Second Stage: Level 3

	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	Invertebrate			**Module Delivery**	
Module Type	Core			☒ **Theory** ☒**Lab** ☐**Seminar**	
Module Code	BIO23013				
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. 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 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.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	36	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	26	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	251		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	5	10%	,5,8,3 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	hr 3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	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 (*Hydra, Obelia*) b- Class Scyphozoa (*Aurelia*) c- Class Anthozoa
Week 5	Phylum: Platyhelminthes Phylum platyhelminthes - Main characters - Classification a- Class Turbellaria (*Planaria*)
Week 6	Phylum Annelida - Main characters - Classification a- Class Polychaeta *(Nereis*) b- Class Oligochaeta *(Lumbricus*) c- Class Hirudinea *(Hirudo medicinalis*)
Week 7	**Mid-Term Exam**
Week 8	Phylum Arthropoda - Main characters - Classification Subphylum Onchophora(*Peripatus)*
Week 9	Phylum: Arthropoda a- Subphylum Mandibulata(*Cambarus*) Class: Chilopoda(*Scolopendra)*
Week 10	Phulum: Arthropoda Class:Diplopoda(*Julus*) a- Subphylum Chelicerata Class:Arachnida(*Buthus,Argiope*)

Week 11	Phylum: Mollusca Phylum: Mollusca - Main characters - Classification a- Class: Aplacophora *(Neomenia*) b- Class: Polyplacophora (*Chiton)* c- Class: Monoplacophora (*Neopilina*) d- Class: Gastropoda*(Helix*) e- Class: Scaphopoda*(Dentalium*)
Week 12	a- Class: Pelecypoda(*Andonata*) b- Class: Cephalopoda (*Sepia, Octopus, Nautilus*) - Economic importance of Mollusca
Week 13	Phylum Echinodermata - Main characters - Classification *a*- Class: Asteroidea (*Asterias)* b- Class: Ophiuroidea (*Ophiothrix*)
Week 14	c- Class: Echinoidea (*Echinus*) d- Class: Holothuroidea(*Holothuria)* e- Class: Crinoidea *(Antedon*)
Week 15	**Seminar**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Introduction, Invetebrate Taxonomy and binomial nomenclature
Week 2	Phylum: Protozoa Class: Flagellata 1- Order Cryptomonadina (*Chilomonas)* 2- Order Phytomonadina (*Volvox)* *3*- Order: Euglenoidin (*Euglena)* + *(Astasia)* *4- Order: Dinoflagellata (Ceratium)+ (Noctiluca)* Class Sarcodina 1- Order: Amoebozoa (*Amoeba)* + *(Pelomyxa)*

	2- Order: Testasea (*Arcella*) 3- Order: Foraminifera (*Globigerina)* 4- Order: Heliozoa (*Actinospherium)* 5- Order: Radiolaria, different shells of Radiolaria
Week 3	Phylum: Protozoa Class: Ciliata Order: Holotricha (*Paramicium, Didinium, Tetrahymena)* Order: Spirotricha (*Stentor, Stylonychia)* Order: *Peritricha (Vorticella)* Order: Suctoria (*Ephelota)*
Week 4	Phylum: Porifera Body type **1- Class**: Calcarea **- Order**: Homocoela – ***Leucosolenia*** **- Order**: Heterocoela- ***Grantia*** **2- Class**: Hexactinelidae ***Euplectlla*** spicules **3- Class**: Demospongia -**Order**: Monoxonida – ***Spongilla***, ***Ephydatia***, ***Chalina*** -**Order**: Keratosa – ***Euspongia***
Week 5	Phylum: Cnidaria Class: Hydrozoa Order: Calyptoblastea Order: Gymnoblaste Order: Hydrida Order: Hydrocorallina Order: Trachylina Order: Siphonophora
Week 6	Phylum: Cnidaria Class: Scyphozoa **Order: Semaeostomeae (*Aurelia*)**

	Class: : Anthozoa **Order :Alcyonaria** **Order: Zontharia**
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: Oligichaeta • Class: Hirudinea
Week 10	Phylum: Arthropoda
Week 11	Phylum: Mollusca Phylum: Mollusca **1-class: Polyplacophora** Ex: Chitons 2- **class: Gastropoda** **Order**: Pulmonata Ex: *Helix* **3- class: Scaphopoda** Ex: *Dentalium* **4- class: Lamellibranchiata** **Order**: Eulamellibranchiata Ex: *Anodonta* **5- class: Cephalopoda** **Order**: Dibranchiata Ex: *Octopus* , *Sepia* **Order**: Tetrabranchiata Ex: *Nautilus*
Week 12	Phylum Echinodermata **1- Class: Asteroidea** **Order**: Forcipulata Ex: *Asterius* **2- Class: Ophiuroidea** **Order**: Ophiurae Ex: *Ophiura* **3- Class: Echinoidea** **Order**: Camarodonta Ex: *Echinus* **4- Class: Holothuroidea** **Order**: Aspidochirota

	Ex: *Holothuria* **5- Class: Crinoidea** Ex: *Antedon*
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. *Invertebrate Zoology (Multicolour Edition)*. S. Chand Publishing, 2001.	no
Recommended Texts	Moore, Janet. *An introduction to the invertebrates*. Cambridge University Press, 2001. Brusca, Richard C., and Gary J. Brusca. *Invertebrates*. 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 (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	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**	
Co-requisites module	None	**Semester**	

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

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	25 1		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
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	hrs. 3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	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

Week	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

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	BIO23016	
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 2. 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	36	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	26	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	251		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	5	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	hr 3	50% (50)	1-15	All
	Total assessment		100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**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	
Week	**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	Fundamentals of Ecology –Odum	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
	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	Mycology	**Module Delivery**	
Module Type	Core	☒ **Lecture** ☒**Lab**	
Module Code	BIO23018		
ECTS Credits	4		
SWL (hr/sem)	100		
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. IsraaAbdul 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	10. Knowledge of the basics of fungi, especially those that are pathogenic to plants and humans, and methods of diagnosis. 11. Understanding the pathogenicity mechanisms and how they occur. 12. Learning methods of combating fungi that cause plant diseases in Iraq to avoid crop losses and prevention methods. 13. Learn to grow fungi on culture media in the laboratory, deal with them, and diagnose fungi morphologically. 14. 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 , prevention, and treatment. Laboratory sessions of a 2-hour fungi, pathogens help diagnose 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.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	36	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	73	**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

As		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	5LO4-LO
	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	hr 3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	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: Deutrromycotina:- 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

Week	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 : *Ceratiomyxa* 2) Sub-class : Myxogastromycetidae:- Order: Liceales; - ex: *Lycogala* ; Order: Trichiales:- ex: *Arcyria*, ex : *Hemitrichia* Order: Stemonitales:- ex: *Stemonitis*, ex : *Diachea* Order: Physarales:- ex: *Physarum*, ex : *Didymium* 2. Class: Plasmodiophoromycetes:- Order: Plasmodiophorales 1. ex: *Plasmodiophora brassicae* ➢ (Causes: Club-root disease in *Cruciferae*) ➢ C.S. in host tissue showing resting spores and plasmodium. 2. ex: *Spongospora subterranea* ➢ (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: *Synchytrium endobioticum* ➢ (Cause black wart disease on potato tubers) ➢ We see sorus, prosorus, germinating prosours, resting spores Order: Blastocladiales:- Ex: Allomyces ➢ Sporoth allus (zoosporangium, resting sporangium) ➢ Gametothallus (male and female gametangium)

Week 5	2. Class: Oomycetes: - Order: Saprolegniales:- Family : Saprolegniaceae Ex: *Saprolegnia parasitica* (Water mold). ➢ We see: (Asexual reproduction): sporangium, gemmae bodies, internal proliferation ➢ (Sexual reproduction): oogonium, antheridium. Order: Peronosporales: - Family 1: Pythiaceae Ex: *Phytophthora infestens* ➢ (Cause: the late blight of potato and tomato) ➢ We see: lemon shape sporangium and sporangiophore Ex: *Pythium debaryanum* ➢ (Cause: damping off seedlings) ➢ We see Sporangium, oogonium, oosphere, and oospore. Family 2: Peronosporaceae:- Ex: *Peronospora spp.* (Cause: downy mildew on radish) Ex: *Plasmopara viticola* (Cause: downy mildew on grape) Ex: *Bremia lattucae* (Cause: downy mildew on lettuce) ➢ We see sporangium and sporangiophore. Family 3: Albuginaceae:- Ex: *Albugo candida* (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: *Rhizopus spp* (Bread mold) ➢ We see: Sporangium, Rhizoid, stolon, sexual reproduction, Zygospore, (young & mature) Ex: *Mucor spp* ➢ We see: Sporangium, sexual reproduction,, Zygospore ,, (young & mature) Order 2: Entomophthorales Ex: *Entomophthora muscae* ➢ We see Conidia and conidiophore.
Week 7	Mid-Term exam
Week 8	Sub-division 3: Ascomycotina Fruiting bodies 1. naked asci *Taphrina deformans* 2. Cleistothecium *Aspergillus sp.* 3. Perithecium *Claviceps* 4. Apothecium *Sclerotinia* 5. Ascostroma (Pseudothecium) *Venturia* Class 1: Hemiascomycetes (naked asci) Order 1: Endomycetales:- Family 1: Endomycetaceae Ex: *Schizosaccaharomyces octosporus* ➢ We see ascus (8) ascospores & asexual rep. (fission cell) Family 2: Saccharomycetaceae Ex: *Saccharomyces cerevisiae* ➢ We see Budding, ascus (4) ascospores. Order 2: Taphrinales Ex: *Taphrina deformans* (causes: Peach Leaf curl disease) We see ascus with ascospores.
Week 9	Subdivision 3: Ascomycotina:- Class 2 : Plectomycetes Order 1: Eurotiales:- Family: Eurotiaceae Ex: *Aspergillus* We see sexual rep. (cleistothecium ascocarp) & asexual rep. Ex: *Penicillium* We see asexual rep. Order 2: Erysiphales

	Ex: *Erysiphe* We see Cleistothecium with many asci and myceloid appendages Ex: *Sphaerotheca* We see Cleistothecium with one ascus and myceloid appendages Ex: *Microsphaera* We see Cleistothecium with many asci and Dichotomous appendages Ex: *Podosphaera* We see Cleistothecium with one ascus and Dichotomous appendages Ex: *Uncinulla* We see Cleistothecium with many asci and Hook-shaped appendages Ex: *Phyllactinia* We see Cleistothecium with many asci and Bulbous appendages Family 1: Claviceptaceae Class 3: Pyrenomycetes:- Order1: Hypocreales Ex: *Claviceps purpurea*
Week 10	Class 4: Discomycetes:- A. Epigean inoperculate discomycetes Order: Helotiales:- Family: Sclerotinaceae Ex: Sclerotinia (*Monilinia*) *fructicola* causes the brown rot of peach and other stone fruits. We see the conidial stage, Apothecium, mummified fruit Order: Phacidiales:- Family: Phacidiaceae Ex: *Rhytisma acerinum* causes Tar spot of maple; We see Apothecium + Tar like stroma Order: Lecanorales (Lichen) Ex: *Xanthoria* ; We see ascus + ascospore, fungal hyphae B. Epigean operculate discomycetes: Ordre 2: Pezizales:- Family 1 : Pezizaceae: Ex: *Peziza spp.*; We see external feature, Apothecium , operculate asci Family 2: - Morchellaceae Ex: *Morchella*; 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: *Venturia inaequalis*; We see Ascostroma, conidial stage
Week 11	Sub-division 4: Basidiomycotina Class 1: Teliomycetes :- Order 1 : Termellales Ex: *Auricularia* Order 2: Uridinales (Rust fungi):- Family 1: Puccinaceae Ex: *Puccinia graminis* causes Rust on graminia We see Uridial stage (2); Telial stage (3); Promycelium (4); Spermgaonia (0); Aecial stage (1). Ex: *Gymnosporangium* causes Rust on Juniper We see Aecial and Telial stages and infected plant Ex: *Phragmidium* causes Rust on Rose; We see the Telial stage and infected plant Ex: *Uromyces fabae* causes Rust on *Vicia fabae*; We see Telial stage and infected plant Family 2: Melampsoraceae Ex: *Melampsora* causes Rust on Euphorbia; We see infected plant Order 3: Ustilaginals (Sumt fungi):- Family 1: Ustilaginaceae Ex: *Ustilago hordei* causes Covered Smut of Barley; We see Teliospores and infected plant Ex: *Ustilago nuda* causes Loose Smut of Wheat; We see Teliospores and infected plant Family 2: Tilletiaceae Ex: *Tilletia foetida* and *Tilletia caries* cause Bunt Smut of Wheat. We see Teliospores and infected plants.

	Ex*: Urocystis agropyri* and *Urocystis cepulae* cause Flag Smut of Wheat We see Teliospores and infected plants.
Week 12	Class 2: Hymenomycetes:- Order 1: Agaricales:- Family1: Agaricaceae Ex: *Agaricus bisporus*; we see external feature (White color) Ex: *Agaricus campestris* we see an external feature (Brown color) Ex: *Agaricus xanthodermus* (Yellow staining fungus) Ex: *Inocybe* (Red staining fungus); Ex: *Coprinus* (Black liquid like ink) Ex: *Amanita muscaria* Its scales are red in color and called fly fungus Order 2: Polyporales:- Family1: Polyporaceae Ex: *Polyporus* (Pore fungi) we see external feature Family 2: Clavariaceae Ex: *Clavaria* (Coral fungi) we see an external feature. Family 3: Telephoraceae Ex: *Sternum* (Shelf fungi) We see an external feature. Family 4: Hydnaceae Ex: Hydnum (Tooth fungi) We see an external feature. Class 3: Gasteromycetes:- Order 1: Lycoperdales Family1: Lycoperdaceae Ex: *Lycoperdon* (Puff ball) Family2: Gasteraceae Ex: *Gasterum* (Earth star) Order 2: Nidulariales Ex: *Cyathus* (Bird's nest) Order 3: Hymenogasterales Ex: *Podaxis*
Week 13	Subdivision 5: Deutrromycotina:- Class 1 : Hyphomycetes:- Order 1: Moniliales Family 1: Moniliaceae:- Ex: *Candida albicans* (cause Candidiasis of skin and nail) We see budding, Blstospore , Chlamydospore Ex: *Botrytis fabae* cause a chocolate spot of bean. We see septate mycelium, conidia Family 2: Dematiaceae Ex: *Alternaria solani* cause Early blight of tomato; We see conidia Ex: Helmenthosporium cause Leaf blotch of gramines; We see conidiophore, conidia Ex: *Cladosporium* cause Leaf Spot of Spinach; We see septate mycelium, conidia (small one cell, two cells) Family 3: Tubercularіaceae Ex: *Fusarium oxysporum* (Fusarium wilt); We see types of conidia (macroconidia and microconidia) Order 2: Myceliasterial (Agonomycetales) Ex: *Rhizoctonia solani* (cause Damping off disease) We see mycelium without conidia Class 2: Coelomycetes: - Order 1: Sphaeropsidales:- Family: Sphaeropsidaceae Ex: *Septoria apii* (cause late blight disease on celery) we see conidiophores arise inside pycnidia Order 2: Melanconiales:- Family: Melanconiaceae Ex: *Colletotrichum lindemuthianum* (cause Anthracnose of beans) We see conidiophores arise inside acervulus

Week 14	A. *SKIN MYCOLOGY* 1. The Superficial Mycoses Ex: *Malassezia furfur cause* Pityriasis (tinea) versicolor 2. The Cutaneous Mycoses:- Dermatophyte Species:- *Ex: Trichophyton spp. ; ex: Microsporum spp.* 3. The Subcutaneous Mycoses: Ex: *Sporothrix schenckii* cause Sporotrichosis Ex: *Actinomadura spp.* cause Mycetoma B. INFECTIOUS DISEASE MYCOLOGY 1. Dimorphic Systemic Mycoses: - Ex: *Histoplasma capsulatum* cause Histoplasmosis 2. Opportunistic Systemic Mycoses: - Ex: *Candida* and *Cryptococcus*
Week 15	Diagnosis of Systemic Mycoses *Laboratory Specimen Processing* Ex: - *Candida spp.;* Ex: - *Cryptococcus spp.;* Ex: - *Rhizopus spp. ;* Ex: - *Aspergillus spp.*
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. 3rd. ed. Cambridge.**	
Recommended Texts	**Alexopoulos, J.; Mims, C. W. and Blackwell, M. M. (1996). Introductory Mycology. 4th ed. John Wiley. New York.**	
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

MODULE DESCRIPTION FORM
نموذج وصف المادة الدراسية

Module Information
معلومات المادة الدراسية

Module Title	Plant anatomy	**Module Delivery**	
Module Type	Core	☒**Lecture** ☒**Lab** ☐**Seminar**	
Module Code	BIO23117		
ECTS Credits	4		
SWL (hr/sem)	100		
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.

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	001		

Module Evaluation
تقييم المادة الدراسية

As		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	hr. 3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	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	
Week	**Material Covered**
Week 1	Plant cell wall and intercellular space
Week 2	Pits**Project 1**
Week 3	Cell living content and non livingcontent**Project 2**
Week 4	Meristematic tissue**Project 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 tissue**Project 4**
Week 11	Assignment
Week 12	Phloem tissue
Week 13	Secondary growth**Project 5**
Week 14	Dicot stem and Monocot stem**Report 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
	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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	**Baath Regime Crimes in Iraq** جرائم نظام البعث في العراق	**Module Delivery**
Module Type	Support	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial**
Module Code	UOB105	
ECTS Credits	2	

SWL (hr/sem)	50	☐ **Practical** ☐ **Seminar**	
Module Level	2UGx11	**Semester of Delivery**	1
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-**ان الأجيال الحالية لم تعيش فترة الدكتاتورية والكثير منهم لايعرف معاناة الشعب والجرائم التي ارتكبها النظام المقبور. **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 احدثها النظام البائد والجرائم التي ارتكبها بحق الشعب العراقي. **4-**أظهار الاضرار الاقتصادية والاجتماعية والتنموية التي أحدثها النظام السابق. **5-**بيان مدى وحشية النظام البائد والإعدامات الجماعية. **6-**بيان الاساليب القمعية التي مارسها النظام البائد والتهجير القصري. **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 ايضا. **10-**ان الهدف من تدريس هذه المادة لمعرفة تاريخ تلك الحقبة السوداء. **11-**الهدف من هذه المادة ان الحكم في العراق لن يدوم باستخدام أدوات العنف والقوة مهما كانت مفرطة .والعراق يجب ان يحكم بنظام سياسي يحترم العراقيين ومعتقدات ودياناتهم وقومياتهم وان 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 المقبور على المجتمع العراقي **5-**التوضيح للاجيال الحالية حقيقة حقبة تاريخية سوداء في تأريخ 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 مبنى على العدالة واحترام التعددية الدينية والمذهبية والقومية **9-**توعية الطلبة الى حجم الدمار والتلوث البيئي الذي احدثته الحروب واستخدام اسلحة محرمة دوليا **10-**بيان مدى قسوة النظام البعثي وقمعه للشعب والمقابر الجماعية التي ضمت رفاة آلاف الشهداء الأبرياء **11-**توعية الطلبة الى ماقام 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 المقبور الى السلطة وكذلك دراسة جرايم حزب البعث منذ توليه السلطة والعبث بها كذلك توضيح ما اصاب العراق من اثار وكوارث على يد هذا النظام الدكتاتوري المجرم الذي جسد اقسى انواع التعسف والظلم والطغيان والاستبداد كذلك ارشاد الطلبة الى ان الظلم والاستبداد يدمر الشعوب ويجر الويلات عليها وبيان الاثار التي حدثت نتيجة الحروب العبثية 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 وعمليه تحفيز الطلبة على التامل والتفكير في التحليل هذه الجرائم وانعكاساتها والعمل على محاربة الظلم ولاستبداد 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 هذة الحقبة السوداء والجرائم التي لم تشهد لها البشرية مثال .كذلك 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 للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2.2	Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1	Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50

Module Evaluation تقييم المادة الدراسية					
As		**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	
Week	**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 وتسلطه 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 2023/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: Level 4

	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	Protozoan Parasitology			**Module Delivery**	
Module Type	Core			☒ **Lecture** ☒**Lab.**	
Module Code	BIO24120				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level	UGx11 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	

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	4. Providing a broad understanding and diagnosing the the most important species of pathogenic and non-pathogenic parasites that parasitize humans and its domestic animals. 5. Explaining the stages of the parasite and its life cycle. 6. Demonstrating how to diagnose the parasite and its epidemiology. 7. 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: 1. Identify the parasites and how to diagnose them microscopically. 2. Knowing the anatomical drawing of the parasite and mark its important parts. 3. Urge the students to collect samples for parasite detection. 4. Urge the student to think deductively and differentiate between parasites that differ in appearance, location of infection and type of reproduction. 5. 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 1. Preparing a Power Point lecture and using the Data Show in its presentation. 2. Using modern sources from the information network to obtain accurate information and graphics. 3. 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

As		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	hr 3	50% (50)	1-15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction to Parasitology and importance of pathogenic parasites
Week 2	Classification of parasites, Taxonomical categories
Week 3	Phylum Protozoa: Sarcodina (*Entameba histolytica*, *Entameba coli*)
Week 4	Phylum Protozoa: Sarcodina (*Endolimax nana, Iodameba butchlii, Entamoeba gingivalis*)
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 (*Leishmania spp.)*
Week 10	Phylum Protozoa: Hemoflagellate (*Trypanosoma spp.)*
Week 11	Phylum Protozoa: Apicomplexa (*Plasmodium spp.)*
Week 12	Phylum Protozoa: Apicomplexa (*Toxoplasma, Isospora)*
Week 13	Phylum Protozoa: Apicomplexa (*Cryptosporidum , Cyclospora and Sarcocystis)*
Week 14	Seminar
Week 15	Seminar
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Introduction to Parasitology
Week 2	Classification of parasites
Week 3	Phylum Protozoa: Sarcodina (*Entameba histolytica, Entameba coli*)
Week 4	Phylum Protozoa: Sarcodina (*Endolimax nana, Iodameba butchlii, Entamoeba gingivalis*)
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 (*Leishmania* spp.)
Week 10	Phylum Protozoa: Hemoflagellate (*Trypanosoma* spp.)
Week 11	Phylum Protozoa: Apicomplexa (*Plasmodium* spp.) part 1
Week 12	Phylum Protozoa: Apicomplexa (*Plasmodium* spp.) part 2
Week 13	Phylum Protozoa: Apicomplexa (*Toxoplasma gondi*)
Week 14	Phylum Protozoa: Apicomplexa (*Cryptosporidum parvum, Isospora*)
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 Puplishing. 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/MedicalPara sitology.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.

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

5MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	Plant taxonomy		**Module Delivery**
Module Type	Core		☒**Lecture** ☒**Lab** ☐**Seminar**
Module Code	BIO24021		
ECTS Credits	5		
SWL (hr/sem)	125		
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.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- 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.

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

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%	4th. 5th.	LO1-LO2
	Assignments	2	10%	10th , 11th	LO3
	Report	2	10%	12th , 14th	LO3 , LO4, LO5
	Projects/Lab	5	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO1-LO3
	Final Exam	hr3	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

Week	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

Week	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(1988) تصنيف النباتات البذرية، الطبعة الاولى، دارالكتب للطباعة والنشر، جامعة الموصل، العراق، 958 -الموسوي، علي حسين (1987)،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.

MODULE DESCRIPTION FORM

Module Information

Module Title	Phycology and Archegoniate	**Module Delivery**	
Module Type	Core	☒ Lecture ☒Lab.	
Module Code	BIO24024		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	2	**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	6. Providing a broad understanding of plant groups with an emphasis on the most important species. 7. Explaining the characters of plant groups . 8. Study the main chracters of plant group. 9. Comparision between plant groups
Module Learning Outcomes	15. Knowledge of the characters for plant groups. 16. Understanding the main characters for all plant groups .

	17. Recall of information and attempting to connect them to reach the proper diagnosis of plant . 18. 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.

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

As		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)	8th	LO1-LO3
	Final Exam	hr 3	50% (50)	16th	All
	Total assessment		100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

Week	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 sphagnium
Week 14	Sphagnium
Week 15	**Preparatory week before the final Exam**
Week 16	**final Exam**

Delivery Plan (Weekly Lab. Syllabus)

Week	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 sphagnium
Week 14	Diagnosis of Sphagnium
Week 15	**Preparatory week before the final Exam**
Week 16	**Final exam.**

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	Genesel,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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	Pollution	**Module Delivery**	
Module Type	Core	☒ **Lecture** ☒**Lab**	
Module Code	BIO24023		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGx11 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 . The student learn about the heavy metals and their effect on human 4 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

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.

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

	As	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	-LO52LO
	Report	1	10%	13	LO5
	Projects/Lab	5	10%	Continuous	All
Summative assessment	Midterm Exam	2 hr	10% (10)	8	2LO1-LO
	Final Exam	hr 3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**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	
Week	**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 CO2 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	Hodges, L. Environmental Pollution. Edition, 2, illustrated. Publisher, Holt, Rinehart and Winston, 1977.	yes
Recommended Texts	1. Warneck, P., *Chemistry of the Natural Atmosphere*, International Geophysics Series. Vol. 41, Academic Press, San Diego, 1988. 2. Owa , F. W. Water pollution: sources, effects, control and management. *International Letters of Natural Sciences*, 2014.	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**
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

MODULE DESCRIPTION FORM
نموذج وصف المادة الدراسية

Module Information
معلومات المادة الدراسية

Module Title	Computer II		**Module Delivery**
Module Type	Basic		☒ **Theory**
Module Code	UOB203		☐ **Lecture**
ECTS Credits	3		☒ **Lab**
SWL (hr/sem)	75		☐ **Tutorial** ☐ **Practical** ☐ **Seminar**
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	1. 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. 2. 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: 1. 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. 2. Learn what a stream is and examine input and output streams. 3. Learn mathematical operators and expressions. 4. Learn how to form and evaluate logical (Boolean) expressions. 5. Learn how to use the selection control structures: if, if... else, nested if, and nested if…else. 6. Learn how to construct and use looping structures. 7. Learn to program any loop. 8. Learn how to form and use single, multiple disjoint, and nested loop structures. 9. Learn how to exploit built-in functions. 10. 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 للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	30	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	3 and 7	3, 7
	Assignments	2	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	hr3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	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	
Week	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
	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

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. • 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.

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

As		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
	Midterm Exam	2hr	10% (10)	7	LO #3, #4 and #6

Summative assessment	**Final Exam**	3hr	50% (50)	16	All
		Total assessment	100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	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** *Present, past, future* p6 Questions *Where were you born?* *What do you do?* p6 Question words *Who ...?, Why ...?,* *How much ...?* p7 **Right word, wrong word** Verbs of similar meaning *speak/talk, say/tell* Adjectives and nouns that go together Prepositions *to, from, at, about, of, on, in,* etc. Words with two meanings *I met my husband on a blind date.* *Dates are good for you.* p12 **Social expressions** *Have a good weekend!* *Same to you.* p13
Week 2	Whatever makes you happy p14 **Present tenses** Present Simple *She lives alone in Bristol.* p14 Present Continuous *She's planning ...* p14 *have/have got* *He has his own company.* *I've got an idea for ...* p15 **Things I like doing** *play games* *have a lie-in* *get up late* p17 **Making conversation**

	What a lovely day it is today! *Are you having a good time in London?* *Have a good weekend!* p21
Week 3	What's in the news? p22 **Past tenses** Past Simple *How far did he walk?* *I had a shower last night.* p23 Past Continuous *I was having a shower when …* p23 **Adverbs** *drive carefully* *speak furiously* *work hard* p28 **Saying when** *What's the date today?* *It's June the twentysecond.* *When did you last go to the cinema?* *Two weeks ago.* p29
Week 4	Eat, drink, and be merry! p30 **Quantity** *much* and *many* *How much milk?* *How many eggs?* p31 *some* and *any* *some apples, any bananas* p31 *a few, a little, a lot/lots of* p31 *something / someone / somewhere* p32 Articles *a shopkeeper, an old village, the north of England, He came by bus.* p32 **Food** *apples, beer, bread, cake* p36 **Shopping** *newsagent's, chemist's, off-licence* p36 **Can you come for dinner?** *Would you like some more rice?* *Could you pass the salt, please?* *How would you like your coffee?* *This is delicious!* p37
Week 5	Looking forward

	p38 **Verb patterns** *want/hope to do* *like/enjoy doing* *looking forward to doing* *'d like to* p38 **Future forms** *going to*, *will* and Present Continuous *I'm going to stay with a friend.* *I'll call or text you.* *I'm working late this evening.* p40 **Phrasal verbs – literal** *move back* *take away* *grow up* p44 **Phrasal verbs – idiomatic** *give up* *take off* *look after* p44 **Expressing doubt and certainty** *Of course he will.* *He might do.* *Mmm … maybe.* *I doubt it.* *No chance.* p45
Week 6	The way I see it p46 ***What … like?*** *What's your teacher like?* p46 **Comparative and superlative adjectives** *big, bigger, biggest* *good, better, best* p47 *as … as* *It isn't as hot as Dubai.* p47 **Relative pronouns** *who/that/which/where* p110 **Synonyms and antonyms** *lovely, beautiful* *brilliant, terrible* p52 **What's on?** *How much is it to go in the museum?* *Is it open on Sunday?* *What film is suitable for children?* p53
Week 7	Mid-term Exam
Week 8	Living history p54 **Present Perfect** *John has lived there for three years.* p55 *for* and *since* *for two hours* *since six o'clock* p55 *ever* and *never*

	Have you ever been …? *I've never been to South America.* p56 **Present Perfect or Past Simple** *Have you had an ordinary job?* *I worked in a restaurant.* p57 **Word endings** Jobs *philosopher, historian, economist* p57 Nouns and adjectives *competition, famous* p57 **Word stress** *danger, dangerous* *invite, invitation* p57 **Agree with me!** *It's wonderful, isn't it?* *You come from Scotland, don't you?* *It wasn't easy, was it?* *You've lived here for years, haven't you?* p61
Week 9	Girls and boys p62 ***have to*** *She has to train hard.* *I don't have to train every day.* *Do you have to work at weekends?* p63 ***should*** *You should show him this letter.* p64 ***must*** *He must get professional help.* p64 **Things to wear** *belt, cap, boots, jumper, make-up* p68 Materials *leather, wool, denim, cotton* p68 Situations *job interview, party, beach holiday* p68 **At the doctor's** *a sore throat, flu, food poisoning* *I've got a fever.* *My body aches.* *My glands are swollen.* p69
Week 10	Time for a story p70 **Past Perfect** *They had walked twenty miles.* p71 **Narrative tenses** *They saw a bear.* *They were looking for work.* p71

	Joining sentences *although, because when, while, before, after, as, until, as soon as* p72 **Feelings** *angry, nervous, delighted, stressed* p76 **Exclamations with so and such** *I was so scared!* *It was such a shock!* *We had such terrible weather!* *I've got so much work!* p77
Week 11	Our interactive world p78 **Passives** *Mobile phones are used by almost 6 billion people.* *The first mobile phone call was made in 1973.* *Camera phones have been sold since 2002.* *Landline telephones will be replaced by mobile phones.* p79 **Words that go together** Noun + noun *text message, businessman* p81 Verb + noun *take notes, send a text message* p81 Adverb + adjective *well-known, badly-behaved* p81 **On the phone** *07700 900333* *Can I speak to Patrick, please?* *I'm calling because ...* *Sorry, you're breaking up ...* p85
Week 12	Life's what you make it! p86 **Present Perfect Continuous** *He's been making programmes since 2007.* *How long has she been working there?* p87 Present Perfect Simple versus Continuous *He's made three programmes.* *He's been teaching for three years.* p87

	Birth, marriage, death *pregnant, born* *engaged, divorced* *funeral, died of* p92 **Good news, bad news** *Congratulations!* *That's fantastic news!* *What a shame!* *I'm so sorry.* p93
Week 13	Just wondering … p94 **First conditional *if* + *will*** *If it's sunny, we'll go for a picnic.* *We won't go out if it rains.* p95 *going to* and *might* *What are you going to do tonight?* *I might go out …* p95 **Second conditional *if* + *would*** *If I had a brother, I'd play with him.* *If I were you, I'd stop smoking.* p96 **Prepositions** *connected to* *on a date* *listen to* *think about* p100 **Thank you and goodbye!** *It's late. I must be going now.* *Thank you for a lovely evening.* *My pleasure!* p101
Week 14	**Living in a stately home** *Living history* 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** *Sons and daughters* 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 *Dear Sir or Madam,* *Yours sincerely,* *Hi Cathy,* *Love Steve* 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

MODULE DESCRIPTION FORM
نموذج وصف المادة الدراسية (اللغة العربيَّة)

Module Information معلومات المادة الدراسية		
Module Title	Arabic Language	**Module Delivery**
Module Type	Basic	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical**
Module Code	UOB201	
ECTS Credits	2	

SWL (hr/sem)	50		☐ **Seminar**		
Module Level	2UGx11		**Semester of Delivery**	1	
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	411/06/202		**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- تهدف إلى تنمية روح الإعتزاز باللغة العربيَّة للمحافظة على الهوية العربيَّة.** **2- تهدف إلى تأهيل الطلبة بالمعارف والمخرجات الخاصة علم النحو، والصرف، والإملاء؛ لتمكنه من الكتابة الصحيحة والتعبير السليم وتقويم لسانه.** **3- تهدف إلى تنمية ذوق الطالب الأدبي وإثراء تحصيله وإغناء زاده من الفكر العربي والإسلامي.** **4- تهدف إلى تطوير مهارات الطلاب اللغويَّة التي تؤهلهم للإبداع المتميز.** **5- تهدف إلى تنمية مهارات التحدث بـ (اللغة العربيَّة).** **6- تهدف إلى الارتقاء بمستوى الطلبة من الجانب المهني والبحثي.**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**1-التعرف على الظواهر اللغويَّة كونها إحدى خصائص اللغة العربيَّة التي تميزت بها.** **2- التعرف على قواعد كتابة الألف اللينة في آخر الكلمة، والتمييز بين الألف الطويلة والقصيرة عن طريق ذكر مواضع كل منهما وتوضيح ذلك بذكر الأمثلة.** **3- التعرف على الإستثناء من حيث تعريفه وأدواته وحكمه وبيان ذلك بالأمثلة التوضيحية.** **4- التعرف على الحال من حيث تعريفه وحكمه وبيان ذلك بالأمثلة التوضيحية.** **5- التعرف على التمييز من حيث تعريفه وحكمه وبيان ذلك بالأمثلة التوضيحية.** **6- التعرف على المفاعيل الخمسة وبيان أحكامها بكونها من منصوبات الأسماء وبيان ذلك بالأمثلة التوضيحية.** **7- التعرف على حروف الجر بكونها من مجرورات الأسماء، والتمييز بين معانيها، وبيان حكمها مع توضيح ذلك بذكر الأمثلة.** **8- التعرف على الاسم المذكر والاسم المؤنث من حيث تعريفهما، وأقسامهما مع ذكر الأمثلة التوضيحية.**

9- التمييز بين اللام الشمسية واللام القمرية من حيث النطق والكتابة، وذلك من حيث تعريفهما ومعرفة حروف كل منهما. 10- التعريف بحروف الحذف والزيادة في الكلمة، وبيان ذلك بالأمثلة التوضيحية . 11- تعريف الطالب بمواضع الوقف في اللغة العربيَّة لما فيه من أهمية لإصال المعلومات إلى المتلقي بشكل صحيح فضلاً عن تمكنه من فهم النص فهماً صحيحاً . 12- تمكين الطالب من معرفة المواضع الإعرابية للكلمات داخل النص، ومعرفة معاني بعض الكلمات ، فضلاً عن استخراج الأهداف منه. 13- التعرف على الشاعر المتنبي بكونه من شعراء العصر العباسي. 14- التعرف على الشاعرة نازك الملائكة بكونها إحدى رواد الشعر الحر الحديث في العراق.	
- الظواهر اللغوية: التَّرادف ، المشترك اللفظي، التَّضاد. - 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.	**Indicative Contents** المحتويات الإرشادية تتضمن الكلمات المفتاحية المهمة للمحاضرات

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
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 تهم الطلبة.	Strategies

Student Workload (SWL) **الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا**			
Structured SWL (h/w) **الحمل الدراسي المنتظم للطالب أسبوعيا**	**2**	Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	**33**
Unstructured SWL (h/w)	**1.13**	Unstructured SWL (h/sem)	**17**

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

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	9, 3	8 and 2 ,1 LO #
	Assignments	2	10% (10)	8, 5	6LO # 4 and
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	01	,1,2LO # 13 9,10,11,12,7,3,4,5,6, 14 and
Summative assessment	Midterm Exam	hr2	10% (10)	7	6LO # 1-
	Final Exam	hr3	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	الظواهر اللغويَّة: 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 العربيَّة: 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 العربيَّة وخصائصها: د. إميل بديع يعقوب. - المفيد في أحكام التلاوة والتجويد: القارئ الشيخ رافع العامري. - الوجيز في اللغة العربيَّة: 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.