة بعمر 24-33 ساعه حضانه ومعرفة مدى التطور العضوي الحاصل	2 نظري	12
اختبار شفهي او تحريري	شرح مباشر على اللوحة	Chick-development during the (48 hours) of incubation:- - Flextion & Torsion Nervous system Neural crest - Digestive system	دراسة التكوين الجنيني لجنين الدجاجة بعمر 48 ساعه حضانه ومعرفة مدى التطور العضوي الحاصل	2 نظري	13
اختبار شفهي او تحريري	شرح مباشر على اللوحة	Chick-development during the (72 hours) of incubation:- - The extraembryonic	دراسة التكوين الجنيني لجنين الدجاجة بعمر 72 ساعه حضانه ومعرفة مدى التطور العضوي الحاصل	2 نظري	14

		membranes - the yolk sac - The chorion&amnion The allantois			
اختبار شفهي او تحريري	شرح مباشر على اللوحة	-The embryogenesis of the human	دراسة التكوين الجنيني بشكل مختصر ومبسط	٢ نظري	١٥

١١. تقييم المقرر	
توزيع الدرجة من ١١ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهوية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
المراجع الرئيسية (المصادر)	
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير)	
المراجع الإلكترونية ، مواقع الانترنت	

نموذج وصف المقرر

١. اسم المقرر
بكتريا مرضية
٢. رمز المقرر
٣. الفصل / السنة
الأول / الرابعة ٢٠٢٤-٢٠٢٥
٤. تاريخ إعداد هذا الوصف
٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة:
محاضرة في الصف
٦. عدد الساعات الدراسية(الكلية)/ عدد الوحدات (الكلية) :
٤ ساعات / ٣ وحدات

7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر) : harith.fahad@sc.uobaghdad.edu.iq الاسم م: أ.د. حارث جبار فهد د الأيميل rasmia.abed@sc.uobaghdad.edu.iq أ.د. رسمية عبد ابو ريشة hala.mouayed@sc.uobaghdad.edu.iq د. حلا مؤيد رديف					
8. اهداف المقرر					
اهداف المادة الدراسية		- الالمام باساسيات البكتريا المرضية - فهم الية الامراضية وكيفية حصولها - استذكار المعلومات ومحاولة ربطها للوصول الى التشخيص المناسب - معرفة واحصاء اهم الممرضات البكتيريه التي تصيب المجتمع العراقي وسبل تشخيصها . وعلاجها .			
9. استراتيجيات التعليم والتعلم					
الاستراتيجية		- يعطى هذا المقرر عن طريق 15 محاضرة نظرية و 15 مختبر عملي. - اعطاء شرح بسيط عن المادة العلمية مع التوضيح عن طريق استعمال ال Data show - اجراء التجارب العملية للطلبة وتعليمهم الطرق الصحيحة في التعامل مع العينات مختبريا من حيث الزرع والحضانة واقرءة النتائج - استعمال الرسوم والصور التوضيحية لايصال المادة العلمية بأبسط شكل واغنى محتوى علمي وعملي - اشراك الطلبة من خلال المجاميع العملية بالتجارب العلمية والعملية والتوجيه بالحسابات الرياضية التي تفيد المادة العلمية وخلق روح التعاون بين المجاميع من خلال تبادل نتائج العمل وفتح النقاشات في المادة العلمية المعتمدة من الكتب المنهجية والبحوث العلمية المتعلقة بالمادة والمأخوذة من شبكة الانترنت للاستفادة من المعلومات الحديثة في مقارنة النتائج			
10. بنية المقرر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	4	التعرف على البكتريا المرضية وعوامل ضرورتها	Pathogenic bacteria: Overview	محاضرة في الصفم مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
2	4	التعرف على الانواع المرضية والامراض التي تسببها وطرق تشخيصها و علاجها والوقاية منها	Enterobacteriaceae	محاضرة في الصفم مختبر عملي	الاختبارات اليومية والفصلية و ال تقارير العملية
3	4	التعرف على الانواع المرضية والامراض التي تسببها وطرق تشخيصها و علاجها والوقاية منها	Vibrio	محاضرة في الصفم مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
4	4	التعرف على الانواع المرضية والامراض التي تسببها وطرق تشخيصها و علاجها والوقاية منها	Staphylococci	محاضرة في الصفم مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية

5	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Streptococci	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
6	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Gram-negative cocci	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
7	4	امتحان فصل ي	Mid-term Exam	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
8	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Aerobic pore-formers	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
9	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Anaerobic poreformers	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
10	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Spirochetes	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
11	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Rickettsia	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
12	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Mycobacteria	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
14	4	التعرف على الانواع المرضية والامراض التي تسببها و طرق تشخيصها و علاجها والوقاية منها	Mycoplasma and chlamydia	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية
15	4		Nosocomial infections	محاضرة في الصفع مختبر عملي	الاختبارات اليومية والفصلية و التقارير العملية

١١. تقييم المقرر	
توزيع الدرجة على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
١. Harley, J.P. (٢٠١٦). Laboratory Exercises in Microbiology. ١٠th ed. McGraw.Hill Higher Education. New York.	الكتب المقررة المطلوبة (المنهجية أن وجدت)
٢. Riedel, S., Morse, S., Mietzner, T., and Miller, S. (٢٠١٩). Jawetz, Melnick, and Adelberg's Medical Microbiology, ٢٨ ed. McGraw-Hill New York.	
Tille PM. Bailey & Scott's Diagnostic Microbiology. ١٥ ed: Elsevier; ٢٠٢١.	المراجع الرئيسية (المصادر)
	الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير)
www.cdc.gov	المراجع الإلكترونية ، مواقع الانترنت

نموذج وصف المقرر

١. اسم المقرر باللغة الانكليزية
٢. رمز المقرر
٣. الفصل / السنة الفصل الاول / ٢٠٢٤ - ٢٠٢٥
٤. تاريخ إعداد هذا الوصف ٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة محاضرات تقليدية / الصفوف الالكترونية
٦. عدد الساعات الدراسية(الكلية)/ عدد الوحدات (الكلية) ٢ ساعة اسبوعيا / ٢ وحدة دراسية
٧. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر) الاسم: أ.م.د. ركاد محمد خماس الأيميل : rakad.aljumaily@sc.uobaghdad.edu.iq

٨. أهداف المقرر					
استخدام اللغة بشكل فعال . معرفة "القواعد" الأساسية للنح و . تنمية الاتجاه العلمي واللغوي لدى التلاميذ			أهداف المادة الدراسية		
٩. استراتيجيات التعليم والتعلم					
تطوير رؤية الطلاب لبنية اللغة الإنجليزية. ٦ تمكين الطلاب من استيعاب الأنماط الصحيحة للغة ٦ تنمية القدرات العقلية للاستدلال والملاحظة الصحيحة ٦ تعليم النحو كقاعدة تحكم السلوك			الاستراتيجية		
١٠. بنية المقرر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	2	The Tense System	No place like home	Data Show	Daily and quarterly examinations
2	2	Present perfect, Simple and Continuous	Been there, don't that	Data Show	Daily and quarterly examinations
3	2	Narrative tense, Past simple, Past continuous, Past perfect	What a story	Data Show	Daily and quarterly examinations
4	2	Questions and Negatives	Nothing but the truth	Data Show	Daily and quarterly examinations
5	2	Future forms	An eye to the future	Data Show	Daily and quarterly examinations
6	2	Expression of Quantity	Making it big	Data Show	Daily and quarterly examinations
7	2	Modals and related verb	Getting on together	Data Show	Daily and quarterly examinations

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	
توزيع الدرجة من ١١ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
Headway Level ٣ (Upper-Intermediate)	الكتب المقررة المطلوبة (المنهجية أن وجدت)
New Headway Liza and John Soars, Oxford Edition	المراجع الرئيسة (المصادر)
noor-book.com/e٤ichy	الكتب والمراجع المساندة التي يوصى بها (المجلات العلمية، التقارير)
https://www.ef.com/wwar/english-help/english-grammar/verbs/	المراجع الإلكترونية ، مواقع الانترنت

نموذج وصف المقرر

١. اسم المقرر	
الاحياء المجهرية الغذائية	
٢. رمز المقرر	
٣. الفصل / السنة	
الفصل الاول/ ٢٠٢٤ - ٢٠٢٥	
٤. تاريخ إعداد هذا الوصف	
٢٠٢٤/١٠/١	
٥. أشكال الحضور المتاحة	
محاضرة تقليدية، و المحاضرات الالكترونية	
٦. عدد الساعات الدراسية(الكلية)/ عدد الوحدات (الكلية)	
٤ ساعات/ ٢ وحدات	
٧. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)	
الاسم: د. مروي حميد مطهر –الايمل marwa.alkhafaji@sc.uobaghdad.edu.iq	
الاسم : د. علياء رزوقي حسين – الايمل alyaa.razooqi@sc.uobaghdad.edu.iq	
٨. اهداف المقرر	
• دراسة علاقة الاحياء المجهرية بالاغذية • دراسة التلوث الميكروبي للاغذية ومعرفة مصادر التلوث والادلة الميكروبية على التلوث • التعرف الى مظاهر التلف الميكروبي في الاغذية وتمييز انواع التلف والعوامل المؤثرة على انواع التلف • دراسة الامراض المحمولة بالغذاء والتسممات الغذائية • دراسة مبادئ وطرق حفظ الاغذية باستخدام الحرارة الاشعاع	اهداف المادة الدراسية

والمواد الكيميائية	
٩. استراتيجيات التعليم والتعلم	
1 – المحاضرات التقليدية و الصفوف الالكترونية وساحة المشاركات العلمية 2- استخدام شاشة العرض Data show ٣ - اجراء التجارب العلمية داخل المختبر ٤ - استخدام الرسومات على السبورة ٥ - استخدام وسائل توضيحية كالبوسترات	الاستراتيجية

10-بنية المقرر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / أو الموضوع	طريقة التعليم	طريقة التقييم
الأول	4	التعرف على بداية اكتشاف الاحياء المجهرية في الاغذية ودور ابرز العلماء	نبذة تاريخية عن علاقة الاحياء المجهرية بالاغذية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
الثاني	4	دور الغذاء في حمل الامراض للانسان	الامراض المحولة بالغذاء	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
الثالث	4	التعرف على مصادر تلوث الاغذية وكيفية الاستدلال على التلوث الميكروبي للاغذية	التلوث الميكروبي للاغذية وأدلة التلوث	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
الرابع	4	معرفة اهمية وانواع المواصفات القياسية واهم المنظمات العالمية والمحلية التي تصدرها ومعرفة انواع التلوث الميكروبي للاغذية ومسبباته	المواصفات القياسية والتلف الميكروبي للاغذية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
الخامس	4	تعلم العوامل المؤثرة على نوع وسرعة التلف الميكروبي للاغذية وكيفية التحري عنها في حالات الاوبئة لغرض الحد منها	العوامل المؤثرة على التلف الميكروبي للاغذية -آلية التحري عن الاوبئة	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
السادس	4	التعرف على انواع الامراض المحمولة بالغذاء ومسبباتها	الامراض المحمولة بالغذاء/ الاصابات والتسممات الغذائية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري

السابع	4	معرفة اهمية التسمم بالليستيريا والسموم الفطرية واشهر انواعها	ليستريوسز والتسممات الفطرية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
الثامن	4	تعلم كيفية اختيار طريقة الحفظ	المبادئ العامة لحفظ الاغذية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
التاسع	4	اهمية الحرارة كعامل فيزيائي للسيطرة على نمو الميكروبات في الاغذية	حماية الاغذية بالحرارة العالية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
العاشر	4	للسيطرة على نمو الميكروبات في الاغذية باستخدام الكيمائيات	استخدام المواد الكيميائية لحفظ الاغذية	محاضرة تقليدية ومختبر عملي	الاسئلة والعمل المختبري
الحادي عشر	4	للسيطرة على نمو الميكروبات في الاغذية باستخدام التشعيع	استخدام التشعيع لحفظ الاغذية	محاضرة تقليدية ومختبر عملي	امتحان تحريرية

١١. تقييم المقرر	
توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشعبية والشهرية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	رشيد محجوب المصلح -١٩٩٠- الاحياء المجهرية في الاغذية- مطبعة جامعة بغداد
المراجع الرئيسية (المصادر)	-Jay, M. J., Loessner, M. j., and Golden, D. A. ٢٠٠٥. Modern Food Microbiology. ٧ th Ed. Springer. U.S.A. -Roberts D, Greenwood M. Practical food microbiology. John Wiley & Sons; ٢٠٠٨ Apr ١٥
الكتب والمراجع السائدة 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." <i>Environmental Toxicology and Chemistry</i> ٤٢, no. ٦ (٢٠٢٣): ١٣٤٦-١٣٥٨. - Kantiani, L., Llorca, M., Sanchis, J., Farré, M. and Barceló, D., ٢٠١٠. Emerging food contaminants: a review. <i>Analytical and bioanalytical chemistry</i> , 398, pp.٢٤١٣-٢٤٢٧.
المراجع الإلكترونية ، مواقع الانترنت	https://www.fao.org/fao-who-codexalimentarius/en/ https://upload.wikimedia.org/wikipedia/commons/thu mb/d/db/FAO_logo.svg/١٢٠٠px-FAO_logo.svg.png

نموذج وصف المقرر

١. اسم المقرر بايولوجي جزيئي ووراثة بكتريا
٢. رمز المقرر
٣. الفصل / السنة الفصل الاول ٢٠٢٤-٢٠٢٥

٤. تاريخ إعداد هذا الوصف 2024/10/1														
5. أشكال الحضور المتاحة محاضرة تقليدية														
6. عدد الساعات الدراسية(الكلية/ عدد الوحدات)الكلية(4 ساعات نظري اسبوعيا + 6 س عملي اسبوعيا - 3 وحدات														
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)														
<table><tr><td>الاسم</td><td></td></tr><tr><td>أ.د. غصون علي عبد الحسن</td><td>ghusoon.ali@sc.uobaghdad.edu.iq</td></tr><tr><td>أ.م.د. احمد سالم كاظم</td><td>khafaji@sc.uobaghdad.edu.iq</td></tr><tr><td>أ.م.د. محمد عبد الرحمن محمد</td><td>mohammed.abdrahman@sc.uobaghdad.edu.iq</td></tr><tr><td>م.د. عذراء محمد صالح</td><td>adhraa.salih@sc.uobaghdad.edu.iq</td></tr></table>					الاسم		أ.د. غصون علي عبد الحسن	ghusoon.ali@sc.uobaghdad.edu.iq	أ.م.د. احمد سالم كاظم	khafaji@sc.uobaghdad.edu.iq	أ.م.د. محمد عبد الرحمن محمد	mohammed.abdrahman@sc.uobaghdad.edu.iq	م.د. عذراء محمد صالح	adhraa.salih@sc.uobaghdad.edu.iq
الاسم														
أ.د. غصون علي عبد الحسن	ghusoon.ali@sc.uobaghdad.edu.iq													
أ.م.د. احمد سالم كاظم	khafaji@sc.uobaghdad.edu.iq													
أ.م.د. محمد عبد الرحمن محمد	mohammed.abdrahman@sc.uobaghdad.edu.iq													
م.د. عذراء محمد صالح	adhraa.salih@sc.uobaghdad.edu.iq													
٨. اهداف المقرر														
اهداف المادة الدراسية		يهدف علم البايولوجي الجزيئي الى دراسة الاحياء بدائية النواة وحقيقية النواة على المستوى الجزيئي من خلال دراسة مختلف العلاقات المتبادلة بين كافة الأنظمة												
٩. استراتيجيات التعلم والتعليم														
الاستراتيجية		١. power point وعرض Data show استخدام ٢. مشاركة الطلبة في بعض محاور المواضيع العملية ومناقشتها.												
١٠. بنية المقرر														
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التقييم										
الاسبوع 1	4س نظري + 6 س عملي	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	طريقة التعلم										

• Meselson and Stahl experiment Replication in prokaryotes	DNA Replication I	4س نظري + 6س عملي	الاسبوع 2
• Chromosomes Structure The Replication of DNA in eukaryotes	DNA Replication II	4س نظري + 6 3س عملي	الاسبوع 3
• Topoiomerase I and II • Telomerase • Telomerase and Cellular Senescence	DNA Replication III	4س نظري + 6 س عملي	الاسبوع 4
• Telomerase and Cellular Senescence • Bacterial DNA Mutations & Antibiotic resistance • Cancer Mutation	Mutations in DNA	4س نظري + 6 5س عملي	الاسبوع 5

• Proofreading • Mismatch Repair • Direct Reversal of DNA damage • Excision repair • Double-stranded break repair	DNA repair	4س نظري + 6 س عملي	الاسبوع 6
	Exam	4س نظري + 6 س عملي	الاسبوع 7
• • Transcription in prokaryotes • Type of RNA • RNA polymerase	Transcription I	4س نظري + 6 س عملي	الاسبوع 8
• Promoter recognition • Transcription process	Transcription II	4س نظري + 6 س عملي	الاسبوع 9
• • • Translation in prokaryotes • Genetic code • Wobble hypothesis • Translation process	Translation	4س نظري + 6 س عملي	الاسبوع 10

• • Regulation of gene in prokaryotes • The operon - Negative and positive regulation	Regulation of the gene expression I	4س نظري + 6 س عملي	الاسبوع 10
• Lac operon Trp operon •	Regulation of the gene expression I	4س نظري + 6 س عملي	الاسبوع 12
• • • Type of gene transfer in bacteria • Conjugation - Plasmid - Types of conjugation	Gene Transfer in Bacteria I	4س نظري + 6 س عملي	الاسبوع 13
• • • Bacterial transformation • Natural and artificial competence - Transduction - Generalized and specialized transduction	Gene Transfer in Bacteria II	4س نظري + 6 س عملي	الاسبوع 14
	Exam	4س نظري + 6 س عملي	الاسبوع 15

١١. تقييم المقرر	
١. عن طريق الاختبارات ٢. عن طريق الاسئلة الاستنتاجية التي تثار في المحاضرة	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	
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نموذج وصف المقرر

١. اسم المقرر البايولوجي الجزيئي ووراثته بكتريا - العملي		
٢. رمز المقرر		
٣. الفصل / السنة الفصل الاول ٢٠٢٤-٢٠٢٥		
٤. تاريخ إعداد هذا الوصف ٢٠٢٤/١٠/١		
٥. أشكال الحضور المتاحة جزء من المختبر نظري + عملي		
٦. عدد الساعات الدراسية(الكلية) // عدد الوحدات (الكلية) ١٢ ساعة بالاسبوع (ساعتان لكل كروب)		
٧. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)		
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٨. اهداف المقرر

اهداف المادة الدراسية

٢. (وراثة بكتريا) التعرف على المحتوى الوراثي للبكتريا وكيفية تقديره ودراسة انواع الطفرات وكيفية عزلها باستخدام طرق مختلفة وتوضيح عمليتي الاقتران والتحول في البكتريا
٣. (بايولوجي جزيني) تعريف الطالب على الاجزاء المكونة للمكون الوراثي في الكائنات الحية وكيفية تحضير البفرات وحسابات الجزينية للمادة الوراثية واستخلاص المادة الوراثية من الكائنات المختلفة واستخلاص البلازميدات من الانواع البكتيرية المختلفة وترحيل الكهربائي للمادة الوراثية

٩. استراتيجيات التعليم والتعلم

الاستراتيجية

- اجراء التجارب العلمية داخل المختبر
- مشاركة الطلبة في بعض محاور المواضيع العملية ومناقشتها.
- استخدام Data show. وعرض power point المختبر • اعداد تقارير من قبل الطلاب لكل مختبر.

١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
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12 اسبوع	12 ساعة في الاسبوع		البايولوجي الجزيئي ووراثة بكتريا	عملي اجراء الاختبارات والاسئلة النظرية وبعضها شفوي
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١١. تقييم المقرر	
١. عن طريق الاختبارات ٢. عن طريق الاسئلة الاستنتاجية التي تثار في المختبر ٣. عن طريق العمل المختبري للطلاب	
١٢. مصادر التعلم والتدريس	
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المرحلة الرابعة/ الفصل الثاني

نموذج وصف المقرر

١. اسم المقرر	الاحياء المجهرية في التربة والمياه النظري- المرحلة الرابعة
٢. رمز المقرر	
٣. الفصل / السنة	٢٠٢٥-٢٠٢٤
٤. تاريخ إعداد هذا الوصف	٢٠٢٤/١٠/١ الفصل الدراسي الثاني
٥. أشكال الحضور المتاحة	محاضرات تقليدية
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548- 549- 550- 551- 552- 553- 554- 555- 556- 557- 558- 559- 560- 561- 562- 563- 564- 565- 566- 567- 568- 569- 570- 571- 572- 573- 574- 575- 576- 577- 578- 579- 580- 581- 582- 583- 584- 585- 586- 587- 588- 589- 590- 591- 592- 593- 594- 595- 596- 597- 598- 599- 600- 601- 602- 603- 604- 605- 606- 607- 608- 609- 610- 611- 612- 613- 614- 615- 616- 617- 618- 619- 620- 621- 622- 623- 624- 625- 626- 627- 628- 629- 630- 631- 632- 633- 634- 635- 636- 637- 638- 639- 640- 641- 642- 643- 644- 645- 646- 647- 648- 649- 650- 651- 652- 653- 654- 655- 656- 657- 658- 659- 660- 661- 662- 663- 664- 665- 666- 667- 668- 669- 670- 671- 672- 673- 674- 675- 676- 677- 678- 679- 680- 681- 682- 683- 684- 685- 686- 687- 688- 689- 690- 691- 692- 693- 694- 695- 696- 697- 698- 699- 700- 701- 702- 703- 704- 705- 706- 707- 708- 709- 710- 711- 712- 713- 714- 715- 716- 717- 718- 719- 720- 721- 722- 723- 724- 725- 726- 727- 728- 729- 730- 731- 732- 733- 734- 735- 736- 737- 738- 739- 740- 741- 742- 743- 744- 745- 746- 747- 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امتحانات يومية	Data show		المايكروبات ومعالجة مياه المجاري	6	12

١١. تقييم المقرر	
توزيع الدرجة من ٢٥ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ طرائق التقييم اختبارات اسبوعية - شهرية اختبارات شفوية - اعداد تقارير	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	محاضرات مقررة من قبل اساتذة المادة - كتب المقرر
المراجع الرئيسية (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, USA, ١٢st ed. ٥٠٠٢ -WHO. Guidelines for Drinking Water Quality, ٤th Ed. Geneva, Switzerland, ١١٠٢, B.O.(٥١٠٢). Soil Microbiology. Publisher: LAB Bello ALAMBART PUBLISHING Acadmic Publising, OmniScriptu GmbH & Co, Kg, Deutschland, Germany
المراجع الإلكترونية ، مواقع الانترنت	

نموذج وصف المقرر

١. اسم المقرر:	
التشريح المقارن العملي	
٢. رمز المقرر	
٣. الفصل / السنة:	
الفصل الدراسي الثاني ٢٠٢٤-٢٠٢٥	
٤. تاريخ إعداد هذا الوصف:	
٢٠٢٤/١٠/١	
٥. أشكال الحضور المتاحة:	
حضور	
٦. عدد الساعات الدراسية (الكلية) / عدد الوحدات (الكلية):	
ساعتين للجزء العملي + ساعتين للجزء النظري / ثلاث وحدات	
٧. اسم مسؤول المقرر الدراسي (إذا أكثر من اسم يذكر):	
الاسم: د. سري عبد المناف عبد الوهاب	الأيمل : sura.munaf@sc.uobaghdad.edu.iq
الاسم: د. سري فؤاد عبد الامير	الأيمل : Suraa.alsaffar@sc.uobaghdad.edu.iq

أهداف المادة الدراسية

٨. اهداف المقرر					
- فهم التشابهات والاختلافات بين الحبليات. - تعلم تحديد التراكيب الأساسية وفهم وظائفها. - اكتساب المهارات العملية في استخدام الأدوات والتقنيات التشريحية. - تطوير القدرة على تحليل وتفسير البيانات التشريحية. - فهم العلاقات التطورية بين الحبليات وتطور وظائف اعضائها. - تعزيز مهارات العمل الجماعي والتعاون.					
٩. استراتيجيات التعلم والتعليم					
الاستراتيجية		- الجزء العملي: توفير الداخلي للحبليات بشك - العروض التوضيحية: التشريحية ووظائفها. - التقويم المستمر: تقديم وتحفيزهم. - التواصل الفعال: تشجي والمناقشات حول الا - العمل الجماعي: تشج معاً، مما يعزز التعاو	فرص للطلاب للتفاعل مع النماذج التشريحية والأجهزة المختبرية للتعرف على التركيب ل عملي. استخدام العروض التقديمية والوسائط المرئية والتشريح الافتراضي لتوضيح الهياكل تغذية راجعة مستمرة للطلاب حول أدائهم في الأنشطة التشريحية العملية لتعزيز التعلم ع الطلاب على المشاركة النشطة في الدرس من خلال طرح الأسئلة والاستفسارات جزاء التشريحية المدروسة. يع الطلاب على العمل في مجموعات صغيرة لحل المشكلات وإجراء التجارب العملية ن وتبادل المعرفة.		
١٠. بنية المقرر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
الاول	2	Classification of Chordata	تصنيف الحبليات الى ذيلة الحبل الظهري ورئسية الحبل الظهري والفقاريات والصفات الشخصية لكل منها	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	امتحانات يومية تحريرية وشفهية ومناقشات
الثاني	2	Classification of Chordata	تقسيم الحيوانات الفقارية الى صنفالاسماك العظمية الغضروفية والبرمائيات والزواحف والطيور فاللبنان	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	امتحانات يومية تحريرية وشفهية ومناقشات

امتحانات يومية تحريرية وشفهية ومناقشات	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	دراسة مقارنة للجلد في جميع الاصناف الفقارية ابتداء من الرميح وانتهاء بالانسان تقسيم الملحقات البشرية الادمية البشرية وكل واحدة وامثلتها من القرون والشعر والاذافر والريش والحراشف في الاسماك والزواحف والسلاحف	Integumentary system and Derivatives	2	الثالث
امتحانات يومية تحريرية وشفهية ومناقشات	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	دراسة المظهر الخارجي والتشريح الداخلي للاجهزة المختلفة في حيوان الرميح وفحصها مجهريا	Amphioxus	2	الرابع
امتحانات يومية تحريرية وشفهية ومناقشات	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	دراسة المظهر الخارجي والتشريح الداخلي للاجهزة المختلفة في حيوان الرميح وفحصها عيانيا	Lamprey	2	الخامس
امتحانات يومية تحريرية وشفهية ومناقشات وتتقنية التشريح للاسماك العظمية	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	دراسة المظهر الخارجي والتشريح الداخلي للاجهزة المختلفة للمنودجين العظمي والغضروفي	Chondrichthyes & Osteichthyes	2	السادس
امتحانات يومية تحريرية وشفهية ومناقشات	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	دراسة المظهر الخارجي والتشريح الداخلي للاجهزة المختلفة في النمودجين	Amphibia & Reptilia	2	السابع

امتحانات يومية تحريرية وشفهية ومناقشات وتثقيفية التشريح لكل من الطيور اللبائن	Data show ومحاضرات فيديوية اضافة الى عرض الحيوانات ورسمها من قبل الطالب	دراسة المظهر الخارجي والتشريح الداخلي للاجهزة المختلفة في النموذجين وتشريحهم	Aves & Mammalia	2	الثامن
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١١. تقييم المقرر	
توزيع الدرجة من ١١ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفهية والشعرية والتحريرية والتقارير الخ الامتحانات اليومية التقارير والواجبات النشاطات التفاعلية داخل الفصل الدراسي: ٥ درجات الامتحان الفصلي: ١٠ درجات	
١٢. مصادر التعلم والتدريس	
الكتب المقررة المطلوبة (المنهجية أن وجدت)	ملزمة علم التشريح المقارن العملي التي تم اعدادها من قبل اساتذة المادة، وفق مفردات المنهج المعتمدة في الكلية وباستخدام مصادر علمية
المراجع الرئيسة (المصادر)	Kardong, Kenneth, V. ٢٠٠٥. Vertebrates. Comparative anatomy, function, and evolution. ٤th 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. ٢٠٠٧. Comparative Vertebrate Anatomy Laboratory Manual
المراجع الإلكترونية ، مواقع الانترنت	https://www.britannica.com/science/comparative-anatomy https://www.longdom.org/scholarly/comparative-anatomy-journals-articles-ppts-list-١٦٩٨.html

نموذج وصف المقرر

١. اسم المقرر:
التشريح المقارن النظري
٢. رمز المقرر
٣. الفصل / السنة:
الفصل الدراسي الثاني ٢٠٢٤-٢٠٢٥
٤. تاريخ إعداد هذا الوصف:
٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة:
حضور

6. عدد الساعات الدراسية(الكلية/ عدد الوحدات)الكلية:					
ساعتين للجزء العملي + ساعتين للجزء النظري / ثلاث وحدات					
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر):					
الاسم : د. سري عبد المناف عبد الوهاب الأيميل : sura.munaf@sc.uobaghdad.edu.iq : Suraa.alsaffar@sc.uobaghdad.edu.iq الاسم : د. سري فؤاد عبد الامير الأيميل					
8. اهداف المقرر					
اهداف المادة الدراسية		- فهم التطور التشريحي: تهدف هذه الدراسات إلى فهم كيفية تطور هياكل الجسم للحبليات عبر التاريخ الطبيعي، بما في ذلك العوامل التي أدت إلى التغيرات التشريحية والتكيفات مع البيئة. - تحديد التشابهات والاختلافات الهيكلية: تسليط الضوء على التشابهات والاختلافات في هياكل الجسم بين مختلف فصائل الحبليات، مما يمكن من استنباط العلاقات التطورية بينها. - فهم التكيفات الوظيفية: فهم كيفية تكيف هياكل الحبليات مع بيئاتها ونمط حياتها المختلفة، وكيفية تأثير هذه التكيفات على وظيفة الأعضاء والأجهزة الحيوية. - حماية التنوع البيولوجي: فهم التنوع البيولوجي للحبليات وحمايته، بما في ذلك تحديد الأنواع المهددة بالانقراض وتطوير استراتيجيات للحفاظ عليها وعلى بيئاتها			
9. استراتيجيات التعليم والتعلم					
الاستراتيجية		- التعلم التجريبي: استخدام العروض التقديمية والشرائح. - التعلم النشط: مشاركة الطلاب في أنشطة تفاعلية ومناقشات. - استخدام التكنولوجيا: الاستفادة من التطبيقات والبرمجيات التعليمية. - التعلم القائم على المشكلات: حل المشكلات التشريحية المحددة. - التقارير: عمل تقارير مستقلة حول موضوعات محددة.			
10. بنية المقرر					
الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التقييم	طريقة التعلم
الاول	2	Primary and secondary characteristics of chordates	Chordate Characteristic	اسئلة تحريرية وشفهية ومناقشات	Data show ومحاضرات فيديو اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب

Data show ومحاضرات فيديوية اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	The Integument system of Chordates	Describe Integument in Different Classes of Chordates	2	الثاني
Data show ومحاضرات فيديوية اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	The Integument derivatives	Determine the composition of the various types of scales, feathers, hair, and horns.	2	الثالث
Data show ومحاضرات فيديوية اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Epidermal Glands:	the formation and function of glands	2	الرابع
Data show ومحاضرات فيديوية اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Urinary system	Anatomical Differences between the classes of vertebrate	2	الخامس
Data show ومحاضرات فيديوية اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Reproductive system	Anatomical Differences between the classes of vertebrate	2	السادس

Data show ومحاضرات فيديو اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Digestive system	Anatomical Differences between the classes of vertebrate in Buccal cavity Esophagus	2	السابع
Data show ومحاضرات فيديو اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Digestive system	Anatomical Differences between the classes of vertebrate in Stomach Intestine	2	الثامن
Data show ومحاضرات فيديو اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Circulatory system	Vein Arteries Capillaries in classes of vertebrate	2	التاسع
Data show ومحاضرات فيديو اضافة الى مقاطع فيديو وعروض داتا شو من اليوتيوب	اسئلة تحريرية وشفهية ومناقشات	Circulatory system	Heart of Amniotes	2	العاشر

عدد الساعات الاسبوعية : 5 ساعات / عدد الوحدات) 3 (					
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)					
الاسم: أ.د. رغد حربي مهدي ال عزاوي الاي م ي ل :					
raghad.harbi@sc.uobaghdad.edu.iq					
أ.د. حلا يونس فاضل السعدي					
hula.younis@sc.uobaghdad.edu.iq الاي م ي ل					
8. اهداف المقرر					
اهداف المادة الدراسية		1- ان يتعرف الطالب على الفايروسات وانواعها و الام			
		2- التعرف على اسس وميكانيكيات حدوث الامراض			
		3- ان يتمكن الطالب من الربط العلمي بين الامراض			
		4- دراسة الفحوصات السريرية الخاصة بمختلف الام			
		5- الكشف عن الاصابات الفايروسية في مختلف العي العلاج .			
9. استراتيجيات التعليم والتعلم					
الاستراتيجية		• يعطى المقرر عن طريق 13 محاضرة نظرية باستخدام datashow وامتحانين فصليين • استخدام الأفلام العلمية القصيرة والرسوم والصور وبعض المخططات العلمية لتوضيح بعض المعلومات العلمية والعملية . • اشراك الطلبة في المادة العلمية المطلوبة من خلال عمل تقارير بسيطة والاستعانة بالكتب العلمية المنهجية وشبكة الانترنت للاستفادة منها .			
10. بنية المقرر					
الاسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	3	* نبذة عن تاريخ اكتشاف الفايروسات * تعريف الفايروس * نظريات نشوء الفايروسات * اشكال الفايروسات وانواعها *	مقدمة حول الفايروسات	محاضرة في الصف مع مختبر عملي	الاختبارات الفصلية واليومية والواجب البيتي وتقارير العملي
2	3	* مكونات الفايروسات الكيميائية * اسس تصنيف الفايروسات * نظم تصنيف الفايروسات من الاقدم الى الاحدث	التركيب الكيميائي للفايروسات والتصنيف	محاضرة في الصف مع مختبر عملي	الاختبارات الفصلية واليومية والواجب البيتي وتقارير العملي

الاختبارات الفصلية واليومية والواجب البيئي وتقارير العملي	محاضرة في الصف مع مختبر عملي	الاستجابة المناعية للإصابة الفيروسية	* أنواع المناعة الفيروسية * المناعة الطبيعية * المناعة التخصصية * المناعة الخلوية * المناعة الخلطية *Antigenic Shift and Drift	3	3
الاختبارات الفصلية واليومية والواجب البيئي وتقارير العملي	محاضرة في الصف مع مختبر عملي	اللقاحات الفيروسية	* اللقاحات * اللقاحات المقتولة * اللقاحات المضعفة * علاج الفيروسات	3	4
الاختبارات الفصلية واليومية والواجب البيئي وتقارير العملي	محاضرة في الصف مع مختبر عملي	Multiplication of viruses. Transmission of viruses, and Host range.	طرق انتشار الفيروسات * الطرق المباشرة * الطرق غير المباشرة * طرق تضاعف الفيروسات	3	5
الاختبارات الفصلية واليومية والواجب البيئي وتقارير العملي	محاضرة في الصف مع مختبر عملي	Virus entry and spread in the host cell. Viroids, Virusoids, Prion.	* طرق دخول الفيروسات للخلايا المضيف * انتشار الفيروسات في الخلايا المضيف	3	6
الاختبارات الفصلية واليومية والواجب البيئي وتقارير العملي	محاضرة في الصف مع مختبر عملي	Pathogenesis of viral diseases and Effects of viruses on the host cells.	* امراض الفيروسات * الاصابات الحادة * الاصابات المزمنة * الاجهزة المعرضة للإصابة * المستقبلات الخلوية للفيروسات * الشفاء من الامراض الفيروسية	3	7

الاختبارات الفصلية والیومية والواجب البيتي وتقارير العملي	محاضرة في الصف مع مختبر عملي	الامراض الفيروسية	* مقدمة عن اهم الفيروسات ذات الاهمية الطبي ة * ف يروسات الدنا * عوائل الفيروسات المغلقة * عوائل الفيروسات العارية	3	8
الاختبارات الفصلية والیومية والواجب البيتي وتقارير العملي	محاضرة في الصف مع مختبر عملي	الامراض الفيروسية	* فيروسات الرن ا * عوائل الفيروسات المغلقة * عوائل الفيروسات العارية	3	9
الاختبارات الفصلية والیومية والواجب البيتي وتقارير العملي	محاضرة في الصف مع مختبر عملي	تأثير الاصابات الفيروسية	* تأثير الاصابات الفيروسية في الخلايا * الاصابات القاتلة * الاصابات المزمنة * الاصابات الساكنة او المتأخرة * الاصابات البطيئة	3	10
الاختبارات الفصلية والیومية والواجب البيتي وتقارير العملي	محاضرة في الصف مع مختبر عملي	التحول الخلوي (الاصابات السرطانية	* طرق تحويل الفيروسات للخلايا الطبيعية الى خلايا سرطانية	3	11
الاختبارات الفصلية والیومية والواجب البيتي وتقارير العملي	محاضرة في الصف مع مختبر عملي	تصنيف الفيروسات المسببة للسرطان	* انواع الفيروسات السرطانية * التغيرات الجينية المتسببة عن الاصابة الفيروسية * طرق تثبيط الفيروسات	3	12

الاختبارات الفصلية والیومية والواجب البيتي وتقارير العملي	محاضرة في الصف مع مختبر عملي	استخدامات الفيروسات	*الاستخدامات المفيدة لفيروسات ت - تصنيع اللقاحات -العلاج بالعائيات البكتيرية -العلاج الجيني *أنظمة نقل الفيروسات * السيطرة على الاصابات الفيروسية	3	13
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١١. تقييم المقرر	
توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير الخ	
١٢. مصادر التعلم والتدريس	
	الكتب المقررة المطلوبة (المنهجية أن وجدت)
Human virology, Microbiology, Medical microbiology	المراجع الرئيسة (المصادر)
Essential Virology	الكتب والمراجع المساندة التي يوصى بها (المجلات العلمية، التقارير)
www. ncbi com	المراجع الإلكترونية ، مواقع الانترنت

نموذج وصف المقرر

١. اسم المقرر
التحليلات المرضية
٢. رمز المقرر
٣. الفصل / السنة
الثاني/٢٠٢٤-٢٠٢٥
٤. تاريخ إعداد هذا الوصف
٢٠٢٤/١٠/١
٥. أشكال الحضور المتاحة محاضرة تقليدية
٦. عدد الساعات الدراسية(الكلية)/ عدد الوحدات (الكلية) ساعتان في الاسبوع نظري + ساعتان في الاسبوع عملي
٧. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)
الاسم: ا.د مي طالب فليح ا.د رسمية عبد ابو ريشة ا.د رنا سعدي عيود ا.م.د نغم شاكر محمد حسين ا.م.د حسن مجيد رشيد
الأيمل :
٨. اهداف المقرر

المادة الدراسية	ان يتعرف الطالب على الامراض واليات عملها ضد الجسم والنسيج الخلوي التعرف على اسس وميكانيكيات حدوث الامراض ومراحل نطور المرض وتصنيفه ان يتمكن الطالب من الربط العلمي بين الا مراض ومسبباتها من الاحياء المجهرية دراسة الفحوصات السريرية الخاصة بمختلف الامراض المتسببة عن الاحياء المجهرية تحليل الاحياء المجهرية في مختلف العينات السريرية (دم، ادرار، خروج، خزعة نسيجية.....الخ) وتطبيقات العلاج.
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٩. استراتيجيات التعليم والتعلم

الاستراتيجية	1- استخدام الوسائل التوضيحية في شرح الجزء النظري واستخدام عدد تشخيصية من اوساط زرعية واحياء 2 - مجهرية وتجارب متنوعة في المختبر مع عرض الافلام العلمية باستخدام جهاز data show.
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١٠. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
1	2ن+2ع	DIAGNOSIS OF INFECTIOUS DISEASES	Diagnosis of Respiratory Tract(RT) Infections Diagnosis of Gastrointestinal Tract infections	محاضرة بشكل +داتاشو مناقشات	+ امتحانات تقارير اسبوعية +امتحان امتحان +شهري نهائي
2	2ن+2ع	DIAGNOSIS OF INFECTIOUS DISEASES	Diagnosis of Urinary tract infections Laboratory Diagnosis of Sexually Transmitted Infections (STDs) Genital infections and STDs in women		
3	2ن+2ع	DIAGNOSIS OF INFECTIOUS DISEASES			

		Genital infections in men SYPHILIS		$\xi^2 + \omega^2$	4
		Leptospirosis	DIAGNOSIS OF INFECTIONS		
		Skin ,Wound and Soft tissue Infections		$\xi^2 + \omega^2$	5
		Meningitis	DIAGNOSIS OF INFECTIONS		
		Mycology		$\xi^2 + \omega^2$	6
			Clinical Pathology		
		Cell injury		$\xi^2 + \omega^2$	7
			Clinical Pathology		
		Acute infammation		$\xi^2 + \omega^2$	8
		Chronic inflammation	Clinical Pathology	$\xi^2 + \omega^2$	9
		Introduction to serology Serological tests	serology		
				$\xi^2 + \omega^2$	10
		Serological tests of some Infectious & autoimmune diseases	serology		

41	التعرف على كيفية عزل وتشخيص المجهرية الصناعية	عزل الاحياء المجهرية الصناعية محادثة + تقنيك عملي امتحانات مفاجئة + تقارير اسبوعية + امتحان شهري
42	التعرف على اهم التقنيات المستخدمة في تكسير الخلايا الحية	تقنيات تكسير الخلايا
43	تعليم الطالب كيفية الاستخلاص والتنقية عمليا	استخلاص وتنقية الانزيمات
44	تعليم الطالب كيفية تقبيد الخلايا عمليا	التقيد
45	التعرف على كيفية انتاج مادة الرنين عمليا	انتاج الرنين المايكروبي

		انتاج الكحول من الاحياء المجهرية	لتعرف على كيفية انتاج الكحول من الخميرة عمليا	46	
		التعرف على كيفية انتاج حامض الستريك من فطر الاسبرجلس عمليا	التعرف على كيفية انتاج حامض الستريك من فطر الاسبرجلس عمليا	47	

