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

Academic Program and Course Description Guide

Plant Protection Department

Misan University
Faculty of Agriculture

2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its third edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the new developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, semester) except for the first stage, whose study program was described based on the requirements of the Bologna Process, which is included at the end of this file.

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

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

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

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Misan

Faculty/Institute: College of Agriculture

Scientific Department: Plant Protection

Academic or Professional Program Name: Plant Protection Department

Final Certificate Name: .....

Academic System: .....

Description Preparation Date:

File Completion Date:

Signature:

Head of Department Name: Farhan Jasim Mohammed

Date: 23/3/2025

Signature:

Scientific Associate Name: Ahmed Malik Jumaah

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 23/3/2025

Signature:

Salah Abdulhasan Ghailan

Approval of the Dean

Dhuigha S. K

1. Program Vision

Raising the scientific level of students by activating the practical, applied aspect and striving to introduce the latest agricultural equipment and techniques in the field of plant protection to achieve comprehensive quality that contributes to raising the position of the department and college in international classifications.

2. Program Mission

Confronting the challenges facing the agricultural sector by working to prepare and graduate competent agricultural engineers who have the ability to solve problems related to plant protection and agricultural pest control to support the labor market and community service.

3. Program Objectives

1- Preparing highly skilled engineers in the field of plant protection.

2- Contributing to developing methods for preserving agricultural products.

3- Qualifying students to establish profitable projects to contribute to improving the national economy.

4. Program Accreditation

The department seeks to obtain program accreditation.

5. Other external influences

Government support.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	6	14	10%	Basic
College Requirements	11	31	21%	Basic
Department Requirements	37	105	69%	Basic
Summer Training		Complete		Basic
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2nd Year/ 1st course	PLAP211	Plant Physiology	2	3
	PLAT212	Plant Taxonomy	2	3
	AGRE200	Agricultural Extension	2	–
	MICR213	Microbiology	2	3
	PRIS201	Principles of Statistics	2	3
	AGRM214	Agriculture Machinery	2	3
	PRAP202	Principles of Animal Production	2	3
	COMA203	Computer Applications 3	–	2
	CRBP204	Crimes of Baath Party	2	–
2nd Year/ 2nd course	PLAN215	Plant Nutrition	2	3
	INST216	Insect Taxonomy	2	3
	PRFC217	Principles of Field Crops	2	3
	MEVI218	Medical and Veterinary Insects	2	3
	ANAC205	Analytical Chemistry	2	3
	COMA206	Computer Applications 4	–	2

	ENGL207	English Language 2	**1**	–
3rd Year/ 1st course	BIOC300	Biochemistry	**2**	**3**
	GENE311	Genetics	**2**	**3**
	DEAE301	Design and Analysis of Experiments	**2**	**3**
	MYCO312	Mycology 1	**2**	**3**
	INSP313	Insect Physiology	**2**	**3**
	ECOL314	Ecology	**2**	**3**
	ENGL302	English Language 3	**1**	–
3rd Year/ 2nd course	PLAB315	Plant Breeding	**2**	**3**
	WECM316	Weeds and Control Methods	**2**	**3**
	PLAP317	Plant Pathology	**2**	**3**
	MYCO318	Mycology 2	**2**	**3**
	APIC319	Apiculture	**2**	**3**
	NEMA320	Nematology	**2**	**3**
	BIOT321	Biotechnology	**2**	**3**
4th Year/ 1st course	ORCI411	Orchard Insects	**2**	**3**
	PEST412	Pesticides	**2**	**3**
	INSE413	Insect Ecology	**2**	**3**
	STOP414	Storage Pests	**2**	**3**
	VEGD415	Vegetable and Greenhouses Diseases	**2**	**3**
	BIOC416	Biological Control	**2**	**3**
	SEMI400	Seminars	**1**	–
	ENGL401	English Language 4	**1**	–
	RESP402	Research Project 1	–	**3**
4th Year/ 2nd course	FRUD417	Fruit Diseases	**2**	**3**
	PLAV418	Plant Virology	**2**	**3**
	FICI419	Field Crop Insects	**2**	**3**
	AGRM420	Agricultural Mites	**2**	**3**
	FICD421	Field Crop Diseases	**2**	**3**
	INPM422	Integrated Pest Management	**2**	–
	RESP403	Research Project 2	–	**3**

8. Expected learning outcomes of the program

Knowledge

A-1- Providing students with knowledge about the management methods adopted in various plant protection projects, in addition to alternatives to these methods, to ensure keeping pace with global developments in technologies and meeting the needs of the labor market.

A-2- Teaching students the theoretical and practical foundations for diagnosing pests that affect plants, and ways to reduce their economic damage.

A-3- Teach students the exact standards and understand the actual needs for chemical pesticides and other pest control methods, with the aim of ensuring plant safety and achieving maximum productivity.

A-4- Guiding and teaching students regarding educational and behavioral aspects, with the aim of forming graduates who carry the principles of noble values and correct professional ethics.

Skills

B-1- Providing practical opportunities to enhance practical skills and build expertise in the field context of agricultural crop protection projects.

B-2- Teaching students to use a variety of laboratory equipment, with the aim of enhancing their skills in applying scientific techniques in managing crop protection projects.

B-3- Paying attention to training students on communication strategies to transfer new information in the field of specialization, with the aim of improving the development of knowledge and skills, and improving methods of transferring information to the team participating in the management of pests that affect plants, by teaching them how to formulate and present presentations.

B-4- Teaching students how to complete the scientific research stage by applying the foundations of the scientific method in research, and qualifying them to integrate into research and development centers, or to complete their higher degrees in the future.

Ethics

C-1- The academic program adopts the values of education in dealing with students to develop the desire and interaction in seeking knowledge and striving to spread scientific interest in society, through diligence and commitment in performing tasks.

C-2- The academic program is based on enhancing ambition among students to achieve achievement and excellence, and enhancing their self-confidence and their potential capabilities, while emphasizing the urgent need in society to exploit these human capabilities in the process of construction and development.

C-3- Focus on the importance of achieving fair competition in promoting the development and prosperity of projects, and opening the arena of opportunities for those who show determination and honesty in their work, and win markets for their products by adhering to quality.

C-4 – The academic program adopts enhancing the importance of every individual's participation in society, and not relying completely on the efforts of others to avoid the emergence of a group of insiders in the group, who hide behind the achievements of diligent and creative people.

9. Teaching and Learning Strategies

1. Several methods are used to convey information to students, including lectures using a whiteboard and data projector, interactive lectures, and educational video presentations that allow them to see field or laboratory operations.
2. Students' interaction in obtaining information includes their request to submit scientific reports on specific activities in the curriculum, which contributes to expanding their knowledge and training them on how to access information to stay up to date with knowledge in the future.
3. It includes training students to discuss logically to reach conclusions, in addition to teaching them how to make appropriate inferences.
4. It includes learning through practical field applications, providing students with the opportunity to apply the concepts they have learned on the ground.
5. Students are trained on proper behavior inside the classroom, in laboratories, or in greenhouses, to ensure appropriate behavior within the educational institution and after graduation.

10. Evaluation methods

1. Monthly exams.
2. Daily exams.
3. Practical exams.
4. The final exam, both theoretical and practical.
5. Evaluation through summer training in government departments.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof.	Plant protection	Plant diseases			2	
Prof Assistant	Plant protection	Plant diseases			1	
Prof Assistant	Plant protection	Nematode			1	
Prof Assistant	Plant protection	Entomology			2	
Prof Assistant	Biology	Skin fungi			1	
Prof Assistant	Field crops	Field crops			1	
Prof Assistant	Machinery and equipment	Pullers and powers			1	
Lecturer	Plant protection	Entomology			2	
Lecturer	Plant protection	Plant diseases			1	
Lecturer	Biology	Botany			1	
Lecturer	Agricultural economy	Agricultural economy			1	
Lecturer	Soil science	Soil science			1	
Lecturer Assistant	Horticulture	Horticulture			1	
Lecturer Assistant	Plant	Entomology			1	

	protection					
Lecturer Assistant	Plant protection	Plant diseases			2	
Lecturer Assistant	Field crops	Field crops			2	

Professional Development

Mentoring new faculty members

Enhancing the development of new and full-time faculty members by encouraging them to participate in training courses, attend seminars, conferences, and panel discussions, conduct lessons, and conduct research in their field of specialization, which contributes to raising the level of their education and integrating them effectively into the core teaching programs.

Professional development of faculty members

Promoting the administrative, professional and academic development of faculty members by enhancing the effectiveness and activity of group work, and developing decision-making skills in academic and administrative work, including introducing them to teaching development courses and enhancing English language and computer use skills.

12. Acceptance Criterion

Central admission.

13. The most important sources of information about the program

1. The website of the College of Agriculture and the University of Maysan.
2. Misan University Guide.
3. Central Library.
4. The most important books and sources for the plant protection department.
5. The Internet.

14. Program Development Plan
1. Encouraging students, especially the top ones in scientific departments, to study abroad, especially in developed countries. 2. Strengthening cooperation between Arab universities and international universities by sending faculty members to international universities.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2nd level/ 1st course	PLAP211	Plant Physiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PLAT212	Plant Taxonomy	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRE200	Agricultural Extension	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	MICR213	Microbiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRIS201	Principles of Statistics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRM214	Agriculture Machinery	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRAP202	Principles of Animal Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	COMA203	Computer Applications 3	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	CRBP204	Crimes of Baath Party	Basic	*	*	*	*	*	*	*	*	*	*	*	*

2nd level/ 2nd course	PLAN215	Plant Nutrition	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	INST216	Insect Taxonomy	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	PRFC217	Principles of Field Crops	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	MEVI218	Medical and Veterinary Insects	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	ANAC205	Analytical Chemistry	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	COMA206	Computer Applications 4	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	ENGL207	English Language 2	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
3rd level/ 1st course	BIOC300	Biochemistry	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	GENE311	Genetics	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	DEAE301	Design and Analysis of Experiments	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	MYCO312	Mycology 1	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	INSP313	Insect Physiology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	ECOL314	Ecology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*

	ENGL302	English Language 3	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
3rd level/ 2nd course	PLAB315	Plant Breeding	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	WECM316	Weeds and Control Methods	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	PLAP317	Plant Pathology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	MYCO318	Mycology 2	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	APIC319	Apiculture	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	NEMA320	Nematology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	BIOT321	Biotechnology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
4th level/ 1st course	ORCI411	Orchard Insects	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	PEST412	Pesticides	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	INSE413	Insect Ecology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	STOP414	Storage Pests	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	VEGD415	Vegetable and Greenhouses Diseases	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	BIOC416	Biological	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*

		Control													
	SEMI400	Seminars	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	ENGL401	English Language 4	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	RESP402	Research Project 1	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
4th level/ 2nd course	FRUD417	Fruit Diseases	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	PLAV418	Plant Virology	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	FICI419	Field Crop Insects	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	AGRM420	Agricultural Mites	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	FICD421	Field Crop Diseases	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	INPM422	Integrated Pest Management	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*
	RESP403	Research Project 2	**Basic**	*	*	*	*	*	*	*	*	*	*	*	*

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

Second Stage

Course Description Form

1. Course Name:					
Analytical Chemistry					
2. Course Code:					
ANAC205					
3. Semester / Year:					
Second semester 2024/2025					
4. Description Preparation Date:					
2025/2/15					
5. Forms of Attendance:					
In Class Rome					
6. Number of Studying Hours (Total) / Number of Units (Total)					
75 hours / five units					
7. Course Administrator's Name (mention all, if more than one name)					
Name: Asaad Shamil Atiyah		Email: asaad.shameel@uomisan.edu.iq			
8. Course Objectives					
Course Objectives	• Learn about analytical chemistry, and provide general information about analytical chemistry • Identify ways to express concentrations and their types. • Introducing the student to the strong and weak acid and base according to the Brunshead and Lewis principle • Identify sedimentation methods according to Volgahan's principle and others • Identify buffer solutions and methods of preparing them • Identify the titration and titration equations				
9. Teaching and Learning Strategies					
Strategies	1- Using the method of delivering information through lecture 2- Students share information by submitting scientific reports. 3- Training students on the method of logical discussion to reach results.				
10. Course Structure					
The theoretical part :					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student will be familiar with analytical chemistry, identifying	Introduction to analytical chemistry, identifying its types (descriptive and quantitative) and explaining each	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
2	2	The student will be	ways of express	data show ,	coes exam,

		familiar with ways of express concentration	concentration	Electronic whiteboard , Scientific discussion	Monthly exam, Presentation of a scientific seminar
3	2	The student will be familiar with Neutralization reactions	Neutralization reactions of acids and bases	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
4	2	The student will be familiar with Calculating the pH in solutions	Calculating the pH in solutions of acids, bases, salts and buffers	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
6	2	The student will be familiar with Derive the graph for the reaction	Derive the graph for the reaction of an acid and a base	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
7	2	The student will be familiar with Depositional tritration	Depositional tritration	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
8	2	The student will be familiar with Complex formation reactions	Complex formation reactions	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
10-11	2	The student will be familiar with Oxidation and reduction	Oxidation and reduction reactions	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
12-13	2	The student will be familiar with gravimetric analysis	Measurement methods in gravimetric analysis	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
14	2	The student will be	components of	data show ,	coes exam,

		familiar with color absorption spectrum	the color absorption spectrum	Electronic whiteboard , Scientific discussion	Monthly exam, Presentation of a scientific seminar
5-9-15	2	on paper	Exam	-	-
practical part:					
1	3	The student will be familiar with laboratory instruments	Introduction to laboratory instruments	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
2	3	The student will be familiar with analytical chemistry	Introduction to analytical chemistry	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
3	3	The student will learn Prepare a standard base	Prepare a standard acid	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
4	3	The student will learn Prepare a standard base	Prepare a standard base	data show , Electronic whiteboard , Scientific discussion,	coes exam, Monthly exam, Presentation of a scientific seminar
5	3	The student will be familiar with Neutralization of an acid	Neutralization of an acid with a base (such as HcI with NaOH)	data show , Electronic whiteboard , Scientific discussion,	coes exam, Monthly exam, Presentation of a scientific seminar
7-8	3	The student will be familiar with Oxidation and reduction reaction	Oxidation and reduction reaction (such as KMnO4 with Na2C2O4)	data show , Electronic whiteboard , Scientific	coes exam, Monthly exam, Presentation

				discussion, Conducting experiments in the laboratory	of a scientific seminar
9-10	3	The student will be familiar with	Oxidation and reduction (KIO3 with Na2S2O3)	data show , Electronic whiteboard , Scientific discussion,	coes exam, Monthly exam, Presentation of a scientific seminar
11-12	3	The student will be familiar with	Analysis of complex formation (EDTA with CaCO3)	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
6-13-14-15	3	on paper	Exam	-	-

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1- Analytical Chemistry - Skoog 2- Analytical and gravimetric chemistry - Hade Awed
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Scientific journals specialized in biochemistry
Electronic References, Websites	All agricultural and biochemical sciences journal sites

Course Description Form

1. Course Name:	
Insects taxonomy	
2. Course Code:	
INST216	
3. Semester / Year:	
Semester 1 / 2024-2025	
4. Description Preparation Date:	
2.2.2025	
5. Forms of Attendance:	
Attendance only	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 hours / 5 units	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Asist. Lecture Fatima Kassem Hamdan	**Email: fatima.kassem@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	• **Introducing the student to the science of classification, its importance and its connection with other sciences, and knowing the meanings of ancient and modern terms used in classification science in classification science.** • **Study and learn about the history of taxonomy and the role of scientists in taxonomy** • **Trace the role of scientist Carlos Linnaeus in taxonomy** • **Study of the work a taxonomist performs when diagnosing or identifying a new species.** • **Definition of the importance of fossils in taxonomy** • **Knowledge of the simple division of animals obtained from fossils.** • **Learn about the location of insects in the animal kingdom, the phylum to which they belong, and the other classes in this phylum** • **Compare the most prominent characters found in each class of the arthropod phylum** • **Knowledge of insect groups and where to use each group.** • **- Studying new unstudied or undiagnosed insect models** • **Knowledge of international nomenclature laws and how different types of diagnostic keys work**
9. Teaching and Learning Strategies	
Strategies	**-Assigning students to conduct reports and research on topics related to the curriculum** **- Bringing insects from different regions for the purpose of diagnosing them and knowing their most prominent characteristics** **- Theoretical lectures and the use of PowerPoint and the methodological book**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**Students learned**	**Classification its**	**Using the lecture**	**Coz test at**

		about taxonomy the importance of taxonomy and its connection to other sciences	goals and history	method and using the Data show device to display data	the end of the lecture
2	5	Students learned about the history of taxonomy the obstacles that occurred throughout the ages and the most prominent scientists who contributed to taxonomy	History of taxonomy	Using the lecture method and using the Data show device to display data	Questions and closing discussion
3	5	Students learned about the work carried out by the scientist Carlos Linnaeus and his role in taxonomy	Linnaeus's role in the advancement of entomology	Using the lecture method and using the Data show device to display data	Coz test at the end of the lecture
4	5	Students learned about the work carried out by a taxonomist in diagnosing or classifying a specific species, starting with collecting samples and ending with naming the species and sending it to the museum to confirm the diagnosis.	The work performed by the taxonomist	Using the lecture method and using the Data show device to display data	Questions and closing discussion
5	5	Students learned about the importance of fossils in diagnosing and classifying extinct species	The role of fossils in taxonomy	Using the lecture method and using the Data show device to display data with videos of grades	Coz test at the end of the lecture
6	5	Students learned about the division that occurred in animals based on fossils which included invertebrates and vertebrates	Simple division of common animals into fossils	Using the lecture method and using the Data show device to display data	Questions and closing discussion
7	5	Students learned about the location of insects in the animal kingdom and the division of the arthropod phylum to which the class of insects belongs to several classes based	The location of insects in the animal kingdom and the division of the arthropod phylum into several classes	Using the lecture method and using the Data show device to display data	Questions and closing discussion

		on a set of characteristics			
8	**5**	**Students learned about the most prominent classes in the Arthropoda division and the distinctive characteristics of each class**	**Division of the phylum Arthropoda**	**Using the lecture method and using the Data show device to display data**	**Questions and closing discussion**
9	**5**	**Students learn about the most prominent existing insect groups that are used by researchers, institutes and universities and they are interested in the colors**	**Types of insect groups**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
10	**5**	**Students learned how to identify insect models if they were not previously registered**	**Definition of insect models**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
11	**5**	**Students become acquainted with the international laws agreed upon in naming a particular species scientifically**	**Bionomial nomencalture**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
12	**5**	**Students familiarize themselves with the types of classification keys**	**Taxonomic keys**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
13	**5**	**Students become familiar with the higher and lower classification levels**	**Classification catagery**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
14	**5**	**Students learned about a list of terms in taxonomy, including species - infra-species - supra-species - family - polymorphic species - hidden species**	**Taxonomy terminology**	**Using the lecture method and using the Data show device to display data**	**Questions and closing discussion**
15	**5**	**Students learned how a order is distinguished from other order by only one characteristic**	**Orders to which petrygota and Apetrygota insects**	**Requesting students to submit presentations using the Data**	

				Show device on different topics related to the different orders of insects, supplementing this with an explanatory video about a specific species.	

11. Course Evaluation

Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.

Theoretical part: Average of the first and second months (30) marks:
The first month: written exam (25) marks + exams and absences (5) marks.
The second month: written exam (25 marks) + presentations (5 marks).
Practical part: average for the first and second months (20) marks:
The first month: a written exam (10) marks + marks and absences exams (5) marks + bringing insects to learn the most prominent characteristics and taxonomic category
The second month: Written exam (10) marks + marks and absences exams (5) marks + holding a competition among students to quickly mention the order to which the species belongs (5) marks..

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	**Basics of insect classification, 2010**
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Agriculture Machinery
2. Course Code:
AGRM214
3. Semester / Year:
First semester / 2024 - 2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
Full time (theoretical lecture)
6. Number of Credit Hours (Total) / Number of Units (Total)
3 hours per week for 15 weeks
7. Course Administrator's Name (Mention All, If More Than One Name)
Assist. Prof. ALI ABBAS HASHIM Email: Name: ali_abbas@uomisan.edu.iq
8. Course Objectives

Course Objectives	Graduating students capable of: 1- Preparing a cadre with the ability to work in the field of plant protection according to studied scientific methods 2- Preparing an educated cadre in their field of specialization linked to the development and developments happening in countries around the world 3- Preparing a distinguished cadre who is familiar with a lot of sufficient information to enter the private sector and build projects 4- Preparing an educated cadre who can participate in government projects and the labor market 5- Motivating students towards the desire to obtain better experiences and apply for postgraduate studies

9. Teaching and Learning Strategies

Strategy	**Tourism goals.** **1- Employing knowledge and understanding in a field** **2- Familiarity with the theoretical and experimental aspects of the scientific subject** **3- Building a scientific base for future generations of students to work in society and in life** **4- It requires scientific skills in the field of future specialization**

10. Course Structure

Week	Hours	Required learning outcomes	Unit or Subject Name	Learning Method	Evaluation
1	5	Bachelor's	About agricultural tractors - and agricultural tractor functions	Take a look and view the slides	the exams Daily and monthly

2		Bachelor's	Forces used in agricultural operations	Take a look and view the slides	the exams Daily and monthly And
3	5	Bachelor's	The most important methods and means used in transferring and converting movement and energy in agricultural machines and machinery	Take a look and view the slides	the exam s Daily and monthly
4		Bachelor's	The fixed and moving parts of the internal combustion engine and the function of each part	Take a look and view the slides	the exams Daily and monthly
5	5	Bachelor's	Tractor engines (fundamentals of internal combustion engine design - cycle of compression and spark engines, both four- and two-stroke)	Take a look and view the slides	the exams Daily and monthly And final reports
6		Bachelor's	Auxiliary devices for the agricultural tractor engine (lubrication device - cooling device - fuel device	Take a look and view the slides	the exams Daily and monthly
7		Bachelor's	Monthly test	Monthly test	Monthly test
8		Bachelor's	Fuel device - air purification device - exhaust device)	Take a look and view the slides	the exams Daily and monthly And final reports daily

9	5	Bachelor's	Transmission devices in the agricultural tractor (clutch - gearbox - vertical transmission device - differential device - final transmission device)	Take a look and view the slides	the exams Daily and monthly And final

10	5	Bachelor's	Means of utilizing power in the agricultural tractor (hydraulic lifting device - power take-off shaft - tension rod - drive pulley)	Take a look and view the slides	the exams Daily and monthly And final
11	5	Bachelor's	Primary tillage machines (dippers, excavator plows, subsoil plows, rotary plows)	Take a look and view the slides	the exams Daily and monthly And final reports daily
12	5	Bachelor's	Secondary tillage machines (disc harrows - harrows)	Take a look and view the slides	the exams Daily and monthly And final reports daily
13	5	Bachelor's	Machines serve the growing crop	Take a look and view the slides	the exams Daily and monthly And final reports daily
14	5	Bachelor's	Agricultural pest control equipment (hydraulic sprayer - air sprayer - manual sprayer - automatic duster)	Take a look and view the slides	the exams Daily and monthly And final reports
15		Bachelor's	Second exam	Take a look and view the slides	the exams Daily and monthly And final reports

11. Course Evaluation
• Daily exams with multiple-choice questions that require scientific skills. • Daily exams with scientific questions. • Participation grades for competition questions for academic subjects. • Marking homework and reports • - Grades for the student's activity during the lecture and the extent of his commitment to regular attendance and absence.
12. Learning and Teaching Sources
1. Book (Pullers and Plant Protection Equipment), prepared by Dr. Lutfi Hussein Muhammad Ali, Assistant Professor of Agricultural Mechanization / College of Agriculture, University of Baghdad, 1986.
2. The book (Agricultural Machinery and Machinery), written by Dr. Engineer Yassin Hashem Al-Tahan and Dr. Engineer Muhammad Jassim Al-Naama / University of Mosul / Department of Agricultural Mechanization, 1988.

Course Description Form

1. Course Name:	
Medical and veterinary insects	
2. Course Code:	
MEVI218	
3. Semester / Year:	
2024-2025 (First course)	
4. Description Preparation Date:	
The beginning of the first course	
5. Forms of Attendance:	
Attending in college	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 / 5	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Dr.Farhan Jasim Mohammed	**Email: farhanalhakim@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	**1**- knowing the student to medical entomology, the history of medical entomology, epidemiology, disease vectors, and the relationship of vectors to pathogens. Transportation methods for nurses. **2**-knowing the student to the insect hosts that transmit pathogens, their medical importance for medical life cycle, and their behavior in quickly control and diagnosing them.. **3**-Some arthropods, such as mites and ticks, the most important of , medical, and methods of control**.**
9. Teaching and Learning Strategies	

Strategies	Using modern means to deliver information to students and using field work to learn more about the course methodology, which is part of modern education, so that complete information about the course is available after the student graduates**.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	5	Understanding, perception, practical application	An overview of medical entomology, importance, vector insects, methods of transmitting pathogens, the relationship of pathogens to vertebrates, study of the mouth parts of some arthropods	Lecture and discussion	Oral exams, quizzes and written exams
2nd	5	Understanding, perception, practical application	Epidemiology, transmission and how to detect a relationship with the pathogen, effectiveness and efficiency of the vector, class of insects, types of cockroaches	Lecture and discussion	Oral exams, quizzes and written exams
3rd	5	Understanding, perception, practical application	**P**athogens transmitted by arthropods, protozoa, nematodes, bacteria, viruses, order Hemiptera	Lecture and discussion	Oral exams, quizzes and written exam
4th	5	Understanding, perception, practical application	Feeding parts and mouth parts in insects, function of mouth parts in insects, structure of mouth parts in mites and ticks, order of biting lice	Lecture and discussion	Oral exams, quizzes and written exam
5th	5	Understanding, perception, practical application	Medical importance of cockroaches, habits and behavior, life cycle, order Diptera	Lecture and discussion	Oral exams, quizzes and written exam
6th	5	Understanding, perception, practical application	The medical importance of true bugs, bed bugs, habits and life cycle, medical importance, sneaky bugs, health consequences caused by bugs . Myiasis family	Lecture and discussion	Oral exams, quizzes and written exam
7th	5	written exam	First month exam	written exam	written exam
8th	5	Understanding, perception, practical application	The medical importance of lice and fleas, sucking lice, types of lice, the medical importance of lice, fleas, their life cycle, common types, medical importance, the fleas family	Lecture and discussion	Oral exams, quizzes and written exam
9th	5	Understanding, perception, practical application	Mosquitoes, medical importance, life cycle, genera, malaria-carrying mosquitoes, filarial carriers, viruses-carriers, order Siphonaptera	Lecture and discussion	Oral exams, quizzes and written exam
10th	5	Understanding, perception, practical application	Sand fly, medical importance, Leishmania diseases and their types. The stinging Sand fly	Lecture and discussion	Oral exams, quizzes and written exam
11th	5	Understanding, perception,	The medical importance of black flies, the Simuliidae family, the relationship of	Lecture and discussion	Oral exams, quizzes and

		practical application	black flies to nematodes. Classification of arachnids		written exam
12th	**5**	Understanding, perception, practical application	The medical importance of flies that feed on human blood, the Tabanidae fly family, transmission of anthrax, the Glossinidae fly, house flies, camel ticks and dog ticks،	Lecture and discussion	Oral exams, quizzes and written exam
13th	**5**	Understanding, perception, practical application	The medical importance of flies that feed on waste, green, blue, and house metal flies, life cycles, mites and ticks, types of soft and hard ticks and their importance, types of mites and their medical importance and life cycle.	Lecture and discussion	Oral exams, quizzes and written exam
14th	**5**	written exam	Second month exam	written exam	written exam
15th	**5**	Understanding, perception, practical application	Myiasis and myiasis, sheep-nosed myiasis fly, cowhide myiasis fly, horse stomach myiasis fly, types of myiasis and veterinary importance	Lecture and discussion	Oral exams, quizzes and written exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly written exams, final written exam, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book of Medical and veterinary insects in Iraq - by Dr. Jalil Abu Al-Hab
Main references (sources)	Book of Disease vectors and biotechnology. By Professor Dr. Nadia Abu Jabal
Recommended books and references (scientific journals, reports...)	Medical entomology journals
Electronic References, Websites	All agricultural and environmental science journals sites

Course Description Form

1. Course Name:

Plant Nutrition

2. Course Code:

PLAN215

3. Semester / Year:

Second semester / 2024 - 2025

4. Description Preparation Date:

1. 2.2025

5. Forms of Attendance:

Full time (theoretical lecture/practical lecture)

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

75 / 5

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

Name: Karrar Akram Kamil | **Email:** karar.akram@uomisan.edu.iq

8. Course Objectives

Course Objectives	**1- Introducing the student to the concept of plant nutrition - the intersection of nutrition with other agricultural sciences and applications.** **2- Study of plant nutrients and their interactions with soil science.** **3- Knowing the scientific foundations of fertilization and the factors interfering with fertilization programs.** **4- Exploring the most important problems associated with fertilization, such as soil salinity, contamination with chemical fertilizers, and organic agriculture.**

9. Teaching and Learning Strategies

Strategies	**1. Theoretical lectures, and the use of textbooks book and PowerPoint.** **2. Assigning students to prepare presentations on topics related to the curriculum.** **3. Field visits and scientific trips.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	**Students learned about: plant nutrition and the plant's nutritional content.**	**Introduction to plant nutrition and nutrients.**	**Using the lecture method and displaying data on the Data Show device**	**Questions and discussion**
2	5	**Students learned about: Soil as a medium for nutrients. Laboratory methods for examining soil and determining element deficiencies.**	**Soil as a medium for nutrients.**	**Using the lecture method and displaying data on the Data Show device**	**Quiz test at the end of the lecture**
3	5	**Students learned about: types of soil and their impact on the Availability of the food element.**	**Nutrient Availability**	**Using the lecture method and displaying data on the Data Show device**	**Quiz test at the end of the lecture**
4	5	**Students learned about: absorption of nutrients and theories of absorption. Movement of mineral elements**	**Nutrients uptake**	**Using the lecture method and displaying data on the Data Show device Conducting a field experiment to grow plants with fertilization at different levels.**	**Closing questions and discussion Preparing a scientific report on the scientific trip. Preparing a scientific report**

		within the soil.			on the field experiment
5	5	Students learned about: the representation of elements and their transport within plants.	The role of nutrients within the plant	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
6	5	Students learned about: the relationship between nutrition and plant diseases.	Nutrition and plant diseases	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
7	5	First month exam. Students learned about: the symptoms of element deficiency, and how to diagnose them. How to take plant samples for the purpose of conducting laboratory tests for nutritional deficiency.	Symptoms of element deficiency	Using the lecture method and displaying data on the Data Show device	Questions and discussion
8	5	Students learn about hydroponic techniques. Benefits and features of soilless farming (hydroponic)	Hydroponic	Using the lecture method and displaying data on the Data Show device	Closing questions and discussion
9	5	Students learned about: organic fertilizers. How to make compost using aerobic fermentation	Organic fertilizers and compost industry	Using the lecture method and displaying data on the Data Show device Conducting a field visit to experiment with compost manufacturing	Closing questions and discussion Preparing a scientific report on the field visit
10	5	Students learned about:	Vermicompost	Using the lecture method and displaying data on the	Quiz test at the end of the

		types of earthworms. How to make vermicompost.		**Data Show device**	**lecture**
11	**5**	**Students learned about: fertilization programs and the factors that determine the fertilization program.**	**Fertilization programs**	**Using the lecture method and displaying data on the Data Show device**	**Questions and discussion**
12	**5**	**Students learned about: How to deal with salty soil. Fertilization programs suitable for saline soils.**	**Fertilizing saline soils**	**Providing presentations by students using a data show device on topics of saline soils and alkaline soils.**	**Student discussion after presenting the presentation Test Quiz at the end of the presentation for students.**
13	**5**	**Students learned about: some of the materials used in fertilization programs, such as humic acid and valvic acid.**	**Humic acid**	**Providing presentations by students using a data show device on topics of saline soils and alkaline soils.**	**Student discussion after presenting the presentation Test Quiz at the end of the presentation for students.**
14	**5**	**Students learned about: agricultural gypsum and its uses in land reclamation and its effect on the availability of nutrients.**	**Agricultural gypsum**	**Providing presentations by students using a data show device on topics of saline soils and alkaline soils.**	**Student discussion after presenting the presentation Test Quiz at the end of the presentation for students.**
15	**5**	**<u>Second month exam.</u> Students learned about: organic agriculture and the role of fertilization in sustainable agriculture**	**Sustainable agriculture**	**Providing presentations by students using a data show device on topics of saline soils and alkaline soils.**	**Student discussion after presenting the presentation Test Quiz at the end of the presentation for students.**
11	Course Evaluation				

The theoretical part, average for the first and second months (30) marks: **The first month: a written exam (25 marks) + Quiz exams (5 marks).** **The second month: written exam (25 marks) + presentations (5 marks).** **Practical part: Average of the first and second months (20) marks:** **The first month: written exam (10 marks) + a report of fertilization experiment (5 marks) + Quiz exams (5 marks).** **The second month: a written exam (10) marks + a report of composting experiment (5) marks + Quiz exams (5 marks).**

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**-**
Main references (sources)	**Handbook of Plant Nutrition (2015)** **Edited by: Allen V. Barker & David J. Pilbeam**
Recommended books and references (scientific journals, reports...)	**1- Hydroponics - published by the Agricultural Extension Department - Ministry of Agriculture - Kingdom of Saudi Arabia.** **2- Fermented fertilizer (compost) - published by the Organic Agriculture Research Center in the Qassim Region - Ministry of Agriculture - Kingdom of Saudi Arabia.**
Electronic References, Websites	**https://landresources.montana.edu/soilfertility/nutrientdeficiency.html**

Course Description Form

1. Course Name:	
Plant Taxonomy	
2. Course Code:	
Plant Taxonomy	
3. Semester / Year:	
Second Coarse / Second Year	
4. Description Preparation Date:	
2.10.2024	
5. Forms of Attendance:	
Full time (theoretical lecture/practical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 / 5	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Salah Abd Alhasan	**Email:** salah.ghilan@uomisan.edu.iq
8. Course Objectives	

Course Objectives	**1- Introducing the student to the concept of plant taxonomy - the historical stages of plant classification.** **2- Teaching students how to classify and diagnose plants to identify their biological identity for the purpose of finding the best ways to combat pests that affect crops.**
9. Teaching and Learning Strategies	
Strategies	**1. Theoretical lectures, and the use of the methodological book and PowerPoint.** **2. Assigning students to prepare presentations on topics related to the curriculum.** **3. Field visits and scientific trips.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**Students learned about plant taxonomy, the ages, and the development of this science.**	**History of taxonomy.**	**Using the lecture method and displaying data on the Data Show device**	**Closing questions and discussion**
2	**5**	**Students learn about: The objectives of taxonomy. General terms in taxonomy.**	**Introduction: Objectives of taxonomy**	**Using the lecture method and displaying data on the data show device.**	**Test (case) at the end of the lecture**
3	**5**	**Students learn about classification systems. Taxonomic keys.**	**Classification systems**	**Using the lecture method and displaying data on the data show device,**	**testing the end of the lecture**
4	**5**	**Students learn about: the root and its types.**	**The vegetative parts of the plant**	**using the lecture method and displaying the data using the data show device Conduct a field visit to learn about plant roots and their types.**	**Closing questions and discussion**
5	**5**	**Students learned**	**The vegetative**	**using the**	**Test (coz) at**

		about: the plant stem and its types.	parts of the plant	lecture method and displaying the data using the data show device Conduct a field visit to learn about plant stems and their types.	the end of the lecture
6	5	Students learn about: leaves and their shapes.	The vegetative parts of the plant	using the lecture method and displaying the data using the data show device Conduct a field visit to learn about plant leaves and their shapes.	Test (coz) at the end of the lecture
7	5	Students learned about: compound and simple papers.	The vegetative parts of the plant	using the lecture method and displaying the data using the data show device Conduct a field visit to identify compound and simple leaves.	Closing questions and discussion
8	5	<u>First month exam:</u> The students learned about: the parts of the flower and the flower rings,	the reproductive parts of the plant,	using the lecture method and displaying the data on the data show device,	a test (coz) at the end of the lecture.
9	5	The students learned about: symmetry in the flower and the	the reproductive parts of the	using the lecture method and	the closing questions and

		floral carpels,	plant,	displaying data on the data show device,	discussion.
10	5	Students learn about: Al-Asadiya. The floral equation.	The reproductive parts of the plant,	using the lecture method and displaying data using the data show device,	test (coz), end of the lecture
11	5	Second month exam: How to dry the models.	Drying the plant models.	Using the lecture method and displaying the data on the Data Show device Each student was asked to make two dried models of two different plants.	Closing questions and discussion Evaluation of dried models.
12	5	Learn about: The flowering inflorescence and its types.	The reproductive parts of the plant.	Providing presentations to students using the Data Show device. Discussing with the student after presenting the presentation.	Test (coz) at the end of the presentation for students.
13	5	Providing students with the skills of preparing presentations and speaking in front of an audience..	Presentations	Providing presentations to students using the Data Show device for topics related to plant classification. Student discussion after presenting the	Test (coz) at the end of the presentation for students.

				presentation.	
14	**5**	**Providing students with the skills of preparing presentations and speaking in front of an audience..**	**Presentations**	**Providing presentations to students using the Data Show device for topics related to plant classification. Student discussion after presenting the presentation.**	**Test (coz) at the end of the presentation for students.**
15	**5**	**Providing students with the skills of preparing presentations and speaking in front of an audience..**	**Presentations**	**Providing presentations to students using the Data Show device for topics related to plant classification. Student discussion after presenting the presentation.**	**Test (coz) at the end of the presentation for students.**

11. Course Evaluation

<u>The theoretical part, average for the first and second months (30) marks:</u>
The first month: written exam (25 marks) + collage exams (5 marks).
The second month: written exam (25 marks) + presentations (5 marks).
<u>Practical part: Average of the first and second months (20) marks:</u>
First month: Written exam (20 marks).
The second month: dried models (10) marks + cob exams (10) marks.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	**Effendi, Imad al-Din (translator) 2013. Atlas of Plants. Dar Al-Sharq Al-Arabi for Printing, Publishing and Distribution.**
Recommended books and references (scientific journals, reports...)	**Al-Atabi, Jabbar Salman; Khalaf, Muhammad Kamel 20002. Flowering plants for university students. Challenge University - Libya.**
Electronic References, Websites	

Course Description Form

1. Course Name:

Principles of Field Crops

2. Course Code:

PRFC217

3. Semester / Year:

SECOND/Semester/2024 - 2025

4. Description Preparation Date:

3.12.2024

5. Forms of Attendance:

Full-time (Theoretical Lecture)

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

5 hours per week for(Theoretical and Lecture), 15 weeks

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

Name: Assistant Prof. Dr. Dhurgham Sabih Kareem Altai	Email: dhurgham.sabih@uomisan.edu.iq

8. Course Objectives

Course Objectives	**1- Providing the student with practical and theoretical information on how to follow modern methods for managing all field operations** **2- Teaching the student the basic and supporting sciences for field crops specialization.** **3- Providing the student with practical and theoretical information on managing relevant fields, laboratories and laboratories.**

9. Teaching and Learning Strategies

Strategies	**A- Cognitive objectives** **A1- Teaching students how to deal with the field so that it has modern scientific specifications and methods of managing it.** **A2- Introducing students to how to develop genetic compositions for field crops.** **A3- Enabling the student to know how to deal with laboratory materials and equipment.** **B - The skills objectives of the course** **B1 - Providing the student with the skills of applying scientific methods regarding the management of agricultural fields.** **B2 - Training the student to produce agricultural crops to achieve high productivity.** **B3 - Providing the student with the necessary skills for laboratory tests related to crops and soil and how to give appropriate scientific judgments.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	٥	Introducing the student to field crops and their advantages	Introduction to crop science and recent statistics on food production in the world	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
2	٥	Introducing the student to the importance of field crops	The importance of field crops	Theoretical and practical lectures + presentation	Daily, monthly and final tests and reports

				methods + dialogue and discussion	
3	٥	Illustrate and explain methods for classifying field crops	Methods of classifying field crops	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
4	٥	Introducing the student to the environmental factors affecting crop production	Factors affecting crop production (temperature, light, and CO_2)	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
5	٥	Environmental factors affecting crop production	Humidity, rain and water rating	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
6	٥	Environmental factors affecting crop production	Soil, biotic factors, wind and their effect on crops	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
7	٥	Introducing the student to plowing operations and preparing the land for agriculture	Plowing and preparing the land for agriculture	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
8	٥	Introduction to crop service operations	Crop service operations	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
9	٥	Introducing the student to fertilization processes, including the fertilizers used, their types, and methods of adding them	Fertilizers used, their types, and methods of adding them	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
10	٥	Introduction to seeds and grain grading.	Seed and grain grading science	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
11	٥	Introducing students to weeds, their types, and methods of combating them	Weeds, their types and methods of combating them	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
12	٥	Introducing the importance of agricultural rotation and their benefits	Agricultural rotation, their types and benefits	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
13	٥	Introducing the student to the basics of crop breeding and improvement	Principles of crop breeding and improvement	Theoretical and practical lectures + presentation methods + dialogue and	Daily, monthly and final tests and reports

				discussion	
14	٥	Introducing the student to the stages of production and multiplication of improved seeds	Stages of production and multiplication of improved seeds	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
15	٥	Introducing the student to the most important crops grown in Iraq in the form of tables	A brief idea about the most important crops grown in Iraq in the form of tables	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, *etc*.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Wheat cultivation and production techniques / Gamal Al-Shibini. First edition. Egyptian Library 2009. The scientific book on grain manufacturing / Abbas Hassan Hussein. First edition. University of Baghdad 2009.. Production of field crops, Dr. Salah El-Din Abdel-Razzaq Shafshaq and Dr. Abdul Hamid Al-Sayyid Al-Dababi, 2008, Dar Al-Fikr Al-Arabi, Egypt.. Production of field crops / Dr. Abdul Majeed Al-Ansari, University of Baghdad 1981. Production and improvement of field crops, Dr. Abdul Hamid Ahmed Al-Yunis, 1993, Dar Al-Kutub Directorate for Printing and Publishing - Baghdad.. Crops Grains and legumes (practical part), Dr. Kamel Muhammad Al-Khafaji, University of Baghdad 2009.**
Main references (sources)	**Production of field crops / Dr. Abdul Majeed Al-Ansari, University of Baghdad 1981. Production and improvement of field crops, Dr. Abdul Hamid Ahmed Al-Yunis, 1993 Directorate of Dar Al-Kutub for Printing and Publishing - Baghdad.. Crops.**
Recommended books and references (scientific journals, reports...)	**Library Genesis** **The field crops _ principles and a practice**
Electronic References, Websites	**Agronomy journal. Websites, Articles, FAO reports .**

Course Description Form

1-Name of the course:	
Agricultural Extension	
2-Course code/	
AGRE200	
3-Semester/year/	
first semester – 2024-2025	
4-The date this description was prepared:	
20/9/2024	
5-Available forms of attendance /	
6-Number of study hours (total) / Number of units (total) /	
30 hours	
7-Name of the course officer (if more than one name is mentioned) / Professor Alaa Kazem Farhan	
Name: Dr. Alaa Kazem Farhan	**Email: alaa.k.f@uomisan.edu.iq**
8-Course objectives	

Objectives of the study subject	**Introducing students to the importance of agricultural extension in the agricultural process.** • **Informing the student about the distribution of leadership roles in the counseling process.** **Introducing students to the tasks carried out by an agricultural extension worker.** **Introducing students to rural leadership and their role in the agricultural extension process.** **Introducing students to the categories of adopters of agricultural innovations.** **Introducing students to the methods used by introducing new innovations that serve the agricultural process.**
9-Teaching and learning strategies	
The strategy	**Learning is done through class lectures–**

10-Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Hours	week
Questions during the lecture	Questions during the lecture	Definition of agricultural extension science	Introduction to agricultural extension science	2	Week 1
Questions during the lecture	Questions during the lecture	Definition of agricultural guide and its importance in the agricultural process	Agricultural guide...who is he and what are his roles?	2	Week 2
Questions during the lecture	Questions during the lecture	Rural leaders and their importance in the agricultural extension process	Rural leaders	2	Week 3
Questions during the lecture	Questions during the lecture	General and specific goals and their characteristics	Principles and objectives of agricultural extension work	2	Week 4
Questions during the lecture	Questions during the lecture	Definition of agricultural extension communication and its methods	The guidance communication process and its elements	2	Week 5
Questions during the lecture	Questions during the lecture	Confusion - difference in social class	Factors affecting the counseling communication process	2	Week 6

_____	_____	_____	First month exam	2	Week 7
Questions during the lecture	Questions during the lecture	Definition of new agricultural technology / examples of agricultural technologies	New agricultural technology	2	Week 8
Questions during the lecture	Questions during the lecture	Definition of evaluation and its multiple stages	Evaluation of extension programs	2	Week 9
Questions during the lecture	Questions during the lecture	Evaluate organizational structure, personnel, planning, implementation and results	Areas of evaluation of extension programs	2	Week 10
Questions during the lecture	Questions during the lecture	Guidance methods/types and priorities	Ways to adopt modern ideas	2	Week 11
Questions during the lecture	Questions during the lecture	Types of adoptees	Categories of adopters of new technologies	2	Week 12
Questions during the lecture	Questions during the lecture	The role of agricultural extension in developing agriculture and its importance in agricultural development	The place of agriculture in the economy and its place in economic development	2	Week 13
Questions during the lecture	Questions during the lecture	Examples of some applied sciences and their relationship to agricultural extension	The relationship of agricultural extension to some applied sciences	2	Week 14
		_____	Second month exam	2	Week 15

11-Course evaluation

-Distribution of the grade out of 100 according to the tasks assigned to the -0student,such as daily preparation, daily, oral, monthly, written exams, reports, etc.

-Examination of the first month of 20 degrees–

-Second month exam of 20 marks-

-Taking daily surprise exams of 3 grades.

-Extracurricular activities, 4 marks

-Final exam of 50 marks	
12-Learning and teaching resources	
Required textbooks (methodology, if any)	
Main references (sources)	
- **-Contemporary agricultural extension, Dr. Ahmed Mohamed / Faculty of Agriculture - Cairo University.** **--Agricultural Extension, Dr. Ahmed Galal Owais/Faculty of Specific Education - Cairo University.**	**Recommended supporting books and references (scientific journals, reports(....**

Course Description Form

1-Course name:					
Principles of statistics					
2-Course code/second stage					
PRIS201					
3-Semester/year/					
first semester – 2024-2025					
3-The date this description was prepared:					
20/9/2024					
4-Available forms of attendance/in-person					
5-Number of study hours (total) / Number of units (total) /					
75 / 5					
Name of the course officer (if more than one name is mentioned) / Professor Alaa Kazem Farhan					
Name: Dr. Alaa Kazem Farhan	**Email: alaa.k.f@uomisan.edu.iq**				
8-Course objectives					
• **Objectives of the study subject**	• **Introducing students to the origins and development of statistics** • **•Introducing students to the basic principles of statistics.** • **•Introducing students to methods of collecting and presenting data.** • **•Introducing students to measures of central tendency and measures of dispersion** **•Introducing students to the simple linear regression equation**				
9-Teaching and learning strategies					
The strategy	**Learning is done through class lectures.**				
10-Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Hours**	**week**

Questions during the lecture	**Questions during the lecture**	**The nature of statistics**	**Introduction to statistics**	**3**	Week 1
Questions during the lecture	**Questions during the lecture**	**Introduction to the tabular display of data**	**Tabular display of data**	**3**	Week 2
Questions during the lecture	**Questions during the lecture**	**Frequency and proportion distribution table**	**Tabular display of data**	**3**	Week 3
Questions during the lecture	**Questions during the lecture**	**Clustered frequency distribution table**	**Tabular display of data**	**3**	Week 4
Questions during the lecture	**Questions during the lecture**	**Modified frequency table**	**Graphical representation of data**	**3**	Week 5
Questions during the lecture	**Questions during the lecture**	**Types of iterative curves**	**Graphical representation of data**	**3**	Week 6
Questions during the lecture	**Questions during the lecture**	**Histogram**	**Graphical representation of data**	**3**	Week 7
Questions during the lecture	**Questions during the lecture**	**_____**	**First month exam**	**3**	Week 8
Questions during the lecture	**Questions during the lecture**	**Calculating the arithmetic mean of classified and unclassified data**	**Measures of central tendency**	**3**	Week 9
Questions during the lecture	**Questions during the lecture**	**Calculate the arithmetic median of classified and unclassified data**	**Measures of central tendency**	**3**	Week 10
Questions during the lecture	**Questions during the lecture**	**Calculating the mode for classified and unclassified data**	**Measures of central tendency**	**3**	Week 11
Questions during the lecture	**Questions during the lecture**	**Calculate the range for classified and unclassified data**	**Measures of dispersion**	**3**	Week 12
Questions during the lecture	**Questions during the lecture**	**Standard deviation and variance**	**Measures of dispersion**	**3**	Week 13
Questions during the lecture	**Questions during the lecture**	**Estimate the numerator linear regression equation**	**Linear regression numerator**	**3**	Week 14
		_____	**Second month exam**	**3**	Week 15

11-Course evaluation

1- -Distribution of the grade out of 40 according to the tasks assigned to the student, such as0daily preparation, daily, oral, monthly, written exams, reports, etc.
The first month exam of 8 marks-

-Second month exam of 8 marks

Conduct daily surprise exams of 4 grades– **Final exam of 20 marks–**

12-Learning and teaching resources	
Required textbooks (methodology, if any)	
Main references (sources)	**Introduction to statistics/Dr. Khasha Mahmoud Al-Rawi/ College of Agriculture - University of Mosul.**
Recommended supporting books and references (scientific journals, reports....)	**Principles of statistics/Dr. Abdel Moneim Morsi Mohamed/ Faculty of Agriculture - Mansoura University.**

Description of the academic program

Course name:	
Computer Applications 3	
Course code	
COMA203	
Semester/year :	
Spring Semester/year2025	
Date this description was prepared:	
2/1/2025	
Available forms of attendance are in person	
Total number of study hours / total number of units	
30 / 1	
Name of the course administrator (if more than one name is mentioned)	
Name : ABBAS LUAIBI OBAID	**Email : abbas.alrajhe@uomisan.edu.iq**

Module Aims

1- Guiding the student how to use the computer in a manner compatible with his cultural level
2- Directing the student how to deal with social sites

Teaching and learning strategies

1- Explanation, clarification, and honing general and qualifying skills
2- Urging the student to write simple research using the lecture method to create a state of balance between methodological information and source information.
3- Urging the student to work on practical projects on the calculator and hold discussion circles among the students on the methodology of the subject and distribute the students into groups.
4-Practical lessons in the laboratory
5- The method of self-learning and writing scientific reports, and urging the student to evaluate the answers of his fellow students to develop self-development.

Course structure

Week	hours	required learning outcomes	Name of the unit or topic	Learning method	Evaluation method

1+2	4	Chapter One: Operating the Word program 2010 File Burning, Program Interfaces Tapes Home tab, group Horizon, line and paragraph… Paragraph group and Order group And the View tab, the Views group Documents, Show group, and Zoom group Minimize the window, help instructions	**word**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
3+4	4	Chapter Two / Insert tab, Page group, and Table group, Table Tools tab, Table Design tab, and Skip tab..... Graphics set, tools Image, set of links Header and footer group, text group, and symbol group	**word**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
5+6	3	Chapter Three/Additional tasks For Microsoft Word, the References and Tables of Contents tab, the Footnotes group, the References, Citations and Captions group, and the Indexing group…. Resource table set, tbui b Correspondence and group creation, merging Correspondence	**word**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
7	3	**First exam**			
8+9	4	Chapter Four Powerpoint Run it The program interfaces and the File tab Open a presentation file and save a new one Save a stock presentation as Open and close an inventory presentation	**Power point**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
10+11	4	View tab and Views group Presentation and presentation set Main Show set and set Direction, color and grayscale Zoom in, zoom out and group Help window and instructions Chapter Five / Inserting and adding objects Motions, adding shapes and groups Drawing and	**Power point**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports

		investigating t			
12+13	4	Inserts tab and Tables group And a set of photos Collection of illustrations and links A set of text and symbols Adding animations to slides and objects The Transitions tab and the Preview group A group is transferred to a slide Set the timing and movements tab A preview group and an animation group	**Power point**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
14	4	Custom drivetrain and kit The timing is a comprehensive exam as a review and solution Book questions b	**Power point**	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
15	3	**Second exam**			

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

Learning and teaching resources

Required textbooks (methodology, book four)	**Computer basics and office applications, Part Two/ Microsoft Office 2010** **Ministry of Higher Education and Scientific Research** **Written by: 1- Professor Dr. Ghassan Hamid Abdel Majeed** **2-Professor Dr. Ziad Muhammad Abboud** **3-Professor Dr. Muhammad Nasser Al-Tarfi** **4-Professor Dr. Safaa Abbas Al-Mamouri** **2- International Information Network, the Internet**
Main references (sources)	1.*Microsoft PowerPoint 2010 Step by Step*(448 pages; Print ISBN: 978-0-7356-2691-1), by Joyce Cox and Joan Lambert, 2.Beginning Microsoft Word 2010, by T.y Anderson, Guy Hart-Davis 3. PowerPoint 2010 AdvancedSlides, Animation and Layouts. Stephen Moffat, The Mouse Training Company
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	**Library Genesis** **websites:** **-History of the development of computer networks, objective website: http://mawdoo3.com** **http://youstaff.blogspot.com: Information and Internet security** **http://geeklesstech.com : Internet Law Laws for using the Internet-** **-Real-time communication protocols in the Internet (RTP SIP), World of Technology website.** **ARPANET logical map,** **http://russbellew.com/Documents/Arpanet_sep_1974.**

Description of the academic program

Course name:

Principles of animal production

Course code

PRAP202

Semester/year :

Second Semester/year 2025

Date this description was prepared:

2/1/2025

Available forms of attendance are in person

Total number of study hours / total number of units

75 / 5

Name of the course administrator (if more than one name is mentioned)

Doaa Ali Hussein

Module Aims

- ***Introducing students to the importance of animal production and its principles.***
- ***Inform the student about the types of farm animals and their economic importance, such as buffalo, cows, and other livestock, in addition to poultry.***
- ***Learn about feeding systems, types of feed, and how to manufacture them.***

Teaching and learning strategies

- **Giving lectures by asking questions and discussing them with the recipients**
- **Using visual teaching aids such as Data show and Hand out**
- **Field observations of farm animals and field visits to feed manufacturing plants.**

Course structure

Week	hours	required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2 + 3	Introducing students to general information about animal production and its economic importance.	Introduction to animal production.	Theoretical + practical lecture, dialogue and discussion.	Questions during the lecture.
2	2 + 3	Introducing students to the obstacles facing livestock	Introduction to animal production.	Theoretical + practical lecture, dialogue and discussion.	Daily test.
3	2 + 3	Introducing students to livestock and their types	the foundations of livestock husbandry	theoretical & practical lecture, dialogue and discussion,	questions during the lecture
4	2 + 3	Introducing students to dual-purpose cows, local goat and sheep breeds,	the foundations of cattle husbandry	Theoretical + practical lecture, dialogue and discussion.	Daily test.

5	2 + 3	Introducing students to how to establish a sheep and goat breeding project.	The foundations of sheep husbandry	Theoretical + practical lecture, dialogue and discussion.	Daily test.
6	2 + 3	Introducing students to the specifications of local and international buffalo and how to care for them	the foundations of buffalo husbandry	theoretical & practical lecture, dialogue and discussion,	questions during the lecture
7	2 + 3	**First exam**			
8	2 + 3	Introducing students to poultry projects, broiler chickens and layers	the foundations of poultry	theoretical & practical lecture, dialogue and discussion,	questions during the lecture
9	2 + 3	Introducing students to the types of feedstuffs and their effect on production	fodder	Theoretical + practical lecture, dialogue and discussion.	Daily test.
10	2 + 3	Explanation of animal husbandry health programs.	Animal health programs	theoretical & practical lecture, dialogue and discussion,	questions during the lecture
11	2 + 3	A detailed explanation of raising calves, how to maintain their health, and the most important diseases that affect them.	Raising calves and their health	Theoretical + practical lecture, dialogue and discussion.	Daily test.
12	2 + 3	Introducing students to the importance of animal breeding and selection	Breeding and selection in animal production	Theoretical + practical lecture, dialogue and discussion.	Daily test.
13	2 + 3	Introducing students to the importance of horses and the types of local and imported horses.	Fundamentals of horse breeding	theoretical & practical lecture, dialogue and discussion,	questions during the lecture
14	2 + 3	Introducing students to the most important influences on livestock projects in Iraq.	Factors affecting animal production projects	theoretical & practical lecture, dialogue and discussion,	questions during the lecture
15	2 + 3	**Second exam**			
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					

Description of the academic program

Course name:

Computer Applications 4

Course code

COMA206

Semester/year :

Spring Semester/year 2025

Date this description was prepared:

2/1/2025

Available forms of attendance are in person

Total number of study hours / total number of units

30 / 1

Name of the course administrator (if more than one name is mentioned)

Name : ABBAS LUAIBI OBAID **Email : abbas.alrajhe@uomisan.edu.iq**

Module Aims

- ***For the student to become familiar with the history of computer networks and the Internet***
- ***Introducing the student to the importance of computer networks and the Internet***
- ***Introducing the student to the basics of computer networks and the Internet***
- ***Introducing the student to browsing and searching on the Internet***
- ***Introducing the student to electronic messages and conversations***
- ***Introducing the student to the ethics of the Internet world***

Teaching and learning strategies

1- Explanation, clarification, and honing general and qualifying skills
2- Urging the student to write simple research using the lecture method to create a state of balance between methodological information and source information.
3- Urging the student to work on practical projects on the calculator and hold discussion circles among the students on the methodology of the subject and distribute the students into groups.
4-Practical lessons in the laboratory
5- The method of self-learning and writing scientific reports, and urging the student to evaluate the answers of his fellow students to develop self-development.

Course structure

Week	hours	required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1+2	4	Chapter One: Introduction to networks, definition of computer networks, benefits of computer networks Types of computer networks, classification of networks (according to connection method, according to engineering design,	Basics of networks and office applications, Part Four	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
3+4	4	The World Wide Web (ways to connect to the	Basics of networks and office	Practical lectures +	Daily, monthly and

		Internet, Internet protocols, device addresses (IP), website addresses (web pages)...) Data transfer rate / Internet and Extranet / Cloud computing / Cloud computing applications, components of cloud computing, types of cloud	applications, Part Four	direct presentation methods + dialogue and discussion	final tests and reports
5+6	3	Chapter Two (Browsing and searching the Internet, web browsers, the Internet Explorer browser, components of the Internet Explorer interface) Additional tasks in the browser, searching on the	Basics of networks and office applications, Part Four	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
7	3	**First exam**			
8+9	4	Chapter Three (Electronic messages and conversations, introduction, e-mail, e-mail features, creating a new e-mail account Log in to email, Microsoft Outlook,	Basics of networks and office applications, Part Four	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
10+11	4	Skype chat program, the necessary steps to download the Skype chat program, the process of installing the Skype chat program,Learn about the components of the Skype chat program,	Basics of networks and office applications, Part Four	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
12+13	4	Chapter Four: Ethics of the Internet world, Internet law and types of infringements in the digital space, technology ethics, etiquette and ethics of dealing with the Internet, The effects of negative use of the Internet on life and society, information and Internet security, information security,	Basics of networks and office applications, Part Four	Practical lectures + direct presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
14	4	Weaknesses in the Internet, security	Basics of networks and office	Practical lectures +	Daily, monthly and

		problems, computer vulnerability, computer and information protection	applications, Part Four	direct presentation methods + dialogue and discussion	final tests and reports
15	3	**Second exam**			
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.					
Learning and teaching resources					
Required textbooks (methodology, book four)		**Computer basics and office applications, Part fourth/ Microsoft Office 2010 Ministry of Higher Education and Scientific Research Written by: 1- Professor Dr. Ghassan Hamid Abdel Majeed 2-Professor Dr. Ziad Muhammad Abboud 3-Professor Dr. Muhammad Nasser Al-Tarfi 4-Professor Dr. Safaa Abbas Al-Mamouri 2- International Information Network, the Internet**			
Main references (sources)		**1. Computer basics and office applications, Step by Step(448 pages; Print ISBN: 978-0-7356-2691-1), by Joyce Cox and Joan Lambert, 2.Beginning Microsoft Word 2010, by T.y Anderson, Guy Hart-Davis Stephen Moffat, The Mouse Training Company**			
Recommended supporting books and references (scientific journals, reports....)					
Electronic references, Internet sites		**Library Genesis websites: -History of the development of computer networks, objective website: http://mawdoo3.com http://youstaff.blogspot.com: Information and Internet security http://geeklesstech.com : Internet Law Laws for using the Internet- -Real-time communication protocols in the Internet (RTP SIP), World of Technology website. ARPANET logical map, http://russbellew.com/Documents/Arpanet_sep_1974.**			

Course Description Form

1. Course Name:
English Language 2
2. Course Code:
ENGL207
3. Semester / Year:
2024-2025 (First course)
4. Description Preparation Date:
The beginning of the first course
1. Forms of Attendance:
Attending in college
6. Number of Studying Hours (Total) / Number of Units (Total)
15 / 1

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

Name: Dr.Farhan Jasim Mohammed	**Email: farhanalhakim@uomisan.edu.iq**

8. Course Objectives

Course Objectives	1- Providing the student with academic writing skills and English grammar 2-Providing the student with the skill of speaking the English language 3-Providing the student with the skill of listening to the English language 4-Providing the student with reading and reasoning in the English language

9. Teaching and Learning Strategies

Strategies	Using modern means to deliver information to students and using field work to learn more about the course methodology, which is part of modern education, so that complete information about the course is available after the student graduates.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	١	Understanding, perception, practical application	**Conjunctions tools, prepositions, comprehension**	Lecture and discussion	Oral exams, quizzes and written exams
2nd	1	Understanding, perception, practical application	**Make of negative, make of question, comprehension**	Lecture and discussion	Oral exams, quizzes and written exams
3rd	١	Understanding, perception, practical application	**Regular and irregular verbs**	Lecture and discussion	Oral exams, quizzes and written exam
4th	١	Understanding, perception, practical application	**Tenses in passive voice case: simple tense: present, past future**	Lecture and discussion	Oral exams, quizzes and written exam
٥th	١	Understanding, perception, practical application	**Tenses in passive voice case: Continuous tense: present, past future**	Lecture and discussion	Oral exams, quizzes and written exam
6th	١	Understanding, perception, practical application	**Tenses in passive voice case: Perfect tense: present, past future**	Lecture and discussion	Oral exams, quizzes and written exam
7th	١	written exam	First month exam	written exam	written exam
8th	١	Understanding, perception, practical application	**Tenses in passive voice case: Continuous Perfect tense: present, past future**	Lecture and discussion	Oral exams, quizzes and written exam
9th	١	Understanding, perception, practical	**If conditional, types, uses, comprehension**	Lecture and discussion	Oral exams, quizzes and written exam

		application			
10th	١	Understanding, perception, practical application	**Additional: used to, every, else, also, any, some, all, yet**	Lecture and discussion	Oral exams, quizzes and written exam
11th	١	Understanding, perception, practical application	**Since and for**	Lecture and discussion	Oral exams, quizzes and written exam
12th	١	written exam	Second month exam		
13th	١	Understanding, perception, practical application	**Common words and phrases, translation English/Arabic**	Lecture and discussion	Oral exams, quizzes and written exam
14th	١		Reading and writing skills	written exam	written exam
11th	١	Understanding, perception, practical application	Listen to conversations in English, reading	Lecture and discussion	Oral exams, quizzes and written exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly written exams, final written exam, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**New headway beginner** **Liz and John Soars, Paul Hancock**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	**Access to recent research, articles and studies related to modern learning methods**
Electronic References, Websites	**All English language learning sites**

Third Stage

Course Description Form

1. Course Name:	
Biochemistry	
2. Course Code:	
BIOC300	
3. Semester / Year:	
Second semester 2024/2025	
4. Description Preparation Date:	
2024/12/15	
5. Forms of Attendance:	
In Class Rome	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 hours / five units	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Asaad Shamil Atiyah	Email: asaad.shameel@uomisan.edu.iq
8. Course Objectives	
Course Objectives	• Identify the science of biochemistry as a term, and provide information about compounds, vital metabolic activities, and chemical structures. • Identify carbohydrates and their types. • Identify proteins and amino acids • Identify fats and fatty acids • Identify the structures, ring shapes, and interactions of proteins, sugars, and fats.
9. Teaching and Learning Strategies	
Strategies	1- Using the method of delivering information through lecture 2- Students share information by submitting scientific reports. 3- Training students on the method of logical discussion to reach results.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	introduction. the definition. The importance of studying the cell	introduction	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
2	2	Carbohydrate substances. Definition. Its qualities. Its sections. Similarity to sugars. Annular structure.	Carbohydrate	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
3	2	Lipids. Definition. Its qualities. Its sections.	Lipids	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
4	2	fatty acids. Their names. Installed. Their	fatty acids	data show , Electronic	coes exam, Monthly exam,

		interactions.		whiteboard , Scientific discussion	Presentation of a scientific seminar
5	2	simple lipids. Its sections. Installed.	simple lipids	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
6	2	Composite lipids. Phospholipids. Its sections and composition. Calactolides. Installed.	Phospholipids	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
7	2	Lipids derived. Definition. Citrullates. Cholesterol. Acids	Lipids derived	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
8	2	proteins. Definition. amino acids. Its sections. Their names. Installed. Their interactions.	proteins	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
9	2	sections of proteins. Definition. Its specifications with examples.	protein	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
10	2	Shape and structure of protein (the four shapes)	protein	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
11	2	nucleic acids. Definition. The structural unit and its components. Linking with each other.	nucleic acids	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
12	2	Forms of nucleic acids according to the number of phosphate molecules. Types according to the type of sugar.	nucleic acids	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
13	2	Comparison between RNA and DNA. Types of RNA. Helical structure of DNA	nucleic acids	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
14	2	enzymes. Definition. Its specifications. Factors affecting its operation.	enzymes	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
15	2	on paper	Exam	-	-

practical part:					
1	3	Identify materials and supplies for the biochemistry laboratory	biochemistry laboratory	data show , Electronic whiteboard , Scientific discussion	coes exam, Monthly exam, Presentation of a scientific seminar
2	3	Detection of monosaccharides, disaccharides, reducing and non-reducing sugars	monosaccharides	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
3-4	3	Detection of proteins, amino acids and carbohydrates	Proteins and carbohydrates	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
5	3	Detection of spoilage processes of fats, proteins and sugars	spoilage processes of fats, proteins and sugars	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
6	3	Calculate carbohydrate concentration	carbohydrate concentration	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
7	3	methods for estimating proteins	estimating proteins	data show , Electronic whiteboard , Scientific discussion, Conducting experiments in the laboratory	coes exam, Monthly exam, Presentation of a scientific seminar
8-9	3	Identify enzymes and methods for their estimation	enzymes	data show , Electronic whiteboard , Scientific discussion, Conducting experiments	coes exam, Monthly exam, Presentation of a scientific seminar
10 - 11	3	General review	General review	data show , Electronic	coes exam, Monthly exam,

				whiteboard , Scientific discussion, Conducting experiments	Presentation of a scientific seminar
12-15	3	on paper	Exam	-	-

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Basics of Biochemistry - Sami Muzaffar. Basics of food chemistry - Dr. Basil Kamel Al-Dalali and Dr. Kamel Al-Rikabi
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Scientific journals specialized in biochemistry
Electronic References, Websites	All agricultural and biochemical sciences journal sites

Course Description Form

1. Course Name:	
Genetic	
2. Course Code:	
GENE311	
3. Semester / Year:	
2024-2025	
4. Description Preparation Date:	
The first course 2024-2025	
5. Forms of Attendance:	
Full time (theoretical lecture/practical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
Two hours/number of units 3.5	
7. Course Administrator's Name (mention all, if more than one name)	
Name: wurood jabbar idan	**Email:wuroodjabbar3@gmail.com**
8. Course Objectives	
Course Objectives	**The curriculum included a general study in genetics. And the history of discovery** **Genetics. Description of the cell and its components, focusing on the nucleus** **The genetic material contains a description of Mendelian inheritance and its laws.** **And its branches. Then delve into the topic of molecular genetics** **Nucleic acids and their details. Protein description and how to copy** **And the production of proteins. Describing enzymes and describing mutations** **Genetic** **• .... The student reviews his information about genetics**

	• •..a need for this information over a period of time

9. Teaching and Learning Strategies

Strategies	**The modern teaching strategy includes achieving learning objectives in general and teaching genetic concepts in particular** **The difficulties faced by the student in understanding and acquiring the concepts of heredity and molecular inheritance, and treating the difficulties** **By defining the concepts of genetics and helping students acquire the correct genetic concepts** **• Methods of dialogue and discussion**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	٥	Genetics	Introduction to Genetics Allele and gene Allele and gene	Using the lecture method and displaying data	Email:
2	٥	Mendel an Genetics	Mendel-First Law Mendel Second Law	Using the lecture method and displaying data	Email:
3	٥	Modified Ratios of First Mendel Law and Gene Interaction	Hybrid Pure Recessive +Dominant	Using the lecture method and displaying data	Email:
4	٥	Modified Ratios of second Mendel Law and Gene Interaction	Lethal Genes and Incompletely Dominance	Using the lecture method and displaying data	Email:
5	٥	Epistasis	Complementary Genes Recessive epistasis Duplicate genes Duplicate Recessive Genes	Using the lecture method and displaying data	Email:
6	٥	First month exam			Email:
7	٥	Cell Division	Introduction cell division	Using the lecture method and displaying data	Email:

8	٥	**Cell Division Meiosis**	**Meiosis - phase**	**Using the lecture method and displaying data**	**Email:**
9	٥	**Cell Division Mitosis**	**phase -Mitosisv**	**Using the lecture method and displaying data**	**Email:**
10	٥	**Genotype-Phenotype Interaction**	**Sources of Variations in Plants**	**Using the lecture method and displaying data**	**Email:**
11	٥	**Quantitative Traits Qualitative Traits**	**HERTABILITY • INHERITANCE**	**Using the lecture method and displaying data**	**Email:**
12	٥	**Heredity and Environment**	**What the the Heredity and Environment and ratios**	**Using the lecture method and displaying data**	**Email:**
13	٥	**Chromosome Mapping**	**Chromosome Mapping**	**Using the lecture method and displaying data**	
14	٥	**Penetrance and Expressivity**		**Using the lecture method and displaying data**	
15		**Second month exam.**			

11. Course Evaluation

Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:	
Mycology 1	
2. Course Code:	
MYCO312	
3. Semester / Year:	
2024-2025	
4. Description Preparation Date:	
2024/ 10/ 10	
5. Forms of Attendance:	
Mandatory attendance	
6. Number of Studying Hours (Total) / Number of Units (Total) :	
75 hours	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Dr. Ali Athafah Tomah	**Email: ali_athafah@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	• **Providing students with the basics and lectures related to the subject** • **Know the main characteristics of fungal groups** • **Preparing the student with the theoretical and practical aspects of fungi**
9. Teaching and Learning Strategies	
Strategies	**-Providing students with additional basics related to the outcomes of thinking and analysis** **-Forming a national group to discuss various agricultural topics** **-Asking thinking questions during lectures, including (what, how, when, and why)** **- Preparing students' homework assignments that require self-explanation in causal ways**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**2+3=5**	undergraduate	History of Mycology	Theoretical study and slide presentation	Daily testing
2	**2+3=5**	undergraduate	General characteristics of fungi		Daily testing
3	**2+3=5**	undergraduate	Reproduction of Fungi		Daily testing
4	**2+3=5**	undergraduate	Classification of Fungi		Daily testing
5	**2+3=5**	undergraduate	Kingdom: true fungi		Daily testing
6	**2+3=5**	undergraduate	Division: True fungi		Daily testing
7	**2+3=5**		First Exam		**Monthly exam**
8	**2+3=5**	undergraduate	Chytridiomycota		Daily testing
9	**2+3=5**	undergraduate	Traits and features of Chytridiomycota		Daily testing
10	**2+3=5**	undergraduate	Order and Family of Chytridiomycota		Daily testing
11	**2+3=5**	undergraduate	Traits and features of Zygomycota		Daily testing

12	**2+3=5**	undergraduate	Order and Family of Zygomycota		Daily testing
13	**2+3=5**	undergraduate	Traits and features of Ascomycota		Daily testing
14	**2+3=5**	undergraduate	Order and Family of Ascomycota		Daily testing
15	**2+3=5**		Second exam		Monthly exam

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Fungi: Ibrahim Aziz Al-Suhaili and others (1982)** **Foundations of modern mycology: Mahmoud Ibrahim Al-Kilani (2001)**
Main references (sources)	**The World of Fungi: Ahmed Muhammad Ali (1998)** **Basics of Mycology: Abdullah Nasser Abu Haila (1987)**
Recommended books and references (scientific journals, reports...)	**The basics of fungi and their plant diseases, Mahdi Majeed Al-Shukri (1991)(** **Fungal plant diseases. Abdul Aziz Majeed Nakhilan(2010)** **Arab Journal of Agricultural Sciences**
Electronic References, Websites	1- MYCOBANK Database https://www.mycobank.org 2- All About Fungi https://www.mycolog.com

Course Description Form

1. Course Name:	
Insect physiology	
2. Course Code:	
INSP313	
3. Semester / Year:	
First semester 2023/2024	
4. Description Preparation Date:	
٢٠٢٤/ ١/ ١٥	
5. Forms of Attendance:	
Full time (theoretical lecture/practical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75/	
7. Course Administrator's Name (mention all, if more than one name)	
Name:Ali Hassan	**Email: ali.h.h@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	• **• • Giving the student an idea about the functions and structure of tissues, organs, and organs in the insect's body.** • **• Give an idea about the structure of the body wall and what its most important functions are.** • **• Knowing the secretory system of enzymes and**

	everything related to the hormonal system and giving an idea about insect pheromones.

9. Teaching and Learning Strategies

Strategies	**1- Use the method of delivering information through lecture** **2- Students participate in obtaining information by requesting seminars and scientific reports** **3- Training students on the method of logical discussion to reach results** **4- Learning through applied field practices .**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Understanding, perception	General concepts about physiology	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
2	5	Understanding, perception	Body wall in insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
3	5	Understanding, perception	Moulting and its importance in insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
4	5	Understanding, perception	Digestive system in insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
5	5	Understanding, perception	Circulatory system	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
6	5	Understanding, perception	Respiratory system	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
7	5	Written exam	Written exam	Written exam	Written exam
8	5	Understanding, perception	Excretion in insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
9	5	Understanding, perception	Reproductive system	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
10	5	Understanding, perception	Nervous system	Lecture and discussion	Oral exams, seminars,

					Exams Quick(coz) and written exams
11	5	Understanding, perception	The hormonal system and its importance in insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
12	5	Written exam	Written exam	Written exam	Written exam
13	5	Understanding, perception	General concepts about pheromones	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
14	5	Understanding, perception	Comparison between the hormonal and pheromone systems	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
15	5	Understanding, perception	A review general	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Insect physiology / Dr. Thabet Al-Darkzali
Main references (sources)	Insect physiology / Dr. Wajih Kassis, Dr. Nisreen Qutaish
Recommended books and references (scientific journals, reports...)	Entomology / Sidrak Gault
Electronic References, Websites	All websites of scientific journals and universities interested in this aspect

Course Description Form

1. Course Name:	
Environmental Science	
2. Course Code:	
ENVS314	
3. Semester / Year:	
First semester / 2025 - 2024	
4. Description Preparation Date:	
18.12.2024	
5. Forms of Attendance:	
Full time (theoretical lecture/practical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 / 5	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Karrar Akram Kamil	**Email:** karar.akram@uomisan.edu.iq
8. Course Objectives	
Course Objectives	**1- Introducing the student to the concept of ecology - the sections of ecology, Environmental components, and the relationships between living organisms.** **2- Study of ecosystems and the balance between animal and plant species and non-living components.** **3- Exploring the most important industrial environmental changes, their causes and risks, such as global warming, the ozone hole, drought, and desertification.**
9. Teaching and Learning Strategies	
Strategies	**1. Theoretical lectures, and the use of the textbooks and PowerPoint.** **2. Assigning students to prepare presentations on topics related to the curriculum.** **3. Field visits and scientific trips.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Students learn about: what ecology is - the importance of ecology - the relationship of ecology to other sciences.	Introduction to ecology	Using the lecture method and displaying data on the Data Show device	Questions and discussion
2	5	Students learn about: definition of the ecosystem - types of ecosystems - living and non-living components of the ecosystem.	Ecosystem and its components	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
3	5	Students learn about: the cycles of some compounds and	Cycles of materials and elements in	Using the lecture method and	Quiz test at the end of the lecture

		elements in nature (water, carbon, phosphorus, nitrogen)	**nature**	**displaying data on the Data Show device**	
4	**5**	**Students learn about: components of the abiotic environment - climate factors (temperature, humidity, precipitation, atmospheric pressure, light and wind)**	**Climatic environmental factors**	**Using the lecture method and displaying data on the Data Show device Conducting a scientific trip to the Meteorology Department and learning about the devices and techniques used. Conduct a field experiment on the effect of light on plants.**	**Closing questions and discussion Preparing a scientific report on the scientific trip Preparing a scientific report on the field experiment**
5	**5**	**Students learn about: climatic regions around the world and the characteristics of each region.**	**Climatic regions around the world**	**Using the lecture method and displaying data on the Data Show device**	**Quiz test at the end of the lecture**
6	**5**	**Students learned about: the Lithosphere and its layers - types of soils - organic matter in the soil - the microbial community in the soil.**	**Non-living environmental factors - soil**	**Using the lecture method and displaying data on the Data Show device**	**Quiz test at the end of the lecture**
7	**5**	**Students learned about: the Hydrosphere - the forms of water presence in nature - the types of aquatic ecosystems in nature.**	**Non-living environmental factors - water**	**Using the lecture method and displaying data on the Data Show device**	**Questions and discussion**
8	**5**	**<u>First month exam.</u> Students learned about: the living components of the environment - ecological relationships (competition, predation, symbiosis, coexistence, parasitism)**	**Living environment factors and the interaction between them**	**Using the lecture method and displaying data on the Data Show device**	**Quiz test at the end of the lecture**

9	**5**	**Students learned about: the concept of the ecosystem - the role of energy in the ecosystem - types of ecosystems - the concept of environmental balance.**	**Ecosystems and environmental balance**	**Using the lecture method and displaying data on the Data Show device Conducting a field visit to study the plant community**	**Closing questions and discussion Preparing a scientific report for the field visit**
10	**5**	**Students learned about: the concept of the food chain and food web - environmental pyramids.**	**Food chain and ecological pyramids**	**Using the lecture method and displaying data on the Data Show device**	**Quiz test at the end of the lecture**
11	**5**	**Students learned about: Botanical regions around the world - geographical features of botanical regions.**	**Plant regions around the world**	**Using the lecture method and displaying data on the Data Show device**	**Questions and discussion**
12	**5**	**Students learned about: the most important environmental problems in terms of causes, effects, and treatment methods (air pollution - soil pollution - water pollution)**	**Current environmental problems and environmental pollution**	**Requesting students to submit presentations using a data show device on various topics related to environmental problems**	**Student discussion after presentation**
13	**5**	**Students learned about: the most important environmental problems in terms of causes, effects, and treatment methods (ozone hole - acid rain - pesticide pollution - loss of biodiversity)**	**Current environmental problems and environmental pollution**	**Requesting students to submit presentations using a data show device on various topics related to environmental problems**	**Student discussion after presentation**
14	**5**	**Students learned about: the concept of global warming - climate change - greenhouse gases and their sources - the effects of global warming - methods of treating and reducing**	**global warming & climate change**	**Using the lecture method and displaying data on the Data Show device**	**Questions and discussion**

		the problem.			
15	**5**	**<u>Second month exam.</u>** **Students learned about: the concept of sustainability - the green economy**	**sustainability**	**Using the lecture method and displaying data on the Data Show device**	**Questions and discussion**

11. Course Evaluation

<u>The theoretical part, average for the first and second months (30) marks:</u>
The first month: a written exam (25 marks) + Quiz exams (5 marks).
The second month: written exam (25 marks) + presentations (5 marks).
<u>Practical part: Average of the first and second months (20) marks:</u>
The first month: written exam (10 marks) + academic trip report (5 marks) + Quiz exams (5 marks).
The second month: a written exam (10) marks + a report on the experiment on the effect of light on plants (5) marks + a report on the field visit to study the plant community (5) marks.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Ecology** **Dr.. Abdel Khalil Fadil and Dr. Alwan Jassim Al-Waeli** **University of Baghdad 1985**
Main references (sources)	**Environmental Science by S. C. SANTRA** **Fundamental of Ecology by E. P. ODUM**
Recommended books and references (scientific journals, reports...)	**-**
Electronic References, Websites	**-**

Course Description Form

1. Course Name:

Plant Breeding

2. Course Code:

PLAB315

3. Semester / Year:

2025-2024

4. Description Preparation Date:

10.1.2025

5. Forms of Attendance:

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

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

Name:wurood jabbar idan **Najlaa zeki Manwar**	**Email: wuroodjabbar3@gmail.com**

8. Course Objectives

Course Objectives	Introducing the science of plant breeding and its importance Methods of plant breeding Difficulties facing plant breeders when implementing breeding programs modern breeding methods used to improve plant characteristics •

9. Teaching and Learning Strategies

Strategies	**1. Theoretical lectures, and the use of the textbooks and PowerPoint.** **2. Assigning students to prepare presentations on topics related to the curriculum.** **3. Field visits and scientific trips.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	plant breeding	Introduction to plant breeding	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
2	**5**	Reproductive systems in plants	Sexual reproduction and a Sexual reproduction	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
3	**5**	Pollination in plants	Self Pollination+ Cross pollination	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
4	**5**	Genetic differences in plants	Environmental Variation Genetic Variation	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
5	**5**	Infertility and self-incompatibility	Sterility and Incompatibility	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
6	**5**	Physiology of Self Sterility	Gametophytic determination	Using the lecture method and displaying data on the Data Show	Quiz test at the end of the lecture

				device	
7	**5**	Male sterility and its relationship to plant breeding	Male sterility and its relationship to plant breeding	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
8	**5**	Cytoplasmic infertility	Type of Cytoplasmic infertility	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
9		Genetic similarity and its danger to crops	natural and artificial replication	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
10		Chromosomal duplication	duplication Euoploidy and Aneuoploidy	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture
11		Plant breeding methods	Selection methods, importation methods and acclimatization Selection and Primiray Origin of Center	Using the lecture method and displaying data on the Data Show device	Quiz test at the end of the lecture

11. Course Evaluation

Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.

a written exam (25 marks) + Quiz exams (5 marks).
a written exam (20) marks

12. Learning and Teaching Resources

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

Course Description Form

1. Course Name:	
Apiculture	
2. Course Code:	
APIC319	
3. Semester / Year:	
Secand semester 2025/2024	
4. Description Preparation Date:	
15.1.2025	
5. Forms of Attendance:	
Full time (theoretical lecture/practical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75/	
7. Course Administrator's Name (mention all, if more than one name)	
Name:Ali Hassan	**Email: ali.h.h@uomisan.edu.iq**

8. Course Objectives	
Course Objectives	**The course aims to provide the student with the basic concepts and skills of beekeeping and provide him with information and modern methods for producing honey and other hive products. The student is also provided with important information for establishing and managing apiaries and identifying the most important plants that bees graze on. The course also includes identifying the most important bee pests and diseases.**

9. Teaching and Learning Strategies	
Strategies	**1- Use the method of delivering information through lecture** **2- Students participate in obtaining information by requesting seminars and scientific reports** **3- Training students on the method of logical discussion to reach results** **4- Learning through applied field practices .**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Understanding, perception	The economic importance of beekeeping	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
2	5	Understanding, perception	The bee sect	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
3	5	Understanding, perception	The bees and the most important external organs	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams

4	5	Understanding, perception	Anatomy and functions of the internal organs of bees	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
5	5	Understanding, perception	Types of honey bees and their breeds	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
6	5	Understanding, perception	Establishing and managing apiaries	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
7	5	Written exam	Written exam	Written exam	Written exam
8	5	Understanding, perception	Swarming and migratio	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
9	5	Understanding, perception	Laying worker	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
10	5	Understanding, perception	Beehive products	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
11	5	Understanding, perception	Enemies of bees	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
12	5	Written exam	Written exam	Written exam	Written exam
13	5	Understanding, perception	Bee diseases	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
14	5	Understanding, perception	Problems of beekeeping in southern Iraq	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
15	5	Understanding, perception	A review general	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Beekeeping and silkworms / Dr. Louay Karim Al-Naji
Main references (sources)	Beekeeping and hive products in food / Arif Salem

Recommended books and references (scientific journals, reports...)	Honey bees / Abdul Latif Muhammad Abbas
Electronic References, Websites	All websites of scientific journals and universities interested in this aspect

Course Description Form

1. Course Name:
Nematodes
2. Course Code:
NEMA320
3. Semester / Year:
2025-2024 (Second course)
4. Description Preparation Date:
The beginning of the second course
5. Forms of Attendance:
Attending in college
6. Number of Studying Hours (Total) / Number of Units (Total)
75 / 5
7. Course Administrator's Name (mention all, if more than one name)

Name: Dr.Ahmed Malik Jumaah	**Email: mr.ahmad@uomisan.edu.iq**

8. Course Objectives	
Course Objectives	**•Introduction to caecilians to learn about their history** **• Identify its effects on plants and its mechanism of action**

9. Teaching and Learning Strategies	
Strategies	**Using modern means to deliver information to students and using field work to learn more about the course methodology, which is part of modern education, so that complete information about the course is available after the student graduates.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	To provide the student with a detailed introduction to nematodes and what nematodes mean.	Introduction to nematodes	Using the lecture method and displaying data using the Data Show device	Questions and discussion
2	2	Learn about the history of the discovery of nematodes and the cases of their appearance in the world	History of nematodes	Using the lecture method and displaying data using the Data Show device	Questions and discussion
3	2	Explaining the division of nematodes according to the nature of their life	Nematode division	Using the lecture method and displaying data using the Data Show device	Questions and discussion

4	**2**	**Explaining the mechanism and methods of reproduction and the appropriate conditions for it**	**Reproduction in nematodes**	**Using the lecture method and displaying data using the Data Show device**	**Discussion and end-of-lecture test**
5	**2**	**Explaining the mechanism of movement of nematodes and their types with examples**	**Movement in nematodes**	**Using the lecture method and displaying data using the Data Show device**	**Discussion and testing of students**
6	**2**	**Explaining the mechanism of feeding according to the type of nematode and what are the methods used for that**	**Nutrition in nematodes**	**Using the lecture method and displaying data using the Data Show device**	**Questions and discussion**
7	**2**	**A detailed explanation of the male and female reproductive system and its importance in the diagnosis process**	**The reproductive and excretory system**	**Using the lecture method and displaying data using the Data Show device**	**Questions and discussion**
8	**2**	**Reviewing the modern classifications of free and parasitic nematodes according to order, family and genus**	**Nematode classification**	**Using the lecture method and displaying data using the Data Show device**	**Making reports on the latest classifications**
9	**2**	**Explaining the important symptoms of plant-parasitic nematodes and observing them visually and in the field**	**Symptoms of infection on the plant**	**Using the lecture method and displaying data using the Data Show device**	**Field test to identify symptoms**
10	**2**	**Identifying the most important families, genera and species that infect plants**	**Parasitic species of nematodes**	**Using the lecture method and displaying data using the Data Show device**	**Questions and discussion in the laboratory**
11	**2**	**Identify the important species of the genus *Meloidogyne* spp**	**Types of the genus *Meloidogyne* spp**	**Using the lecture method and displaying data using the Data Show device**	**Questions and discussion in the laboratory**
12	**2**	**Identify the important species of the genus *Pratylenchus* spp**	**Types of the genus *Pratylenchus* spp**	**Using the lecture method and displaying data using the Data Show device**	**Questions and discussion in the laboratory**
13	**2**	**Identify the important species of the genus *Tylinchida* spp**	**Types of the genus *Tylinchida* spp**	**Using the lecture method and displaying data using the Data Show device**	**Questions and discussion in the laboratory**
14	**2**	**Identify the modern methods used to prevent plant-parasitic nematodes**	**Methods of nematode prevention**	**Using the lecture method and displaying data using the Data Show device**	Preparing reports on prevention methods

15	**2**	**Explain and list the methods of controlling plant-parasitic nematodes**	**Methods of controlling nematode**	**Using the lecture method and displaying data using the Data Show device**	Preparing a report and an experiment to combat nematodes

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**–**
Main references (sources)	**Nematology book, Nematodes in the Arab World**
Recommended books and references (scientific journals, reports...)	**Nematology Journal**
Electronic References, Websites	**Journal of Nematology, Plant parasitic nematode**

Course Description Form

1. Course Name:	
Biotechnology	
2. Course Code:	
BIOT321	
3. Semester / Year:	
Second semester 2025-2024	
4. Description Preparation Date:	
20.1.2025	
5. Forms of Attendance:	
Mandatory	
6. Number of Studying Hours (Total) / Number of Units (Total)	
65	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Assisst Prof.Dr. abdulkareem kassim jabar	**Email: abdulkareemalmolla@gmail.com**
8. Course Objectives	
Course Objectives	**• Teaching students the basics of genetic sciences related to horticulture** **• Teaching the student methods of consolidating protoplasts** **• Teaching students about the nature of genetic material** **• Teaching students what plasmids are** **• Teaching students methods of gene transfer** **• Teaching students methods for detecting transformed cells** **• Teach students the steps followed to reach a transformed plant**

9. Teaching and Learning Strategies	
Strategies	**•Enable the student how to obtain physical camels •Enabling students to obtain knowledge and understanding of genetic engineering •Enabling students to obtain knowledge and understanding of the cytological basis of the cell •Enable students to obtain knowledge and understanding of how to create genetic transformation in horticultural crops •Enabling students to obtain knowledge and understanding of methods for detecting transformed tissues •Enabling students to obtain knowledge and understanding about the nature of genes, their structure, and their relationship to carrying hereditary traits**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Know the history of plant biotechnology	Historical introduction and applications of biotechnology	Lecture + practical	Written and practical exam
2	5	Learn about the historical introduction and applications of biotechnology	the historical introduction and applications of biotechnology	Lecture + practical	Written and practical exam
3	5	Identify the nature of genetic material and its replication	The nature and multiplication of genetic material	Lecture + practical	Written and practical exam
4	5	Identify gene expression in plants	Gene expression in plants	Lecture + practical	Written and practical exam
5	5	Identify the gene clone	Gene clone	Lecture + practical	Written and practical exam
6	5	For the student to learn about cloning vectors	Clone vectors	Lecture + practical	Written and practical exam
7	5	The student learns the basics of genetic engineering in plants	Genetic engineering in plants	Lecture + practical	Written and practical exam
8	5	The student learns to stimulate callus growth	Genetic transformation in plants and its applications	Lecture + practical	Written and practical exam
9	5	The student will learn what genetic transformation is in plants and its applications	Genetic transformation using Agrobacterium	Lecture + practical	Written and practical exam

10	**5**	**To learn about methods of direct gene transfer into plants**	**Methods of direct gene transfer into plants**	**Lecture + practical**	**Written and practical exam**
11	**5**	**The student learn the polymerase chain reaction and its applications**	**Polymerase chain reaction and its applications**	**Lecture + practical**	**Written and practical exam**
12	**5**	**The student will be familiar with DNA markers in plants, their types and applications**	**DNA markers in plants, their types and applications**	**Lecture + practical**	**Written and practical exam**
13	**5**	**Teaching the student bio-safety rules**	**Biosafety rules**	**Lecture + practical**	**Written and practical exam**
14					
15					

11. Course Evaluation

Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	**Fundamentals of Biotechnology, written by Dr. Ali Ibrahim Ali Obaida and Dr. Ahmed Abdel Fattah Mahmoud**
Recommended books and references (scientific journals, reports...)	**Plant Biotechnology T.K.R. Translated by Kazem Ibrahim Al-Sumaidaie and Dr. Qais Jamil Al-Salhi**
Electronic References, Websites	**Actahort.come** **Ashs.org** **Springler**

Course Description Form

1. Course Name:

DESIGN AND ANALYSIS OF EXPERIMENTS

2. Course Code:

DEAE301

3. Semester / Year:

FIRST/Semester/2025 - 2024

4. Description Preparation Date:

1.2.2025

5. Forms of Attendance:

Full-time (Theoretical Lecture)

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

5 hours per week for(Theoretical Lecture), 15 weeks

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

Name: Assistant Professor Dr. dhurgham sabih Kareem altai	Email: dhurgham.sabih@uomisan.edu.iq

8. Course Objectives

Course Objectives	**Graduating students capable of:** **• Working in the field of designing agricultural experiments, they have theoretical and applied knowledge regarding the design subject.** **• Obtaining the skills required for post-graduate studies plan** **• Collecting, tabulating and summarizing data.** **• Conduct statistical tests** **• Discussing and interpreting results and making decisions** **• Using modern methods and statistical programs that contribute to the design of agricultural experiments and that are reflected in its various production characteristics.** **• Providing students with work skills in scientific and research fields and studying the science of designing and analyzing experiments and its relationship to designing successful experiments that contribute to the success of livestock projects.**

9. Teaching and Learning Strategies

Strategies	**١- Enabling students to think and analyze topics related to the intellectual framework of the Design and Analysis of Experiments course.** **٢- Enabling students to think and analyze topics related to ways to design successful experiments related to increasing productivity.** **٣- Design and analysis of experiments is a branch of statistics that is concerned with applying the statistical method, and one of the important topics in research planning is managing and conducting a specific experiment to obtain data that can be analyzed and reaching a specific conclusion through it, which includes collecting data, arranging it, reducing it, and then conducting specific statistical tests that are used. It makes decisions about the objectives that the experiment is designed to study.**

10. Course Structure

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

1	5	Introducing students to general information about design science and regression analysis	Introduction, measures of concentration, arithmetic mean	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
2	5	Introducing students to the properties of the arithmetic mean, median, and mode	Properties of the arithmetic mean, median, and mode	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
3	5	Introducing students to some standards	Measures of absolute dispersion, range, variance, standard deviation, standard error	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
4	5	Introducing students to how to calculate metrics	Measures of relative dispersion, coefficient of relative variation, standard score	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
5	5	Relative dispersion and coefficient of variation	Analysis of variance, mathematical model equation	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
6	5	Introducing students to the components of the analysis of variance table	Components of an analysis of variance table	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
7	5	Explain and explain the components of a completely randomized design	Completely randomized design	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
8	5	A detailed explanation of how to calculate values and equations	Various examples of completely randomized design	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
9	٥	A detailed explanation of the most important tests between arithmetic averages and finding differences	Test of means, test of least significant difference	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
10	5	Explanation of the variance and standard deviation of the difference between the means of two parameters	Variance and standard deviation of the difference between the means of two parameters	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
11	5	A detailed explanation of the Duncan test, the least significant range test	Duncan test, least significant range test	Theoretical and practical lectures + presentation methods + dialogue and discussion	Daily, monthly and final tests and reports
12	5	A detailed explanation of the completely randomized block	Randomized complete block design	Theoretical and practical lectures	Daily, monthly and final tests

		design		**+ presentation methods + dialogue and discussion**	**and reports**
13	**5**	**A detailed explanation of missing value estimation and the relative efficiency of complete random segments**	**Estimating the missing value in the case of completely randomized blocks, the relative efficiency of the completely randomized design compared to the completely randomized design**	**Theoretical and practical lectures + presentation methods + dialogue and discussion**	**Daily, monthly and final tests and reports**
14	**5**	**A detailed explanation of the Latin square design**	**Latin square design**	**Theoretical and practical lectures + presentation methods + dialogue and discussion**	**Daily, monthly and final tests and reports**
15	**5**	**A detailed explanation of estimating the missing value in the case of the Latin square design, and the relative efficiency of the Latin square design**	**Estimating the missing value in the case of the Latin square design, the relative efficiency of the Latin square design and comparison with the completely randomized design and the block design**	**Theoretical and practical lectures + presentation methods + dialogue and discussion**	**Daily, monthly and final tests and reports**

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, *etc*.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Khashi Mahmoud Al-Rawi and Abdul Aziz Muhammad Khalaf Allah (1980). Design and analysis of agricultural experiments - Ministry of Higher Education and Scientific Research - University of Mosul - Republic of Iraq.**
Main references (sources)	**1- Ahmed Obada Sarhan (1983). Design and analysis of experiments - University Books House - Cairo - Arab Republic of Egypt. 2- Naeem Thani Al-Muhammad, Khashi Mahmoud Al-Rawi, Moayad Ahmed Younis and Walid Khudair Al-Marani (1989). Principles of Statistics - Dar Al-Kutub Foundation for Printing and Publishing - University of Mosul - Iraq. 3- Mohamed Abdel Moneim's wealth (2004). Design and analysis of experiments – Anglo Egyptian Library - Arab Republic of Egypt.**
Recommended books and references (scientific journals, reports...)	**Ph.D and Msc. theses. Design and analysis of experiments**
Electronic References, Websites	

Course Description Form

1. Course Name:	
Plant Pathology	
2. Course Code:	
PLAP317	
3. Semester / Year:	
2024 - 2025	
4. Description Preparation Date:	
beginning of the first course	
5. Forms of Attendance: **in-person**	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 / 5	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Assist. Prof.dr. Qusai Hattab Madhi	**Email: qusay.hattab@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	**•Understanding Pathogens: Study the types of pathogenic organisms that infect plants such as bacteria, fungi, viruses, and other pests.** **•Diagnosing Diseases: Learn how to recognize the signs and symptoms of diseases and identify the different diseases that affect plants.** **•Plant Protection: Understand how to prevent the spread of plant diseases and develop strategies to reduce them, such as the use of pesticides and advanced agricultural techniques.**
9. Teaching and Learning Strategies	
Strategies	**•Interactive lessons: Use interactive lessons that include live discussions, case studies, and interactive exercises to test students' understanding and application of concepts.** **•Problem-based learning: Present real-life cases or potential problems in plant diseases, and encourage students to suggest solutions and analyze expected results.** **•Effective use of technology: Use technological means such as educational videos, computer simulations, and interactive software to clarify difficult concepts and stimulate deep understanding.** **•Cooperative learning: Encourage students to work in small groups to solve problems or prepare research reports on specific plant diseases, which enhances cooperation and interaction among students.** **•Comprehensive assessment: Use comprehensive assessment methods that include traditional tests in addition to performance assessment, active participation in discussions, and project assessment, to ensure students understand and apply the concepts taught.** **•Individual follow-up: Provide individual feedback to students on their progress and understanding of the material, which helps them improve their performance and enhance their understanding.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**The student can define**	**Introduction to**	**Lecture**	**Interactive**

		the main types of plant diseases (fungal, bacterial, viral), explain their causes, and describe how they affect plant health. The student can identify the losses associated with plant diseases, such as decreased productivity, increased costs, and deterioration of quality, and explain how these losses impact agricultural economics and the environment.	Plant Diseases and the Losses Resulting from Them	Discussion Scientific activities Dialogue and discussion	assessment Reports Daily quizzes
2	5	The student can summarize the development of plant pathology from its early beginnings, including key discoveries such as the identification of plant pathogens and the evolution of diagnostic and treatment methods, and explain the scientific contributions that shaped the development of this field. The student can define essential terms such as "pathogens," "symptoms," "spread," "incubation," and "integrated pest management," and explain how these terms are used in the study and monitoring of plant diseases.	History of Plant Pathology, Some Definitions and Common Terms in Plant Pathology	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
3	٢	Understanding the Stages of Infectious Disease Development in Plants: The student can define the stages of infectious disease occurrence such as infection,	Occurrence and Development of Infectious Plant Diseases: Infection, Penetration, Infestation, Spread, Overwintering,	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes

		penetration, infestation, spread, overwintering, and survival. **Identifying Factors Influencing Disease Development:**	**and Survival**		
4	**5**	**The student can explain how pathogens (such as fungi, bacteria, and viruses) enter and interact with plants.** **The student can describe how pathogenic agents affect fundamental plant functions such as photosynthesis, water and nutrient absorption, and growth.**	**Attacking Pathogens on Plants: The Impact of Pathogenic Agents on Plant Vital Functions**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**
5	**5**	**The student can explain plant defense mechanisms such as immune responses, chemical secretions, and the formation of resistant cell walls to protect the plant from pathogenic agents.** **The student can define plant disease genetics and how genetic factors affect plant susceptibility to diseases, and explain the principles of plant disease epidemiology, including how diseases spread and are analyzed in different agricultural environments.**	**Plant Defense Mechanisms Against Pathogenic Attacks, Plant Disease Genetics, and Epidemiology of Plant Diseases**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**
6	**5**	**The student can explain plant disease resistance strategies such as genetic resistance, biological control, and chemical control, and how to enhance crop resistance to diseases.**	**Plant Disease Resistance and Classification of Plant Diseases**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**

7	5	The student can define plant diseases caused by oomycetes, such as seedling damping-off, root rot, gummosis of citrus trees, and downy mildew. The student can describe the main symptoms of each disease and how these oomycetes affect plant health and productivity.	plant Diseases Caused by Oomycetes: Seedling Damping-Off, Root Rot, Gummosis of Citrus Trees, Downy Mildew:	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
8	5	The student can define plant diseases caused by ascomycete fungi, such as peach leaf curl, apple scab, and powdery mildew. The student can describe the main symptoms of each disease and how these ascomycete fungi affect plant health and productivity.	Plant Diseases Caused by Ascomycete Fungi Peach Leaf Curl, Apple Scab, Powdery Mildew	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
9	5		Diseases Caused by Deuteromycetes (Imperfect Fungi Wilts, Early Blight on Tomato,etc.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
10	5	The student can define diseases caused by basidiomycete fungi, such as smuts and rusts. The student can describe the main symptoms of each disease and how basidiomycete fungi affect plant health and productivity.	Diseases Caused by Basidiomycete Fungi: Smuts,rusts:	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
11	5	The student can define the characteristics of plant pathogenic bacteria, such as shape, structure, and	Diseases Caused by Bacteria, Characteristics of Pathogenic Bacteria,	Lecture Discussion Scientific activities Dialogue and	Interactive assessment Reports Daily quizzes

		disease-causing activities, as well as classify them into types based on their distinctive features. The student can describe Crown Gall Disease, Bacterial Wilt, Soft Rot, and Fire Blight on quince and apple, identifying the main symptoms of each disease and how they affect plant health.	Classification of Plant Pathogenic Bacteria, Diseases Caused by Bacteria(Crown Gall Disease, Bacterial Wilt, etc)	discussion	
12	5	1.The student can identify the characteristics of plant pathogenic nematodes such as shape, size, and how they affect plants. .٢The student can describe root knot disease, citrus slow decline disease, and wheat wart disease,	Diseases Caused by Nematodes: Characteristics of Plant-Parasitic Nematodes, Plant Diseases Caused by Nematodes(Root Knot Disease, low Decline Disease on Citrus)	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
13	5	The student can define the viruses and phytoplasmas causing diseases and identify the diseases they cause, such as Citrus Greening Disease and Corn Dwarfing Disease. The student can describe the main symptoms of Citrus Greening Disease and Corn Dwarfing Disease and explain how these diseases affect plant health and productivity.	Diseases Caused by Viruses and Phytoplasmas: Citrus Greening Disease (Huanglongbing, Corn Dwarfing Disease(	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
14	5	The student can define dodder and broomrape as examples of parasitic flowering plants and explain how they affect host plants. The student can describe the symptoms	Diseases Caused by Parasitic Flowering Plants: Dodder (Cuscuta spp Broomrape (Orobanche spp. and Phelipanche	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes

		caused by dodder and broomrape on plants, such as stunted growth and reduced productivity, and explain how these diseases impact crop health.	**spp:(.**		
15	**5**	**The student can define non-infectious diseases affecting plants, such as nutrient deficiencies, effects of temperature and humidity, poor storage conditions, high groundwater levels, and diseases caused by environmental pollution.** **The student can describe the main symptoms of each of these issues and explain how they impact plant health and productivity.**	**Non-Infectious Plant Diseases:** **Nutrient Deficiencies, Effects of Temperature and Humidity, etc..**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**

11. Course Evaluation	
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily quizzes, oral exams, monthly exams, written exams, reports, etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Plant Diseases: Basics and Advanced (2018)" by Mohamed Amer Fayyad and Mohamed Hamza Abbas**
Main references (sources)	**Plant Pathology. 5th Edition.2005** **Author: George N. Agrios**
Recommended books and references (scientific journals, reports...)	**plant pathology**
Electronic References, Websites	**1. plant disease** **2. phytopathology**

Course Description Form

1. Course Name:
ENGLISH language 3
2. Course Code:
ENGL302
3. Semester / Year:
2025-2024 (First course)
4. Description Preparation Date:

The beginning of the first course	
1. Forms of Attendance:	
Attending in college	
6. Number of Studying Hours (Total) / Number of Units (Total	
15 / 1	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Dr.Farhan Jasim Mohammed	**Email: farhanalhakim@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	1- Providing the student with academic writing skills and English grammar 2-Providing the student with the skill of speaking the English language 3-Providing the student with the skill of listening to the English language 4-Providing the student with reading and reasoning in the English language
9. Teaching and Learning Strategies	
Strategies	Using modern means to deliver information to students and using field work to learn more about the course methodology, which is part of modern education, so that complete information about the course is available after the student graduates.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	١	Understanding, perception, practical application	**How to use present simple tense in positive, negative and questions**	Lecture and discussion	Oral exams, quizzes and written exams
2nd	1	Understanding, perception, practical application	**How to use past simple tense in positive, negative and questions**	Lecture and discussion	Oral exams, quizzes and written exams
3rd	١	Understanding, perception, practical application	**How to use future simple tense in positive, negative and questions**	Lecture and discussion	Oral exams, quizzes and written exam
4th	١	Understanding, perception, practical application	**Tenses in passive voice case: simple tense: present, past future**	Lecture and discussion	Oral exams, quizzes and written exam
٥th	١	Understanding, perception,	**Common mistakes in tense**	Lecture and discussion	Oral exams, quizzes
6th	١	Understanding, perception,	**Interrogative tools in the English language**	Lecture and discussion	Oral exams, quizzes and written exam
7th	١	written exam	First month exam	written exam	written exam
8th	١	Understanding, perception,	**Reading skills**	Lecture and discussion	Oral exams, quizzes
9th	١	Understanding, perception, practical	**Writing skills**	Lecture and discussion	Oral exams, quizzes and written exam

		application			
10th	١	Understanding, perception, practical application	**Practice in speaking**	Lecture and discussion	Oral exams, quizzes and written exam
11th	١	Understanding, perception	**Agriculture vocabulary**	Lecture and discussion	Oral exams, quizzes
12th	١	written exam	Second month exam		
13th	١	Understanding, perception	**Some spelling changes we need to add to the verb when we use present continuous**	Lecture and discussion	Oral exams, quizzes
14th	١		Reading and writing skills	written exam	written exam
11th	١	Understanding, perception, practical application	Listen to conversations in English, reading	Lecture and discussion	Oral exams, quizzes and written exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly written exams, final written exam, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**New headway beginner** **Liz and John Soars, Paul Hancock**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Access to recent research, articles and studies related to modern learning methods
Electronic References, Websites	All English language learning sites

Forth Stage

Course Description Form

1. Course Name:	
Orchard insects	
2. Course Code:	
ORCI411	
3. Semester / Year:	
First semester 2023/2024	
4. Description Preparation Date:	
2023/9/1	
5. Forms of Attendance:	
Full time (theoretical lecture/practical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75/	
7. Course Administrator's Name (mention all, if more than one name)	
Name:Ali Hassan	**Email: ali.h.h@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	• **Giving the student an idea about the most important orchard insects found in the Iraqi environment** • **Give an idea of the economic damages** • **Introducing the student to how to diagnose an insect, how to know its damage through field symptoms, and how to combat it.**
9. Teaching and Learning Strategies	
Strategies	**5- Use the method of delivering information through lecture** **6- Students participate in obtaining information by requesting seminars and scientific reports** **7- Training students on the method of logical discussion to reach results** **8- Learning through applied field practices .**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Understanding, perception	• General concepts about the most important damage caused by insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
2	5	Understanding, perception	A general idea about diagnosing infections in fruits and vegetables	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
3	5	Understanding, perception	General concepts of economic damage and criticality limit	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
4	5	Understanding, perception	Termite insect	Lecture and	Oral exams,

				discussion	seminars, Exams Quick(coz) and written exams
5	5	Understanding, perception	Aphid	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
6	5	Understanding, perception	Insects with general damage	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
7	5	Written exam	Written exam	Written exam	Written exam
8	5	Understanding, perception	Palm insects	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
9	5	Understanding, perception	Insects on the legume family	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
10	5	Understanding, perception	Insects of the cucurbit family	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
11	5	Understanding, perception	Insects of Solanaceae family	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
12	5	Written exam	Written exam	Written exam	Written exam
13	5	Understanding, perception	Insects of the liliaceae family	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
14	5	Understanding, perception	General concepts about orchard insect management	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
15	5	Understanding, perception	A review general	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Economic insects / Dr. Abdullah Al-Azzawi
Main references (sources)	Orchard insects / Dr. Salem Girgis, Dr. Muhammad Abdel Karim Muhammad
Recommended books and references (scientific	Crop insects / Dr. Muhammad Zuhair Mahmalji, Dr.

journals, reports...)	Abdel Nabi Bashir
Electronic References, Websites	All websites of scientific journals and universities interested in this aspect

Course Description Form

1. Course Name:

Insect Ecology

2. Course Code:

INSE413

3. Semester / Year:

2025-2024 (second course)

4. Description Preparation Date:

The beginning of the second course/ 2025/2/15

5. Forms of Attendance:

Attending in college

6. Number of Studying Hours (Total) / Number of Units (Total)= 30

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

Name: Dr.Farhan Jasim Mohammed	**Email: farhanalhakim@uomisan.edu.iq**

8. Course Objectives

Course Objectives	**1**- Introducing the student to ecology, the development of ecology, sections of ecology, the ecosystem, the atmosphere, the effect of the environment on insects. 2- Introducing the student to biotic and abiotic environmental factors, the relationship between them and their effect on insects 3- Introducing the concepts of the food chain, the food web, the relationships between insects and the characteristics of insect groups

9. Teaching and Learning Strategies

Strategies	1-Use the method of delivering information through lecture 2- Students participate in obtaining information by asking them to submit scientific reports 3- Training students on how to discuss to reach results 4- Learning through the applied experimental field

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	5	Understanding, perception, practical application	General definitions of ecology, its divisions, methods of studying , and tools for collecting insects	Lecture and discussion	Oral exams, quizzes and written exams
2nd	5	Understanding, perception, practical application	Natural balance in insects, biotic potential factors, environmental resistance factors, insect traps	Lecture and discussion	Oral exams, quizzes and written exams
3rd	5	Understanding, perception, practical	Environmental factors and their classification, methods of collecting insects	Lecture and discussion	Oral exams, quizzes and written exam

		application			
4th	**5**	Understanding, perception, practical application	Areas of distribution of the species, ecological survey of insects and its targets	Lecture and discussion	Oral exams, quizzes and written exam
5th	**5**	Understanding, perception, practical application	Abiotic environmental factors and their effect on insects, a survey of arthropods in the jet field	Lecture and discussion	Oral exams, quizzes and written exam
6th	**5**	Understanding, perception, practical application	Humidity and light, sources of moisture for insects and its effect on insect growth	Lecture and discussion	Oral exams, quizzes and written exam
7th	**5**	written exam	First month exam	written exam	written exam
8th	**5**	Understanding, perception, practical application	Secondary abiotic factors, insect rearing	Lecture and discussion	Oral exams, quizzes and written exam
9th	**5**	Understanding, perception, practical application	Biotic factors and their effect on insects, examples of rearing some important insects	Lecture and discussion	Oral exams, quizzes and written exam
10th	**5**	Understanding, perception, practical application	Division of insects according to families, nutritional efficiency, rearing insects on artificial media	Lecture and discussion	Oral exams, quizzes and written exam
11th	**5**	Understanding, perception, practical application	The effect of food on insect growth, estimating population densities	Lecture and discussion	Oral exams, quizzes and written exam
12th	**5**	Understanding, perception, practical application	Competition, percentage estimation	Lecture and discussion	Oral exams, quizzes and written exam
13th	**5**	Understanding, perception, practical application	Biological enemies, competition between species.	Lecture and discussion	Oral exams, quizzes and written exam
14th	**5**	written exam	Second month exam	written exam	written exam
15th	**5**	Understanding, perception, practical application	General characteristics of insect groups, distribution, spread, migration, and estimation of the damage of some insects	Lecture and discussion	Oral exams, quizzes and written exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly written exams, final written exam, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book of Insect ecology by Dr. Khaled Ali Rawishdi
Main references (sources)	Scientific journals dealing with insect ecology

Recommended books and references (scientific journals, reports...)	Insect entomology journals
Electronic References, Websites	All agricultural and environmental science journals sites

Course Description Form

1. Course Name:	
Storage Pests	
2. Course Code:	
STOP414	
3. Semester / Year:	
Courses	
4. Description Preparation Date:	
4.1.2025	
5. Forms of Attendance:	
Attendance only	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 hours	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Asist.lecture Fatima.kassem.Hamdan	**Email: fatima.kassem@ uomisan.edu.iq**
8. Course Objectives	
Course Objectives	• **The student's knowledge of the definition of grains, their types, their importance, and their various components - the economic and political importance of storing grains - the importance of storing grains in Iraq.** • **Study of ancient and modern methods of storing grains - conditions that must be followed for good storage - signs of spoilage in grains - factors that affect the nutritional value and spoilage of grains.** • **The student learns about the damage caused by insects to stored materials, including direct and indirect damage** • **Students learned about some of the pests that affect stored grains, especially in Iraq.** • **Study of environmental factors and their relationship to their presence and spread in grains.** • **A biological study of some pests that affect stored grains.** • **The student learned about the benefits of insect pests.** • **The student learned about controlling insect pests of stored grains using preventive and curative measures.** • **- Study and identify the sources through which insects can infect healthy grains.** • **Knowing how a student can distinguish infected grains from healthy grains by the symptoms of infection.** • **Identify non-insect pests, including rodents and birds.**

9. Teaching and Learning Strategies	
Strategies	**1- Assigning students to conduct reports and research on topics related to the curriculum** **2- Bringing grains and their products from homes for the purpose of identifying the apparent symptoms of grain damage resulting from insect infestation.** **3- Theoretical lectures and the use of PowerPoint and the methodological book.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**Students learned about what grains are, the importance of grains, and the importance of storing grains in Iraq**	**Cereals and their importance**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
2	**5**	**Students learned about the characteristics of insect pests of stored grains and the insect orders within which warehouse pests fall**	**Habitats of different species of warehouse insects**	**Using the lecture method and using the Data show device to display data**	**Questions and closing discussion**
3	**5**	**The students learned about different types of underground storage methods supported by videos and illustrative pictures**	**Old storage methods**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
4	**5**	**Students learned about modern storage methods of various types installing iron or wooden silos as the best way to store grains, and good storage conditions.**	**Modern storage methods and iron and concrete silos**	**Using the lecture method and using the Data show device to display data**	**Questions and closing discussion**
5	**5**	**Students learned about the signs of damage in visible and non-visible grains and how to detect them**	**Signs of grain damage**	**Using the lecture method and using the Data show device to display data with videos of signs of**	**Coz test at the end of the lecture**

				damage	
6	5	Students learned about the factors that affect the nutritional value and spoilage of grains	Factors affecting the value of grains	Using the lecture method and using the Data show device to display data	Questions and closing discussion
7	5	Students learned about the direct and indirect damage caused by insects to stored grains	Losses resulting from insect pests of stored grains and grain products	Using the lecture method and using the Data show device to display data	Questions and closing discussion
8	5	Students learned about the most common orders of stored grain insects in Iraq	The most common insect pest in Iraq	Using the lecture method and using the Data show device to display data	Questions and closing discussion
9	5	Students learned the scientific names of some insect pests belonging to the orders of Coleoptera and Lepidoptera knowing the harmful phase of each order and the environment it infects and the nutritional preferences of the specie	Some insect pests that affect grains stored and registered in Iraq	Using the lecture method and using the Data show device to display data	Coz test at the end of the lecture
10	5	Students learned about environmental factors, including temperature, humidity, light, competition, predation, and other factors, and the extent of their impact on the presence and spread of insect pests	Environmental factors and their relationship to the presence and spread of insect pests	Using the lecture method and using the Data show device to display data	Coz test at the end of the lecture
11	5	Students learned about the life of some insect pests that affect grains stored and	Life of insect pests of stored grains	Using the lecture method and using the Data show device to	Coz test at the end of the lecture

		registered in Iraq, mentioning the type of metamorphosis		**display data**	
12	**5**	**Students learned about the benefits of insect pests of stored grains and their control using preventive measures And therapeutic procedures**	**Benefits and control of insect pests of stored grains**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
13	**5**	**Students learned about the sources that can cause grain infection, including infection in fields, harvesters,**	**Sources of grain infestation with insect pests**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
14	**5**	**Students learned to distinguish between infected and healthy grains based on the symptoms of infection**	**Symptoms of grain infestation with insect pests**	**Using the lecture method and using the Data show device to display data**	**Coz test at the end of the lecture**
15	**5**	**Students learned about non-insect pests, including rodents and birds**	**Non-insect pests**	**Request to submit presentations for students using the Data Show device on various topics about insect**	**Questions and closing discussion**

11. Course Evaluation

Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.

Theoretical part: Average of the first and second months (30) marks:
The first month: written exam (25) marks + exams and absences (5) marks.
The second month: written exam (25 marks) + presentations (5 marks).
Practical part: average for the first and second months (20) marks:
The first month: a written exam (10) marks + marks and absence exams (5) marks + bringing grains infected with insect pests to the laboratory for the purpose of making slides to diagnose the species.
The second month: Written exam (10) marks + marks and absences exams (5) marks + holding a competition among students to quickly memorize the names of species (5) marks.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Pests of stored grains**
Main references (sources)	**Insects in warehouses - Al-Azzawi and Mahdi, 1983** **Pests of Stored Products- Aead Yousif Haj**

	Ismail - 2014
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course description form

1- Name of the course	
Vegetable and Greenhouses Diseases	
2- Course code	
VEGD415	
3- ester/yearSem	
First semester2023/2024	
4- The date this description was prepared	
1/3/2025	
5- Available forms of attendance	
My presence	
6- (Number of study hours (total) / number of units (total	
hours ٧٥/	
7- (than one name is mentioned Name of the course administrator (if more	
: Emaildaghirg@uomisan.edu.iq	Prof. Dr. Ghassan Mahdi Dagher :Name
8- Course objectives	
Objectives of the study subject	• Diagnosis of vegetable diseases • Identify the causes of diseases of various types of vegetable plants • Describe methods of resistance and treatment for diseases of vegetable plants
9- Teaching and learning strategies	
Use the method of delivering information through lecture–١ mit Students participate in obtaining information by asking them to sub –٢ scientific reports Training students on the method of logical discussion to reach results –٣ Learning through applied field practices –٤	The strategy

10- course structure

ion Evaluat method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Nursery diseases	Understanding, perception, practical application	٥	the first

Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of nightshade esvegetabl	Understanding, perception, practical application	٥	the second
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of nightshade vegetables	Understanding, perception, practical application	٥	the third
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of squash vegetables	Understanding, perception, practical application	٥	the fourth
Oral exams, rapid exams COES) and) written exams	Lecture and ussiondisc	Diseases of squash vegetables	Understanding, perception, practical application	٥	Fifth
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Cruciferous vegetable diseases	Understanding, perception, practical application	٥	VI
Written exam	en Writt exam	Written exam	Written exam	٥	Seventh
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Complex vegetable diseases	Understanding, perception, practical application	٥	VIII
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of s leguminou vegetables	Understanding, perception, practical application	٥	Ninth
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of leguminous vegetables	Understanding, perception, practical application	٥	The tenth
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of lily vegetables	Understanding, perception, practical application	٥	eventhel

Oral exams, rapid exams COES) and) written exams	nd Lecture a discussion	Diseases of lily vegetables	Understanding, perception, practical application	٥	twelveth
Written exam	Written exam	Written exam	Written exam	٥	Thirteenth
،Oral exams rapid exams COES) and) written exams	Lecture and discussion	Diseases of mallow vegetables	Understanding, perception, practical application	٥	fourteenth
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Diseases of mallow vegetables	Understanding, perception, practical application	٥	Fifteenth

11- Course evaluation

according to the tasks assigned to the student, such as ١٠٠of Distribution of the grade out .daily preparation, daily, oral, monthly, written exams, reports, etc

12- Learning and teaching resources

Diseases of orchards and vegetables/Dr. mir Mikhail and othersSa	(Required textbooks (methodology, if any
Plant diseases/ Dr. Muhammad Amer Fayyad, Dr. Muhammad Hamza Abbas Plant diseases/ George Akrios	(Main references (sources
g with all plant Scientific journals dealin diseases	Recommended supporting books and (….references (scientific journals, reports
All agricultural magazine sites and plant disease magazines	Electronic references, Internet sites

Course Description Form

1. Course Name:	
Biological Control	
2. Course Code:	
BIOC416	
3. Semester / Year:	
2024 - 2025	
4. Description Preparation Date:	
20 / 1 / 2024	
5. Forms of Attendance:	
Is mandatory	
6. Number of Studying Hours (Total) / Number of Units (Total)	
65	
7. Course Administrator's Name (mention all, if more than one name)	
Name: A.M.Dr AbdulKarimm Qasim	**Email: Abdulkareemalmolla@gmali.com**
8. Course Objectives	
Objectives of the study subject.	**1.Preparing students with the ability to work in in the field of crop protection according to modern scientific curricula linked to developments in this field that are happening in developed countries of the world.** **2.Entering the agricultural sector with distinguished efficiency through participation in government projects and the labor market.** **3.Directing students towards the desire to obtain better experiences when applying for studies.**
9. Teaching and Learning Strategies	
1.Knowledge and understandin	**1.The importance of insects and their relationship to the environment.** **2.Knowledage of local and imported biological enemies.** **3.Identify groups of parasites, insect predators, and pathogens.** **4.Identify biological resistance programs for crops and leading economic pests in the word.**
2.Subject-specific skills	**1.Training in diagnosing important biological enemies.** **2.Going out to the fields to know what is there and what is new.**
3.Teaching and learning methods.	**3.Calculating the severity of the injury and the economic criticality limit.**

4.Evaluation methods	**1.Using modern means such as a data display device, showing.** **2.Very modern bio-resistance videos from reputable universities.**
5.General and transferable skills	**1.Conduct week and monthly tests.** **2.Reports preparation.** **3.View photos, videos and reports.** **4.thinking skills.** **5.Scientifi resources form the library.** **1.Collecting harmful and beneficial insects and urban predators.** **2.Identify biological enemies.** **3.Thinking about ways to perpetuate vital enemies.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**Insects and their relationship with the environment.**	**Introduction to the procedures using in introducing biological enemies.**	**Lecture + practical.**	**Written and practical exam .**
2	**5**	**Natural resistance to insects.**	**Important groups of insect parasites.**	**Lecture + practical.**	**Written and practical exam .**
3	**5**	**Ways of biological resistance.**	**Pest diagnosis, habitat identification, quarantine for imported models, final evaluation.**	**Lecture + practical.**	**Written and practical exam .**
4	**5**	**Methods used to introduce biological enemies.**	**The procedures used to introduce biological enemies include diagnosing the pest as an**	**Lecture + practical.**	**Written and practical exam .**

			exotic species, determining the original habitat of the pest, quarantine, and others.		
5	5	Insects that feed on insects.	Important groups of insect predators and their biological characteristics, and their predation strategies.	Lecture + practical.	Written and practical exam .
6	5	Importan totals.	Order: Odonata , Hymenoptera , Coleoptera , Diptera	Lecture + practical.	Written and practical exam .
7	5	Bacterial resistance.	Fungi, bacteria, viruses and others used in biological resistance.	Lecture + practical.	Written and practical exam .
8	5	Pathogens.	Types of fungi and bacteria used in bioresistance.	Lecture + practical.	Written and practical exam .
9	5	Defense mechanisms in insects.	Insect methods in self-defense : direct and indirect external defence.	Lecture + practical.	Written and practical exam .
10	5	Resistance to insect parasites and the use of means of defense.	Protective encapsulation, host exhaustion, active resistance	Lecture + practical.	Written and practical exam .
11	5	Bioresistance methods.	Plant resistance to	Lecture + practical.	Written and practical exam .

			insects and diseases, resistance to agricultural methods, pheromones and repellents.		
12	**5**	**Some successful projects in the bioresistance program.**	**Biological resistance of prickly pear, plant Lantana and others.**	**Lecture + practical.**	**Written and practical exam .**
13	**5**	**Biological resistance in and IPM**	**Review.**	**Lecture + practical.**	**Written and practical exam .**
14	**5**				
15					

11. Course Evaluation	
Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Biological resistances to pests /Dr.Hamza Kazem Al-Zubaidi.**
Main references (sources)	**Biological control (theoretical part) Dr.Abdul Nabi Bashir and Dr.Kamal Al-Ashqar, Damascus University..**
Recommended books and references (scientific journals, reports...)	**Google Square and other relevant sites.**

Course description form

1- Name of the course	
Fruit Diseases	
2- Course code	
FRUD417	
3- emester/yearS	
Second semester 202٥/2024	
4- The date this description was prepared	
2/2/2024	
5- Available forms of attendance	
My presence	
6- (Number of study hours (total) / number of units (total	
hours ٧٥/ five units	
7- (ator (if more than one name is mentionedName of the course administr	
Email: daghirg@uomisan.edu.iq	**Name**: **Prof. Dr. Ghassan Mahdi Dagher**
8- Course objectives	
Objectives of the study subject	• **Diagnosis of fruit tree diseases** • **Identify the causes of diseases of various types of fruit trees** • **e and treatment Description of resistanc methods for fruit tree diseases**
9- Teaching and learning strategies	
Use the method of delivering information through lecture–١ **submit Students participate in obtaining information by asking them to –٢** **scientific reports** **Training students on the method of logical discussion to reach results –٣** **Learning through applied field practices –٤**	**The strategy**

10- Course structure

uation Eval method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Apple and raft diseases	Understanding, perception, practical application	٥	the first
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Apple and raft sesdisea	Understanding, perception, practical application	٥	the second

Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Stone fruit diseases	Understanding, perception, practical application	٥	the third
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Stone fruit diseases	ing, Understand perception, practical application	٥	the fourth
Oral exams, rapid exams ES) and CO) written exams	Lecture and discussion	Citrus diseases	Understanding, perception, practical application	٥	Fifth
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Citrus diseases	Understanding, perception, practical application	٥	VI
Written exam	Written exam	Written exam	Written exam	٥	Seventh
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Grape diseases	Understanding, ption, perce practical application	٥	VIII
Oral exams, rapid exams COES) and) xamswritten e	Lecture and discussion	Grape diseases	Understanding, perception, practical application	٥	Ninth
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Olive diseases	Understanding, perception, practical application	٥	The tenth
exams, Oral rapid exams COES) and) written exams	Lecture and discussion	Palm diseases	Understanding, perception, practical application	٥	eleventh
Written exam	Written exam	Written exam	Written exam	٥	twelveth
Oral exams, rapid exams	Lecture and discussion	Pistachio diseases	Understanding, perception,	٥	Thirteenth

COES) and) exams written			practical application		
Oral exams, rapid exams COES) and) written exams	Lecture and discussion	Fig diseases	Understanding, perception, practical application	٥	fourteenth
Oral exams, rapid exams COES) and) written exams	Lecture and siondiscus	Pomegranate diseases	Understanding, perception, practical application	٥	Fifteenth

11- Course evaluation	
according to the tasks assigned to the student, such as ١٠٠Distribution of the grade out of .daily preparation, daily, oral, monthly, written exams, reports, etc	
12- nd teaching resourcesLearning a	
Diseases of orchards and vegetables/Dr. Samir Mikhail and others	(Required textbooks (methodology, if any
Plant diseases/ Dr. Muhammad Amer Fayyad, Dr. Muhammad Hamza Abbas Plant diseases/ George Akrios	(Main references (sources
Scientific journals dealing with all plant diseases	Recommended supporting books and (....references (scientific journals, reports
All agricultural magazine sites and plant disease magazines	Electronic references, Internet sites

Course Description Form

1. Course Name:	
Plant Virology	
2. Course Code:	
PLAV418	
3. Semester / Year:	
2024 - 2025	
4. Description Preparation Date:	
7.1.2025	
5. Forms of Attendance:	
Mandatory	
6. Number of Studying Hours (Total) / Number of Units (Total)	
65	
7. Course Administrator's Name (mention all, if more than one name)	
Name:Assisst.Prof. abdulkareem kassim jabar	**Email: abdulkareemalmolla@gmail.com**

8. Course Objectives

Course Objectives	**• Identify the structure and Construction of plant viruses.** **• Identifying the viral types and families spread in Iraq and the world.** **• Identify the economic importance of viruses.** **• Identify methods of detection and diagnosis of plant viruses** **• Identify ways to combat viral diseases**

9. Teaching and Learning Strategies

Strategies	**1. Focus on discussion and participation in the lecture for the recipient .** **2. Emphasis on homework assignments and preparing reports related to the subject .** **3. Field detection, collecting infected samples, bringing them to the laboratory and diagnosing them .** **4. Answering and discussing direct questions and closely related questions, i.e. inferential ones.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**Historical introduction to viruses**	**An overview of the emergence and development of plant viruses**	**Lecture**	**Homework and a daily exam**
2	**5**	**Symptoms caused by viruses**	**Identify the most important external and internal symptoms caused by viruses on the host plant**	**Lecture**	**Homework**
3	**5**	**Insect transport**	**Identify the different ways insects transmit plant viruses**	**Lecture**	**Daily exam**
4	**5**	**Transportation by other methods**	**Transmission of the virus by other vectors such as seeds , Pollination, fungi, and mechanical transmission**	**Lecture**	**Homework**
5	**5**	**Serological characteristics of viruses**	**Explaining the different serological methods for**	**Lecture**	**Monthly exam**

			detecting and diagnosing viruses		
6	5	structure and composition of virus	Explaining the structure and composition of virus particles and their various forms	Lecture	Daily exam
7	5	The economic importance of viral plant diseases	A comprehensive explanation of the impact of viruses, their economic importance, and the damage they cause	Lecture	Homework
8	5	Naming and classification of plant viruses	Explaining the foundations and rules of nomenclature and classification of plant viruses	Lecture	Daily exam
9	5	Plant defense mechanisms against viruses	Explaining the means and mechanisms for plant resistance to viral infection	Lecture	Monthly exam
10	5	Diagnosing the virus using molecular methods	Explaining the most important methods of detection and molecular diagnosis of viruses	Lecture	Homework
11	5	The most important viral diseases	An explanation of the most important viral diseases, their methods of transmission, the symptoms they cause, and the damage they cause, especially in Iraq	Lecture	Daily exam
12	5	Classification of viruses	An explanation of how viruses,	Lecture	Homework

			families, and viral genera are classified		
13	**5**	**Virus infection**	**An explanation of the method of infection with the virus and its movement within the plant**	**Lecture**	**Daily exam**
14	**5**	**The most important ways to resist viruses**	**Explaining the many ways to control viral diseases, such as agricultural methods,.**	**Lecture**	**Monthly exam**
15					

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Plant viruses / Dr. Abdul Latif Bahjat Shawkat**
Main references (sources)	**Viruses and viral plant diseases / Dr. Mustafa Helmy Al-Hammadi, Dr. Jaber Ibrahim Fajla and Dr. Hamed Mahmoud Mazid**
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Field Crop Insects
2. Course Code:
FICI419
3. Semester / Year:
2025-2024 (second course)
4. Description Preparation Date:
The beginning of the second course/ 2024/4/15
5. Forms of Attendance:
Attending in college
6. Number of Studying Hours (Total) / Number of Units (Total)**= 30**
7. Course Administrator's Name (mention all, if more than one name)

Name: Dr.Farhan Jasim Mohammed	Email: farhanalhakim@uomisan.edu.iq

8. Course Objectives

Course Objectives	Diagnosis of field crop insects and infestation symptoms Identify field crop insects, their life cycles, suitable environmental conditions, and geographical distribution Control methods and treatment for field crop insects

9. Teaching and Learning Strategies

Strategies	1-Use the method of delivering information through lecture 2- Students participate in obtaining information by asking them to submit scientific reports 3- Training students on how to discuss to reach results 4- Learning through the applied experimental field

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	**5**	Understanding, perception, practical application	General definitions, economic entomology, crop insect damage and their diagnosis	Lecture and discussion	Oral exams, quizzes and written exams
2nd	**5**	Understanding, perception, practical application	The economic importance of crop insects, types of insect pests, reasons for increasing insect damage, cotton insects	Lecture and discussion	Oral exams, quizzes and written exams
3rd	**5**	Understanding, perception, practical application	Aphids, damage, types, diagnosis, life cycle, control, tobacco and Brassica napus insects	Lecture and discussion	Oral exams, quizzes and written exam
4th	**5**	Understanding, perception, practical application	Locusts, damage, types, diagnosis, life cycle, Invasion factors, control, wheat and barley insects.	Lecture and discussion	Oral exams, quizzes and written exam
5th	**5**	Understanding, perception, practical application	review of field crop insects, plant families, life cycles, control methods, rice, corn, and sugarcane insects.	Lecture and discussion	Oral exams, quizzes and written exam
6th	**5**	Understanding, perception, practical application	Cotton pests	Lecture and discussion	Oral exams, quizzes and written exam
7th	**5**	written exam	First month exam	written exam	written exam
8th	**5**	Understanding, perception, practical application	Wheat and barley pests, legume insects	Lecture and discussion	Oral exams, quizzes and written exam
9th	**5**	Understanding, perception, practical application	Beet pests	Lecture and discussion	Oral exams, quizzes and written exam
10th	**5**	Understanding,	Legume pests	Lecture and	Oral exams,

		perception, practical application		discussion	quizzes and written exam
11th	**5**	Understanding, perception, practical application	Sunflower and safflower pests	Lecture and discussion	Oral exams, quizzes and written exam
12th	**5**	Understanding, perception, practical application	Sesame pests	Lecture and discussion	Oral exams, quizzes and written exam
13th	**5**	Understanding, perception, practical application	Tobacco and rape pests	Lecture and discussion	Oral exams, quizzes and written exam
14th	**5**	written exam	Second month exam	written exam	written exam
15th	**5**	Understanding, perception, practical application	Insects of the saprophyte family, a field tour to identify insects	Lecture and discussion	Oral exams, quizzes and written exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly written exams, final written exam, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book of Economic insects in northern Iraq\Dr. Awad Hanna Sae
Main references (sources)	Field crop insects/ Author: Dr. Iyad Youssef Al Haj Ismail
Recommended books and references (scientific journals, reports...)	Insect entomology journals
Electronic References, Websites	All agricultural and environmental science journals sites

Course Description Form

1. Course Name:	
Agricultural Mites	
2. Course Code:	
AGRM420	
3. Semester / Year:	
202 / 20245	
4. Description Preparation Date:	
5/ 2 / 2024	
5. Forms of Attendance:	
My presence	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 Hours/ five Units	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Ali Hussein Ali	**Email: ali_hussain@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	**Diagnosing the damage caused by the agricultural mite to plants, identifying its typs, describing the methods of control and treatment of the damage caused by the agricullatural mite to plants.**
9. Teaching and Learning Strategies	
Strategies	**1.Use the method of delivering information through lecture.** **2.Students participate in obtaining information by asking them to submit scientific reports.** **3.Training students on the method of logical discussion to reach practices.** **4. Learing through applied field practices.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**5**	**Understanding, Realization, the practical application.**	**Introduction to agricultural mite and how to distinguish between arthropods.**	**Lecture and discussion.**	**Oral exams quick (COZ) and written exams.**
2	**5**	**Understanding, Realization, the practical**	**The general classification of the agricultural**	**Lecture and discussion.**	**Oral exams quick (COZ) and written exams.**

		application.	mite with the animal kingdom.		
3	5	Understanding, Realization, the practical application.	The economic importance of the mite agricultural.	Lecture and discussion.	Oral exams quick (COZ) and written exams.
4	5	Understanding, Realization, the practical application.	Factors leading to the success of the agricultural mite.	Lecture and discussion.	Oral exams quick (COZ) and written exams.
5	5	Understanding, Realization, the practical application.	Factors leading to the spread of the agricultural mite.	Lecture and discussion.	Oral exams quick (COZ) and written exams.
6	5	Understanding, Realization, the practical application.	Dividing the agricultural mite according to feeding habits and the nature of living.	Lecture and discussion.	Oral exams quick (COZ) and written exams.
7	5	Written exam	Written exam	Written exam	Written exam
8	5	Understanding, Realization, the practical application.	The external appearance of the agricultural mite areas of the body.	Lecture and discussion.	Oral exams quick (COZ) and written exams.
9	5	Understanding, Realization, the practical application.	Internal anatomy of the agricultural mite (its internal organs).	Lecture and discussion.	Oral exams quick (COZ) and written exams.
10	5	Understanding, Realization, the practical	Agricultural mite predators.	Lecture and discussion.	Oral exams quick (COZ) and written exams.

		application.			
11	**5**	**Understanding, Realization, the practical application.**	**Agricultural mite family with hairy wrist.**	**Lecture and discussion.**	**Oral exams quick (COZ) and written exams.**
12	**5**	**Written exam**	**Written exam**	**Written exam**	**Written exam**
13	**5**	**Understanding, Realization, the practical application.**	**Ariophytic mite family.**	**Lecture and discussion.**	**Oral exams quick (COZ) and written exams.**
14	**5**	**Understanding, Realization, the practical application.**	**Agricultural mite pesticides and their divisions.**	**Lecture and discussion.**	**Oral exams quick (COZ) and written exams.**
15		**Understanding, Realization, the practical application.**	**Mechanism of action of pesticides on agricultural crops.**	**Lecture and discussion.**	**Oral exams quick (COZ) and written exams.**

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**The mite of protected agricultural, diagnosis, lifestyle and control – professor Dr.Nizar Mustafa Al-Mallah.**
Main references (sources)	**Entomology professor Dr.Osama Bahareth.**
Recommended books and references (scientific journals, reports...)	**Scientific journals, books and research related to the agricultural mite.**
Electronic References, Websites	**All agricultural magazine sites and magazines related to mite and Amitaria.**

Course Description Form

1. Course Name:
Field Crop Diseases
2. Course Code:
FICD421
3. Semester / Year:
2025-2024
4. Description Preparation Date:
2024/ 12/ 15
5. Forms of Attendance:
Mandatory attendance
6. Number of Studying Hours (Total) / Number of Units (Total) :
75 hours
7. Course Administrator's Name (mention all, if more than one name)

Name: Dr. Ali Athafah Tomah	**Email: ali_athafah@uomisan.edu.iq**

8. Course Objectives	
Course Objectives	• Preparing scientific researchers in the field of pathology, especially field crop diseases. •Activating students' scientific activity and creating a spirit of competition among them to excel in acquiring knowledge. • The ability to work in the agricultural sector, especially in the field of crop diseases.
9. Teaching and Learning Strategies	
Strategies	١- Urging students to obtain information about diseases of field crops from some scientific sites via the Internet. ٢- Using infected plant models brought from infested fields and photographing the models related to the school curriculum. ٣- Using microscopes to help diagnose and identify pathogens. 4- Using modern means in giving lessons, such as a data display device, to learn about the symptoms and signs of the disease and ways of developing the stages of the disease. 5 - A review of the methodological books designated for the initial study

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2+3=5	Root rot and seedling drop, powdery mildew, downy mildew, stem rust, leaf rust, striped rust, covered smut, loose smut	Wheat crop disease	Theoretical study and slide presentation	Daily testing
2	2+3=5	Flag smut, septoria leaf spot, Glume Rot, Spike Blight, Seed Galls, Streak mosaic Wheat, black spot, Head blight,	Wheat crop disease	Using modern methods in giving lessons using a data display device to learn about the symptoms and signs of the disease and the ways in which the stages of the disease develop.	Daily testing

		wheat mosaic			
3	**2+3=5**	Root rot and damping-off, powdery mildew, argot, stem rust, covered smut, loose smut, Reticulum blotch, leaf spot, streaking, rhinospora blotch, septoria leaf blotch, dwarfing and yellowing of barley. Gray blotch	Berlay crop disease	Using Data Show to identify disease symptoms and isolate the fungi that cause seedling drop disease (Rhizoctonia Pythium, Fusarium).	Daily testing
4	**2+3=5**	Blast Rice disease, stem rot, Brown leaf spot, grain and inflorescence rot, root and stem rot, brown leaf spot, sheath blight, Reem rice.	Rice crop disease	Use the Data Show to identify the symptoms and signs of the disease and the ways in which the stages of the disease develop	Daily testing
5	**2+3=5**	Head smut, Gibrella stem rot, Fusarium stem rot, Diplodia rot, shoot rot diseases, Ear & Kernel Rot, common smut, Maize Dwarf Mosaic disease, damping-off	Corn crop disease	Use the Data Show to identify the symptoms and signs of the disease and the ways in which the stages of the disease develop	Daily testing
6	**2+3=5**	Charcoal rot, smut cover, Long Smut disease, loose smut. Viral diseases	Sorghum Crop disease	Use the Data Show to identify the symptoms and signs of the disease and the ways in which the stages of the disease develop	Daily testing
7	**2+3=5**		First Exam		**Monthly exam**
8	**2+3=5**	Downy mildew, powdery mildew, rust, rhizobial disc rot, sclerotonic disc rot, charcoal rot, Discs Rot Diseases	Sunflower disease	Use the Data Show to identify the symptoms, examine infected samples, and isolate pathogens	Daily testing
9	**2+3=5**	Downy Mildew, **Rust**, Phytophthora rot, Alternaria leaf spot, Downy mildew, safflower rust, cercospora spot, alternaria spot, leaf spot.	Safflower diseases And sesame diseases	Use the Data Show to identify the symptoms, examine infected samples, and isolate pathogens	Daily testing
10	**2+3=5**	Charcoal rot, Fusarium wilt, Alternaria blotch, Septoria blotch, Soybean Mosaic **Rot Seed and Seedling** Yellow rot,Corn rot, Stem and root rot,	Soybean diseases And field pistachio diseases	Use the Data Show to identify the symptoms and signs of the disease and the ways in which the stages of the disease develop	Daily testing
11	**2+3=5**	Powdery Mildew, Rust Flax, Fusarium Wilt, Verticillium Wilt,	Fiber crop diseases Flax and	Use the Data Show to identify the symptoms and signs of the disease and the ways in which the stages of	Daily testing

		damping-off, Black root rot, Cotton nut diseases	Cotton	the disease develop	
12	**2+3=5**	Wilt and Rot Root, Rust, Ascochyta blight, *Bean* Yellow Mosaic, Broad Bean Mottle disease	Diseases of legume crops Peas and beans	Use the Data Show to identify the symptoms, examine infected samples, and isolate pathogens	Daily testing
13	**2+3=5**	Sugarcane smut, red rot, long smut, Crown tuber, beet rust, sugar beet yellowing, Curly Top, Rust	Diseases of sugar crops Sugar cane and beets	Use the Data Show to identify the symptoms, examine infected samples, and isolate pathogens	Daily testing
14	**2+3=5**	**Black root rot, root-knotted disease, Tobacco Mosaic, Dodder, Broom rapes,**	Diseases of narcotic crops Tobacco	Use the Data Show to identify the symptoms and signs of the disease and the ways in which the stages of the disease develop	Daily testing
15	**2+3=5**	Alfalfa Diseases, Rust, Alfalfa Mosaic, Downy Mildew	Diseases of Forage crops	Study of diseases spread in crop fields	Monthly exam

11. Course Evaluation

Research material + report = 10 marks
Assignments + quiz = 5 marks
Laboratory work = 5 marks
Monthly practical exam = 15 marks
Monthly theoretical exam = 15 marks

12. Learning and Teaching Resources

Required textbooks (curricular books,if any)	**Lectures prepared by the subject professor and according to the course vocabulary** **Robert F. Neval (1991) Diseases of field crops. Arab Development Institute. 1120 pages**
Main references (sources)	**Mahmoud Musa Abu Arqoub (1992) Plant Diseases (translated version by George Agrios) - Academic Library for Publishing and Distribution - Cairo**
Recommended books and references (scientific journals, reports...)	**Hussein Al-Arousi and others (1985). Practical plant pathology. New Publications House. Alexandria. Egypt Journal of Phytopathology**
Electronic References, Websites	Plant Diseases Report. www.plant pathology.net www.Phytopathology http://plant diseases http://plant diseases http://www.ejp.eg.net

Course Description Form

1. Course Name:	
Integrated Pest Management	
2. Course Code:	
INPM422	
3. Semester / Year:	
Secand semester 2025/2024	
4. Description Preparation Date:	
13.2.2025	
5. Forms of Attendance:	
Full time (theoretical lecture)	
6. Number of Studying Hours (Total) / Number of Units (Total)	
30	
7. Course Administrator's Name (mention all, if more than one name)	
Name:Ali Hassan	**Email: ali.h.h@uomisan.edu.iq**

8. Course Objectives	
Course Objectives	• **Giving learners cognitive skills in managing and combating pests in more than one way to control them, keep them below the level of economic damage, and use the best control methods available to obtain a high-quality crop and preserve the environment.**
9. Teaching and Learning Strategies	
Strategies	**9- Use the method of delivering information through lecture** **10-Students participate in obtaining information by requesting seminars and scientific reports** **11-Training students on the method of logical discussion to reach results** **12-Learning through applied field practices .**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understanding, perception	Historical introduction to pest management	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
2	2	Understanding, perception	General concepts about pest management	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
3	2	Understanding, perception	Concepts of critical economic limit	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
4	2	Understanding, perception	Plant resistance to pest	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams

5	2	Understanding, perception	Monitoring and forecasting of pests	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
6	2	Understanding, perception	Behavioral control	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
7	2	Written exam	Written exam	Written exam	Written exam
8	2	Understanding, perception	Biological control	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
9	2	Understanding, perception	Control by agricultural methods	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
10	2	Understanding, perception	Control by physical methods	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
11	2	Understanding, perception	Pheromones and attractive bait traps	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
12	2	Written exam	Written exam	Written exam	Written exam
13	2	Understanding, perception	Controls for the use of pesticides in integrated management	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
14	2	Understanding, perception	Examples of integrated pest management programs	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams
15	2	Understanding, perception	A review general	Lecture and discussion	Oral exams, seminars, Exams Quick(coz) and written exams

11. Course Evaluation	
Distribution of the grade out of 50 according to the tasks assigned to the student, such as homework, daily, oral, monthly, written exams, reports, etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Pest management / Dr. Abdel Sattar Arif
Main references (sources)	Pest management and control / Dr. Iyad Youssef Al Haj Ismail
Recommended books and references (scientific journals, reports...)	Insect pest management / Dr. Muhammad Al-Saeed Saleh Al-Zamiti
Electronic References, Websites	All websites of scientific journals and universities interested in this aspect

Course Description Form

1. Course Name:	
pesticides	
2. Course Code:	
PEST412	
3. Semester / Year:	
2024 -2025	
4. Description Preparation Date:	
12.11.2024	
5. Forms of Attendance: **in-person**	
6. Number of Studying Hours (Total) / Number of Units (Total)	
75 / 5	
7. Course Administrator's Name (mention all, if more than one name)	
Name:Assist. Prof.dr. Qusai Hattab Madhi	**Email: qusay.hattab@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	• **properties of pesticides and their mechanisms in controlling agricultural pests, including insects, fungi, and plant diseases.** • **Environmental and Health Impacts: Explaining the potential negative effects of improper pesticide use on the environment and public health, and how to mitigate these effects through safe and controlled applications.** • **Risk Assessment and Safety Management: Teaching students how to assess pesticide-related risks and implement appropriate safety procedures to reduce risks to operators, the environment, and local communities.** • **Legislation and Policies: Understanding local and international regulations and policies related to pesticides and how to comply with these laws in the use and marketing of pesticides.** • **Modern Technology: Educating students about recent advancements in pesticide technology, such as biopesticides and advanced application techniques.** • **Economic Analysis: Understanding the financial and economic costs and benefits related to effective pesticide use in agriculture and achieving desired economic returns through sustainable solutions.**
9. Teaching and Learning Strategies	
Strategies	**Group Discussions: Organizing guided discussions on topics such as the environmental and health impacts of pesticides, evaluating current pesticide policies, and exchanging viewpoints among students to enhance interaction and critical thinking.** **Case Studies: Using real-life case studies to analyze the effects of effective and proper pesticide use in agriculture, encouraging students to propose practical solutions to the presented problems.** **Problem-Based Learning: Presenting specific issues related to pesticides and asking students to develop innovative and sustainable solutions, thereby enhancing their ability to apply knowledge in practical contexts.** **Collaborative Learning: Organizing group projects where students work together to develop plans for sustainable pesticide use, sharing knowledge and skills to achieve outstanding results.** **Educational Technology: Utilizing technological tools such as educational videos to illustrate pesticide application processes and potential impacts.**

	Comprehensive Assessment: Employing comprehensive assessment methods including traditional tests, participation evaluations, and project assessments to measure students' understanding and application of the material.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Students should be able to identify different types of agricultural pests (insects, weeds, fungi, bacteria, viruses) and describe the damage they cause to crops. Students should be able to explain the concept of the economic threshold and apply pest control strategies (biological control, chemical control, cultural control, integrated pest management) effectively and sustainably.	Agricultural pests,The damage they cause,Economic threshold	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
2	5	Pesticides Definition of a pesticide Negative and positive aspects of pesticides Historical review of pesticide use	Students should be able to define pesticides and explain their benefits in increasing agricultural productivity and improving crop quality, as well as recognize their drawbacks such as environmental pollution and effects on health and non-target organisms. Students should be able to summarize the history of pesticide use, from natural substances in ancient times to modern developments in chemical and biological pesticides,	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
3	5	Points to Follow in Chemical Pest Control:	Students should be able to identify and understand the necessary safety guidelines when using	Lecture Discussion Scientific activities Dialogue and	Interactive assessment Reports Daily quizzes

			pesticides, including recommended dosages, personal protective equipment, and safety intervals.	discussion	
4	5	Toxicology Acute toxicity Chronic toxicity Pesticide degradation	Students should be able to define acute toxicity and chronic toxicity, and explain the differences between them in terms of health effects and duration of exposure. Students should be able to explain the process of pesticide degradation and understand the factors that affect the rate and extent of pesticide breakdown in the environment, as well as its impact on health and the environment.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
5	5	Pesticide metabolism Metabolic enzymes General pathways of metabolism	Students should be able to explain the process of pesticide metabolism in living organisms and identify the key enzymes involved in these processes. Students should be able to describe the general pathways of pesticide metabolism, including oxidation, reduction, and conjugation processes, and how these processes affect the toxicity and effectiveness of pesticides in living organisms.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
6	5	Classification of pesticides Classification based on the pest :Toxicity :Mode of action :Formulations :Role of additives in activating or inhibiting pesticides	Students should be able to identify and classify pesticides based on the targeted pest (insect, fungal, herbaceous, bacterial), level of toxicity (low, medium, high), and mode of action (contact, systemic, ingestive.(Students should be	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes

			able to describe pesticide formulations (liquid, solid, granular) and explain the role of additives in enhancing or inhibiting the effectiveness of chemical pesticides.		
7	5	Systemic pesticides	Students should be able to explain the concept of systemic pesticides and what distinguishes them from other types of pesticides.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
8	5	Absorption and distribution of chemical pesticides and the factors affecting them.	Students should be able to explain how chemical pesticides are absorbed by living organisms and how they are distributed to different tissues and organs.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
9	5	Insecticides Inorganic insecticides Natural organic insecticides (plant-based and oils(Organochlorine insecticides Organophosphorus insecticides Carbamate insecticides Pyrethroid insecticides Nicotine-based insecticides :Insect growth regulators	Students should be able to classify types of insecticides according to different categories such as inorganic insecticides, natural organic insecticides (plant-based and oils), organochlorine insecticides, organophosphorus insecticides, carbamate insecticides, pyrethroid insecticides, and nicotine-based insecticides.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes
10	5	Insect growth regulators	Students should be able to define insect growth regulators and explain how they affect the growth and development of insects by modifying natural growth processes.	Lecture Discussion Scientific activities Dialogue and discussion	Interactive assessment Reports Daily quizzes

11	**5**	**Fungicides Herbicides**	**Students should be able to define fungicides, classify them according to the types of fungi they target and their modes of action (such as systemic and contact fungicides), and explain how they are used to control fungal diseases.** **Students should be able to define herbicides, classify them according to the types of weeds they target and their modes of action (such as selective and non-selective herbicides), and explain how they are used to control weeds and improve crop productivity.**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**
12	**5**	**Rodenticides Nematocides**	**Students should be able to define rodenticides, classify them according to the types of rodents they target and their modes of action (such as toxicants and attractants), and explain how they are used to control rodent populations and protect crops.** **Students should be able to define nematocides, classify them according to the types of nematodes they target and their modes of action (such as chemical and biological nematocides), and explain how they are used to control nematodes and protect plants from their damage.**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**
13	**5**	**Miteicides**	**Students should be able to define miteicides, classify them according to the types of mites they target and their modes**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**

			of action (such as chemical and biological miteicides), and explain how they are used to control mite populations and protect crops.		
14	**5**	**Pest resistance to pesticides**	**Students should be able to define the concept of pest resistance, and explain how pests develop resistance to chemical pesticides through genetic changes and natural selection.**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**
15	**5**	**Environmental pollution from chemical pesticides**	**students should be able to define environmental pollution caused by chemical pesticides and explain how it affects soil, water, air, and non-target organisms.**	**Lecture Discussion Scientific activities Dialogue and discussion**	**Interactive assessment Reports Daily quizzes**

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily quizzes, oral exams, monthly exams, written exams, reports, etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Pesticides: A. Prof. Nizar Mustafa Al-Mallah and Awad Shaaban, 1994**
Main references (sources)	**Pesticides: Dr. Khaled Mohamed Al-Adel, 2006**
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	**Britannica https://www.britannica.com**

Course Description Form

1. Course Name:	
ENGLISH language 4	
2. Course Code:	
ENGL401	
3. Semester / Year:	
2025-2024 (First course)	
4. Description Preparation Date:	
The beginning of the first course	
1. Forms of Attendance:	
Attending in college	
6. Number of Studying Hours (Total) / Number of Units (Total)	
15 / 1	
7. Course Administrator's Name (mention all, if more than one name)	
Name: Dr. Farhan Jasim Mohammed	**Email: farhanalhakim@uomisan.edu.iq**
8. Course Objectives	
Course Objectives	1**-** Providing the student with academic writing skills and English grammar 2-Providing the student with the skill of speaking the English language 3-Providing the student with the skill of listening to the English language 4-Providing the student with reading and reasoning in the English language
9. Teaching and Learning Strategies	
Strategies	Using modern means to deliver information to students and using field work to learn more about the course methodology, which is part of modern education, so that complete information about the course is available after the student graduates**.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	**1**	Understanding, perception, practical application	**forming questions with do/does and is/are**	Lecture and discussion	Oral exams, quizzes and written exams
2nd	**1**	Understanding, perception, practical application	**adjectives**	Lecture and discussion	Oral exams, quizzes and written exams
3rd	**1**	Understanding, perception, practical application	**Adverbs in language**	Lecture and discussion	Oral exams, quizzes and written exam
4th	**1**	Understanding, perception, practical application	**Used to, Using Must, Have to and Should - Modal Verbs**	Lecture and discussion	Oral exams, quizzes and written exam
5th	**1**	Understanding,	**Degrees of Comparison of Adjectives**	Lecture and	Oral exams,

		perception, practical application		discussion	quizzes and written exam
6th	**1**	Understanding, perception, practical application	**Nouns: countable and uncountable**	Lecture and discussion	Oral exams, quizzes and written exam
7th	**1**	written exam	First month exam	written exam	written exam
8th	**1**	Understanding, perception, practical application	**Reading exercise**	Lecture and discussion	Oral exams, quizzes and written exam
9th	**1**	Understanding, perception, practical application	**Writing exercise**	Lecture and discussion	Oral exams, quizzes and written exam
10th	**1**	Understanding, perception, practical application	**Practice in speaking**	Lecture and discussion	Oral exams, quizzes and written exam
11th	**1**	Understanding, perception, practical application	**Determiners, Interjections, Prepositions**	Lecture and discussion	Oral exams, quizzes and written exam
12th	**1**	written exam	Second month exam		
13th	**1**	Understanding, perception, practical application	**Sentence Structure**	Lecture and discussion	Oral exams, quizzes and written exam
14th	**1**		Gerunds and Infinitives	written exam	written exam
11th	**1**	Understanding, perception, practical application	Types of Sentences, voice, mood, Parallelism	Lecture and discussion	Oral exams, quizzes and written exam

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as homework, daily, oral, monthly written exams, final written exam, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**New headway beginner** **Liz and John Soars, Paul Hancock**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	**Access to recent research, articles and studies related to modern learning methods**
Electronic References, Websites	**All English language learning sites**

MODULES DESCRIPTION

وصف المواد الدراسية

قسم وقاية نبات

2024 - 2025

MODULE DESCRIPTION FORM
نموذج وصف المادة الدراسية

Module Information:

Module Information معلومات المادة الدراسية					
Module Title	**Entomology**			**Module Delivery**	
Module Type	**Core**			☒ **Theory**	
Module Code	**ENTO101**			☐ **Lecture**	
ECTS Credits	**7**			☒ **Lab**	
SWL (hr/sem)	**175**			☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level			**Semester of Delivery**		
Administering Department	**plant Protection**		**College**	**College of Agriculture**	
Module Leader	**Ali Hussein Ali**		**e-mail**	**Ali_hussain@uomisan.edu.iq**	
Module Leader's Acad. Title	**Assistant Lecturer**		**Module Leader's Qualification**	**MS.C**	
Module Tutor	**N.A**		**e-mail**	**N.A**	
Peer Reviewer Name	**N.A**		**e-mail**	**N.A**	
Scientific Committee Approval Date	1 / 10 /2024		**Version Number**		

Relation with other Modules

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.Definition the student to Insects.** **2.Definition the student to the insects characteristics.** **3.Definition the student to benefits and harms of insects.**

	4.Dealing with insects using scientific methods.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Students will learn:** **1.Knowledge of terms using in entomology.** **2.The possibility of classifying insects in a scientific way.** **3. He can distinguish different species and learn about their environments.** **4. Identify the internal parts of insect bodies.** **٥. Raising insects in the laboratory and studying their life.** **6. Characterize damage caused by insects.** **7. How to deal with insects.** **8. Identify insect collecting areas.** **9. Methods of hardening and collecting insects.** **10. Conveying information about insects to society in a scientific manne.**
Indicative Contents المحتويات الإرشادية	**1.It can distinguish damage caused by insects.** **2.How to deal with insects.** **3.Methods of collecting insects.** **4.The relationsihip of insects with other organisms.** **5.Distinguishing between hamful and beneficial insects.**

Learning and Teaching Strategies:

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	**1.Using the method of delivering information through lecture** **2. Students participate in obtaining information by asking them to submit scientific reports.** **3. Training students on the method of logical discussion to reach results.** **4. Learning through applied field practices.**

Student Workload (SWL):

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	108	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	67	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.47
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل			

Module Evaluation:

Module Evaluation
تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	The taxonomic position of insects, their relationships , and their relationship to the arthropod phylum , The importance of insects, their spread, benefits, and harms.
Week 2	External appearance, body wall, body protrusions, insect colors.
Week 3	Areas of the body, . Structure of the head and its appendages, Structure of the antenna, Structure of the mouth parts.
Week 4	Structure of the thorax and its appendages and appendages. Structure and growth of the wings. The process of flight. Structure of the legs.
Week 5	Structure of the abdomen and its related appendages, reproductive appendages and non-reproductive appendages.
Week 6	Internal anatomy of the digestive system, Circulatory device
Week 7	examination
Week 8	Internal anatomy, nervous system, excretory system.
Week 9	. Internal anatomy The respiratory system The muscular system.
Week 10	Internal anatomy of the reproductive system, types of reproduction in insects.
Week 11	Insect behavior.
Week 12	Metamorphosis in insects, types of metamorphosis, embryonic development.
Week 13	Insect communities and parental care of young.
Week 14	Insect division and division table.
Week 15	A field tour to learn about insects in their environment.
Week 16	Final exam.

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Tools for collecting, carrying and preserving insects and types of insect groups.

Week 2	**Location of insects from the animal world and the arthropod phylum, the external appearance of the insect, body regions.**
Week 3	**The head and its appendages, types of antennae.**
Week 4	**Types of mouth parts in adult insects.**
Week 5	**Chest rings and their structure, types of wings and their modifications, types of legs and their modifications.**
Week 6	**Abdominal rings and appendages. Mating appendages, such as reproductive organs. Non-mating appendages, such as anal horns and pens.**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	**Entomology/ Professor Dr. Osama Baharith.** **Entomology /Translated by Dr. Ali Shaalan and Dr. Saadi Muhammad Hilal.**	NO yes
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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**Principles of Horticulture**	**Module Delivery**	
Module Type	**Basic**	☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**PRHO102**		
ECTS Credits	**7**		
SWL (hr/sem)	**175**		
Module Level	1	**Semester of Delivery**	**1**
Administering Department	**Plant Protection**	**College**	**Agriculture**
Module Leader	**Salah Abdulhasan Ghailan**	**e-mail**	**salah.ghilan@uomisan.edu.iq**
Module Leader's Acad. Title	**Assistant Lecture**	**Module Leader's Qualification**	**M.SC**
Module Tutor	**N.A**	**e-mail**	N.A
Peer Reviewer Name	**N.A**	**e-mail**	N.A
Scientific Committee Approval Date	10/10/2024	**Version Number**	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	None
Co-requisites module	None	**Semester**	None

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Identify fruit trees, vegetables and ornamental plants. 2. Identify their parts, shapes and methods of reproduction. 3. Introduce the student to the different agricultural processes carried out on plant species before and after planting. 4. Introduce the student to modern agricultural techniques and identify their advantages and disadvantages. 5. Introduce the student to the different service processes provided to the plant such as irrigation, fertilization and pest control processes.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will learn: 1. Urging students to obtain information about horticultural crops from some scientific sites via the Internet. 2. Using modern means in giving lessons, such as a data display device, to learn about appearance and parts of horticultural plants. 3. Using modern agricultural techniques in the production and propagation of fruit trees, vegetable crops and ornamental plants. 4. Using adaptive environments to produce different horticultural plants out of season.
Indicative Contents المحتويات الإرشادية	Horticultural crops are among the most important food basket crops. The main objective of this course is to teach students how to increase production and improve quality by introducing modern agricultural techniques such as tissue culture and soilless cultivation, choosing the appropriate variety and the appropriate cultivation method at the appropriate time, in addition to carrying out appropriate agricultural service operations and controlling the specific environmental conditions for production by providing adapted agricultural environments that suit the requirements of the cultivated crop.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1. Lectures and tutorials are presented through a PowerPoint presentation that includes information, pictures, diagrams and videos. 2. Raise questions about the lecture topic in order to open discussion with students. 3. At the end of each lecture, a quick quiz on the lecture topic is conducted.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	٥
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	97	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.33
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**175**		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	10% (10)	3, and 6 and 9	LO #1, #2 and #3 , #4 and #5 , #6

	Assignments	3	10% (10)	5,10 and 15	LO #8 and #9 and #14
	Projects: Practical	1	10% (10)	Continuous	All
	Report	٢	10% (10)	12	LO #10, #11 and #12
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introducing the student to the axes of horticulture, history and stages of development of horticulture.
Week 2	The student will learn about the classification of horticultural plants.
Week 3	The student will learn about the role of environmental factors and their impact on the production of horticultural crops.
Week 4	The student will learn about the methods of reproduction of horticultural plants (sexual and vegetative reproduction) including organic farming.
Week 5	The student will learn about nurseries, field cultivation patterns, landscape ,ornamental and medicinal plants.
Week 6	The student should learn about the different agricultural operations that are carried out before and after planting.
Week 7	The student will learn about agriculture under air-conditioned environments.
Week 8	The student should learn with the dates and methods of harvesting, picking, and marketing.
Week 9	The student should learn about the post-harvest processes such as storage and preservation.
Week 10	The student will learn with an overview of the horticultural plant breeding and improvement programs.
Week 11	The student will identify examples of fruit trees (deciduous, perennial).
Week 12	The student will be able to identify examples of vegetable plants (strategic crops).
Week 13	The student will be introduced to examples of trees, shrubs, ornamental plants and landscape.
Week 14	The student will learn about examples of medicinal and aromatic plants.
Week 15	The student will become learnt with orchards, fields and various garden facilities (greenhouses, plastic houses, wooden shades, etc.)
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Practical Syllabus)

المنهاج الاسبوعي التطبيقي في الحقل

Week	Material Covered
Week 1	Preparing the soil suitable for growing horticultural crops.
Week 2	Determine the appropriate methods for planting horticultural crops by choosing the appropriate distances and lines between plants, as well as choosing the appropriate variety

	and timing.
Week 3	Applying the process of planting seeds or seedlings in the open field and identifying the appropriate depth of digging and planting for each type.
Week 4	A field visit to the horticultural facilities to learn about their components, dimensions, and differences, as well as their uses.
Week 5	Introducing students to the types of pollination between horticultural crops through field practices on some plant species.
Week 6	Applying a number of important agricultural operations in the open field, such as irrigation, fertilization, pest control, etc.
Week 7	Enabling students to distinguish between different plant species and geniuses outwardly by distinguishing between their parts such as leaves, flowers, fruits, etc.
Week 8	Introducing the student to modern agricultural technologies such as hydroponics and learning about its systems and working principle through actual field observations.
Week 9	Introducing the students to a number of agricultural operations carried out on fruits after harvest such as sorting, storage, preservation, packaging, etc.
Week 10	Providing students with a brief overview of the breeding and improvement programs conducted in the field on some horticultural species with the aim of improving some fruiting and other properties in horticultural plants.
Week 11	Introducing the student to some available fruit trees such as date palms, jujubes, and others to view their various plant parts.
Week 12	Introducing the student to some of the different vegetable crops grown such as legumes, cucurbits, etc. to identify them and distinguish their shoot system.
Week 13	Introducing the student to some different seasonal and perennial flowering plants and others to learn about them and their environmental requirements.
Week 14	Introducing the student to some elements of garden engineering and its infrastructure, in addition to viewing models of modern garden designs.
Week 15	Introducing students to some models of organic farming and identifying its conditions and advantages compared to conventional farming.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Peter, K. V. (2009). *Basics of horticulture*. New India Publishing.	yes
Recommended Texts	Maldonado, A. I. L. (Ed.). (2012). *Horticulture*. BoD–Books on Demand.	yes
Websites	https://camosun.libguides.com/horticulture/websites https://horticulture.ap.nic.in/	

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**General Chemistry**	**Module Delivery**	
Module Type	**Basic**	☒ **Theory**	
Module Code	**GACH103**	☐ **Lecture**	
ECTS Credits	**7**	☒ **Lab**	
SWL (hr/sem)	**175**	☒ **Tutorial**	
		☒ **Practical**	
		☐ **Seminar**	
Module Level		**Semester of Delivery**	
Administering Department	**Plant Protection**	**College**	**College of Agriculture**
Module Leader	**Ayat Jawdat Kadhim**	**e-mail**	ayat.jawdat@uobasrah.edu.iq
Module Leader's Acad. Title	**Assistant Lecturer**	**Module Leader's Qualification**	**MS.C**
Module Tutor	**N.A**	**e-mail**	**N.A**
Peer Reviewer Name	**N.A**	**e-mail**	**N.A**
Scientific Committee Approval Date	/ /2024	**Version Number**	1

Relation with other Modules

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) Definition the student to Analytical chemistry.** **2) Definition the student to Chemicals used in the analysis.** **3) Definition the student to Quantitative and qualitative estimation of the elements or compounds.** **4) Definition the student to Organic chemistry.** **5) Definition the student to biochemical molecules**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Students will learn:** 1. **The basics, ideas and basic concepts of soil general Chemistry.** 2. **The importance of the chemical elements in the composition of the plant.** 3. **Methods of pH for buffer solution.** 4. **Acids and bases indicator.** 5. **Titration and it is importance in find the concentration of solution.** 6. **Types of chemical bonds.** 7. **Types of hybridization between chemical molecules** 8. **Distinguish between hydrocarbons and hydrocarbon derivatives.** 9. **Distinguish between aliphatic and aromatic hydrocarbons.** 10. **Alkanes, alkenes and alkynes.** 11. **Distinguish between animal and plant cells.** 12. **Life molecules that make up the body of a living organism.** 13. **Carbohydrates, proteins, Lipids, DNA, and enzymes**
Indicative Contents المحتويات الإرشادية	**Introduction about the quantum chemistry** **Solutions and methods for calculation concentration** **Ionic balance** **Indicator** **Solubility** **Introduction about the organic chemistry** **Alkanes, alkenes and alkynes** **Aromatic hydrocarbons** **Cells** **Water** **Carbohydrates**

	proteins **Lipids** **DNA** **Enzymes**

Learning and Teaching Strategies:

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, 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):

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	82	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**175**		

Module Evaluation:

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	6 and 13	LO #1, #2 and #8, #9
	Assignments	2	10% (10)	5 and 11	LO #5, #6 and #9, #10
	Projects / Lab.	2	10% (10)	Continuous	All
	Report	2	10% (10)	11	LO #5, #6 and #7, #8
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction about the quantum chemistry
Week 2	Ionic balance
Week 3	Acid and Base, pH of the solution & Indicator
Week 4	Solubility and dissolution constant
Week 5	Introduction of Organic Chemistry
Week 6	Saturated Hydrocarbons 'AlKanes'
Week 7	unSaturated Hydrocarbons 'AlKenes'
Week 8	unSaturated Hydrocarbons 'AlKynes'
Week 9	Aromatic Comopounds
Week 10	Cell
Week 11	Carbohydrates
Week 12	Amino acid & proteins
Week 13	Lipids
Week 14	DNA
Week 15	Enzymes
Week 16	Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Titration of sodium carbonate solution with a prepared solution of unknown concentration o hydrochloric acid
Week 2	Titration of sodium hydroxide solution with hydrochloric acid solution
Week 3	Measurement of the melting point
Week 4	Measurement of the boiling point
Week 5	Recrystallization
Week 6	Distillation

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	*Fundamental of analytical chemistry, Dr. Karrem Al Shallal . *Organic Chemistry Principles of Biochemistry, Prof.Basil k. Dalaly, 1986	NO yes yes

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**Mathematics**		**Module Delivery**	
Module Type	**Basic**		☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	**MATH 104**			
ECTS Credits	**5**			
SWL (hr/sem)	**125**			
Module Level	UGx11 1	**Semester of Delivery**		**One**
Administering Department	Plant Protection	**College**	Agriculture	
Module Leader	ALI ABBAS HASHIM	**e-mail**	ali_abbas@uomisan.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**		Ph. D.
Module Tutor		**e-mail**		
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date	١/١٠/202٤	**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	•Enabling students to solve mathematical problems.

أهداف المادة الدراسية	•Providing an appropriate level of discipline in the minds of learners. •Preparing students for various technical professions. •Preparing students for a purposeful, productive, creative, and constructive economic life •Developing the power of reasoning and deduction.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	•The student will gain clarity on the basic concepts and operations of mathematics. •The student will develop accuracy and proficiency in basic mathematical operations. •The student will develop the power of reasoning and deduction. The student will recognize the relevance of mathematics to his current and future life.
Indicative Contents المحتويات الإرشادية	Introducing students to functions. Introducing students to methods for finding the domain of functions. Introducing students to methods for finding the range of functions. Introducing students to methods for finding the limit of functions. Explaining the properties of the limit and methods for finding it at infinity. Introducing students to graphing functions. Introducing students to methods for differentiating functions using the definition and differentiation methods. Explaining to students how to find the equation of the tangent to functions. Explaining the definition of indefinite integral and its properties. Explaining how to calculate definite integral and its properties. Explaining and introducing students to the derivative and integration of trigonometric functions and their properties.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	- Providing students with additional foundations related to thinking and analytical outcomes. - Forming a discussion group to discuss various agricultural topics. - Posing reflective questions during lectures, including "what, how, when, and why." - Preparing students for homework assignments that require self-explanations using causal methods.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	47	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	78	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	12% (10)	3, 5 and 10	LO #١, #2 , # 3 and #4, #
	Assignments	3	12% (15)	3, 6 and 12	LO #٢, #٣ and #٤, #٥
	Projects / Lab.				
	Report	1	12% (10)	13	LO #٢, #٣ and #٤
Summative assessment	Midterm Exam	2hr	14% (15)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	orthogonal matrices
Week 2	square matrices
Week 3	conjugate matrix
Week 4	Determinants
Week 5	Cramer's Rule
Week 6	Semester Exam
Week 7	Derivatives
Week 8	Trigonometric Functions
Week 9	Exponential Functions
Week 10	Logarithmic Functions
Week 11	Integration
Week 12	Integration of Trigonometric Functions
Week 13	Integration of Exponential Functions
Week 14	Integration of Logarithmic Functions
Week 15	Exam

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**English language**			**Module Delivery**	
Module Type	**Support**			☒ **Theory**	
Module Code	**UOM120**			☒ **Lecture**	
ECTS Credits	**2**			☐ **Lab**	
SWL (hr/sem)	**50**			☒ **Tutorial**	
				☒ **Practical**	
				☐ **Seminar**	
Module Level	UGx11 1		**Semester of Delivery**	**One**	
Administering Department	Plant Protection		**College**	**Agriculture**	
Module Leader	Name: Dr. Farhan Jasim Mohammed		**e-mail**	farhanalhakim@uomisan.edu.iq	
Module Leader's Acad. Title	lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**		
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	1/10/202٤		**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-The aim of this course is to provide English learners with integrated language skills such as reading, listening and writing resulting in a level of basic language knowledge. 2-This course will focus on grammar rules, basic word knowledge and usage, reading comprehension, reading out of the lesson, and Paragraph writing. 3- A student may be able to listen to native speakers and speak English Language. 4- A student may be able to write and have creativity in his writing.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 - Uses expressions of Quantity in elementary level of English. 2- Constructs sentences in Present Perfect Tense, Simple Future Tense and Going to Future Tense both in an oral and written task. 3- Defines basic Modals and employ them in elementary level of communication and writing skills. 4- Translates sentences in elementary level from English to another language. 5- Interprets the texts written in elementary level of English.
Indicative Contents المحتويات الإرشادية	Language is a rule-governed behavior. It is defined as the comprehension and/or use of a spoken (i.e., listening and speaking), written (i.e., reading and writing), and/or other communication symbol system (e.g., American Sign Language). Spoken and written language are composed of receptive (i.e., listening and reading) and expressive (i.e., speaking and writing) components. Spoken language, written language, and their associated components (i.e., receptive and expressive) are each a synergistic system comprised of individual language domains (i.e., phonology, morphology, syntax, semantics, pragmatics) that form a dynamic integrative whole Phonology study of the speech sound (i.e., phoneme) system of a language, including the rules for combining and using phonemes. Morphology study of the rules that govern how morphemes, the minimal meaningful units of language, are used in a language. Syntax the rules that pertain to the ways in which words can be combined to form sentences in a language. Semantics the meaning of words and combinations of words in a language.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Enable students to recognize: 1 - Enabling students to communicate effectively and appropriately in real-life situations. 2 - Enabling students to use the English language effectively for the purpose of study across the curriculum. 3 - Enabling students to develop and integrate the use of the four language skills: reading, listening, speaking and writing. 4 - Enabling students to develop interest in and learn about literature. 5- Enable students to review and reinforce the structure that has already been learned

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	٣2	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	٢
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	١8	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	٥٠		

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	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	**English preposition**
Week 2	**Passive voice**
Week 3	**Negative**
Week 4	**If clause (conditional) sentences**
Week 5	**Kinds of sentences**
Week 6	**A- Simple tense**
Week 7	**B-compound tense**
Week 8	**c- complex tense**
Week 9	**The use of so 'and neither'**
Week 10	**Singular + plural**
Week 11	**How to answer causations**
Week 12	**Number + Roman Numerals**
Week 13	**Every day sentences**
Week 14	**The verb to be**
Week 15	**How to write a composition**
	Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Yule, G. (2015). Oxford practice grammar advanced. Oxford University Press. Alexander, L. G. (2019). Longman English grammar practice. Addison Wesley.-	Yes
Recommended Texts	Various university research and dissertations in the English language related to animal productio	
Websites	**https://agendaweb.org/listening/dictations.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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Human rights and public freedoms**			**Module Delivery**	
Module Type	**Basic**			☒ **Theory**	
Module Code	**UOM121**			☐**Lecture**	
ECTS Credits	**2**			☐ **Lab**	
SWL (hr/sem)	**50**			☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGx11 1		**Semester of Delivery**	**One**	
Administering Department	Plant Protection		**College**	**Agriculture**	
Module Leader	Name: Ali Aziz Dawood		**e-mail**	ali_izaz@uomisan.edu.iq	
Module Leader's Acad. Title	Assist. Prof.		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**		
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/10/2024		**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. Introduce students to the concepts of freedom and democracy and their origins. 2. Introduce students to human rights and democracy in ancient civilizations. 3. Introduce students to human rights in divine laws and religions. 4. Emphasize the characteristics and features of human rights and the extent of their application in government. 5. Emphasize the application of freedom and democracy in their correct understanding from a societal perspective.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	-1. The student will understand the concept of rights, their laws, and their applications. -2. The student will understand how to participate in the dissemination of rights and their application through practical, real-life action. -3. The ability to use rights as a means for peaceful coexistence among the components of society and all living beings. -4. The ability to participate with others in disseminating these rights. -5. The ability to analyze and define the concept of freedom and distinguish between different types of freedoms. -6. Interact with freedom issues at the national and international levels and influence the formation of public opinion.
Indicative Contents المحتويات الإرشادية	Fundamental and non-fundamental rights and freedoms Civil rights and freedoms Political rights Human rights and international humanitarian law

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1- Participate in classroom preparation -2 Question and answer method in classroom -3 Homework -4 Reports

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	٣2	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	٢
Unstructured SWL (h/sem)	١8	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1

الحمل الدراسي غير المنتظم للطالب خلال الفصل			
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	٥٠		

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	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Definition of Freedom and Its Meanings
Week 2	Distinguishing Between Freedom and Anarchy
Week 3	A Study of the Most Important Civil Liberties
Week 4	A Study of the Most Important Political Liberties
Week 5	The Meaning of Democracy: Its Historical Dimension
Week 6	Forms of Democracy
Week 7	Standards of a Democratic State
Week 8	The Democratic Constitution
Week 9	The State and Its Forms
Week 10	Institutions Needed by Democratic States
Week 11	Democratic Elections (Concept, Conditions, Requirements, Objectives)
Week 12	Parties and Electoral Systems
Week 13	Pressure Groups (Their Nature, Types, and Methods)

Week 14	**Representation of Minorities in Democratic Governance**
Week 15	**Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Diamond L. & M. F. Plattner, eds., (2009), Democracy. A Reader, Baltimore, Johns Hopkins University Press.	Yes
Recommended Texts	The concept of public freedoms and human rights, their historical, intellectual, and philosophical framework, and their basic guarantees.	
Websites	http://ghrorg-learning.blogspot.com	

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

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**General Botany**	**Module Delivery**	
Module Type	**Basic**	☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	**GBOT107**		
ECTS Credits	**7**		
SWL (hr/sem)	**175**		

Module Level	UGx11 1	**Semester of Delivery**	2
Administering Department	Plant Protetion	**College**	**College of Agriculture**
Module Leader	Karrar Akram Kamil	**e-mail**	karar.akram@uomisan.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.Sc.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	N. A.	**e-mail**	E-mail
Scientific Committee Approval Date	10/10/2024	**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. Introducing the student to the concept of botany & the branches of botany. 2. Understanding the relationship of Botany and other agriculture applied

	sciences and agriculture technologies. 3. Study of the plant cell and its living and non-living components. 4. Study of plant tissues. 5. Identify the principles of plant morphology.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize the location of plants during the history of the evolution of lif , and introduction to botany and its most important branches. 2. Recognize the cell: Prokaryotes and Eukaryotes 3. Describe learned about: The living components of the plant cell. 4. Discuss Non-living components of a plant cell. Learn to use an optic l microscope and prepare a microscope slide. 5. Understand types of cell division. Describe of normal and meiotic division. 6. Describe the morphology of flowering plants. 7. Discuss components of a flower and the flower rings. 8. Identify types of flowering inflorescences. 9. identifying differences between monocotyledonous and dicotyledonous. 10. Identify types of plant tissues. 11. Recognize plant Taxonomy and the Families of Angiospermae. 12. Providing students with the skills of preparing presentations and speaking n front of an audience.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: Part A – Importance of Botany theories of the emergence of life on Earth and the location of plants during the history of the evolution of life. The cell: Prokaryotes and Eukaryotes [SSWL=35 hrs] Part B – Plant Morphology The components of the seed and seed germination. Types of plant roots, ground and aerial stems. Types of plant leaves and leaf modifications. The components of a flower and the flow r rings. Types of flowering inflorescences. Monocotyledonous and dicotyledonous plants. [42 hrs] Part C – Plant Tissue Plant tissues - meristematic tissue & permanent tissues. [SSWL=14 hrs] Part D – Plant Taxonomy Fundamental of Plant Taxonomy. Characteristics of Angiospermae Families. Using classification keys to identify unknown plant species. [SSWL=7 hrs] Part E – Seminar Providing presentations by students for botany topics. Student discussion after presenting the presentation. [SSWL=7 hrs] Total hrs = 105 = SSWL - (Exam hrs) = 108 - 3 = 105 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1. Theoretical lectures, and the use of textbooks book and PowerPoint. 2. Assigning students to prepare presentations on topics related to the curriculum. 3. Field visits and scientific trips.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	108	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	67	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**175**		

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 #7, #8
	Assignments	2	10% (10)	4 and 12	LO #3, #4 and #5, #6
	Projects / Lab.	1	10% (10)	Continuous	All
	Seminar	1	5% (5)	12	LO #12
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction - theories of the emergence of life on Earth and the location of plants during the history of the evolution of life. Introduction to botany and its most important branches.
Week 2	The cell: Prokaryotes and Eukaryotes.
Week 3	The living components of the plant cell.
Week 4	Non-living components of a plant cell.
Week 5	Types of cell division. Stages of normal and meiotic division.
Week 6	The components of the seed. The process of germination and aerial and ground germination.
Week 7	Mid-term Exam + types of plant roots, ground and aerial stems.
Week 8	Identifying types of plant leaves and leaf modifications.

Week 9	The components of a flower and the flower rings.
Week 10	Types of flowering inflorescences.
Week 11	Monocotyledonous and dicotyledonous plants.
Week 12	Plant tissues - meristematic tissue.
Week 13	Plant tissues - permanent tissues.
Week 14	Introduction to Plant Taxonomy – Angiospermae Families.
Week 15	Seminars for botanical topics.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Lab1: Recognizing types of Microscopes, parts of Light microscope and how to use it.
Week 2	Lab2: Examine the plant cell and animal cell under microscope.
Week 3	Lab3: Learn to use an optical microscope and prepare a microscope slide of onion leave.
Week 4	Lab4: Preparing a slide of upper and lower Epidermis of plant leave and identifying stomata.
Week 5	Lab5: Make a seed germination experiment and identifying the part of seed embryo.
Week 6	Lab6: Observing and identifying the difference between Epigeal and Hypogeal germination.
Week 7	Lab7: Mid-term Exam + Identifying types of plant roots, ground and aerial stems.
Week 8	Lab8: Identifying types of plant leaves and leaf modifications.
Week 9	Lab9: The components of a flower and the flower rings.
Week 10	Lab10: Types of flowering inflorescences.
Week 11	Lab11: Monocotyledonous and dicotyledonous plants.
Week 12	Lab12: Examine Plant tissues - meristematic tissue under microscope.
Week 13	Lab13: Examine Plant tissues - permanent tissues under microscope.
Week 14	Lab14: study the application of morphological differences in plant identification.
Week 15	Lab15: making a Classification Key of provided plant samples.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Fundamentals of Botany, Dr. Mahmoud Muhammad Jabr et al. 2009	No
Recommended Texts	1- Fundamentals of Botany, Dr. Mahmoud Muhammad Jabr et al. 2009. 2- Practical Botany - published by the Ministry of Technical Education and Vocational Training - Republic of Yemen.	No
Websites	https://www.youtube.com/watch?v=SI418f2RonU https://www.youtube.com/watch?v=ilHgNugsyak https://www.youtube.com/watch?v=CHEvrUA7ky4 https://www.youtube.com/watch?v=s6vg0ZCVPIk https://youtu.be/C6hn3sA0ip0?si=9l9yRMYxOjA8t-hB	

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.

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Plant Protection basics**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**PLPB108**				
ECTS Credits	**7**				
SWL (hr/sem)	175				
Module Level		UGx11 1	**Semester of Delivery**		**2**
Administering Department		Pant Protection	**College**	Agriculture	
Module Leader	Qusai Hattab Madhi		**e-mail**	qusay.hattab@uomisan.edu.iq	
Module Leader's Acad. Title		Assistant professor	**Module Leader's Qualification**		Ph.D.
Module Tutor			**e-mail**		
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		1/10/2024	**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	1-	Learn about the most important pests and diseases spread in Iraq and the world and th

أهداف المادة الدراسية	types of their causes. - 2- It classifies the types of pests and diseases according to their causes, their cycle of lif , or the nature of their reproduction. - 3- The student separates the types of pests and diseases and the most important methods used to reduce their impact on crop productivity - 4- Knows the scientific methods used to reduce the damage of pests and diseases by firs adopting preventive methods. - 5- The student evaluates the cost of chemical control, the type of pesticides used, the method of control, additions, and devices.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The student should know the basics of plant protection, how to get rid of insect pests, diseases and fungi that infect plants, and the best ways to protect and protect them.
Indicative Contents المحتويات الإرشادية	1- Identify the types of insects 2- Identify the conditions and mutations that help insects in the environment 3- Identify the positive and negative circumstances affecting the life of insects

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Use presentations/images/brochures/books/surveys to research the shop

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	82	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**175**		

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	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10

Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction to Entomology
Week 2	Insect feeding methods and factors that contribute to their survival
Week 3	A. Insect reproduction methods
Week 4	B. Environmental factors affecting insect life and activity
Week 5	Methods of insect control
Week 6	Economic governance and important factors in Iraq
Week 7	The nature of life and damage caused by agricultural rodents
Week 8	The economic importance of pests
Week 9	Definitions of disease terms
Week 10	Parasitic plant pathogens
Week 11	Non-parasitic plant pathogens
Week 12	Stages of disease development and spread
Week 13	Methods of plant disease control
Week 14	
Week 15	

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	General characteristics of the Arthropoda phylum and insect class.
Week 2	Insect body structure / head appendages / mouthparts / tentacles.
Week 3	Thorax appendages / leg types / wings / abdominal appendages.
Week 4	Morphology in insects and classification into orders.
Week 5	Wheat and barley insects, maize, and cotton.
Week 6	Palm trees, fruit, and cucurbit insects.
Week 7	Identification of the most important disease symptoms.
Week 8	Study the symptoms of field crop diseases and methods of controlling them.
Week 9	Study the symptoms of horticultural crop diseases and methods of controlling them.

Learning and Teaching Resources

مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Principles of plant protection (insects part) 2- Insect pests	Yes
Recommended Texts	Principles of plant protection (plant diseases part)	No
Websites	https://www.agro-lib.site/2022/04/blog-post_497.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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Principles of Soil Science			**Module Delivery**	
Module Type	**Basic**			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☒ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	**SOIL109**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	**1**		**Semester of Delivery**	2	
Administering Department	**Plant Protection**		**College**	**Agriculture**	
Module Leader	**Hayder Khalaf Mohammed**		**e-mail**	hayder.khalaf@uomisan.edu.iq	
Module Leader's Acad. Title	**Ph.D.**		**Module Leader's Qualification**	**Ph.D.**	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	01/10/2024		**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	• Giving the student a basic idea of soil science concepts. • Understanding soil and getting to the basics by looking at the geophysical system of the Earth's crust with all its relationships and the role of processes i nature such as the water cycle and energy exchange.

	• Clarifying the rel ationships between soil science and other basic sciences. • Understanding the purpose of studying the course: familiarizing yourself witl most laboratory equipment and knowing how they work.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will learn: 1- Giving the student a basic idea about the concepts of soil science. 2- Understanding the soil and reaching the basics by looking at the biophysical systen of the earth's crust with all its relationships and the role of processes in nature such as the water cycle and energy exchange. 3- Clarifying the relationships between soil science and other basic sciences 4- Reviewing laboratory equipment and knowing how it works 5- Giving a description of most of the environmental problems resulting from neglecting agricultural lands such as pollution and global warming
Indicative Contents المحتويات الإرشادية	1- Using the display screen in the classrooms. 2- Enabling students to visit the library and websites. 3- Displaying illustrative images of different types of devices and how they work. 4- Putting thoughtful questions during lectures including (what, how, when and why) 5- Students participating in preparing seminars and scientific reports 6- Finding solutions to problems and obstacles that students 7- encounter in the practical part 8- Forming a discussion group to discuss various agricultural topics 9- Writing a report on the experiments carried out in the field and laboratory.

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, 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 أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	٥
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
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	2	10% (10)	5 and 10	LO #1, #2 and #7, #6
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #7 and #8
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction, and general definitions and concepts of soil
Week 2	Soil sciences
Week 3	Origin and development of soil
Week 4	Soil Physical Properties
Week 5	Soil Water
Week 6	Colloids and soil chemical properties
Week 7	Soil salinity and Alkalinity
Week 8	**Exam 1**
Week 9	Reclamation of lands affected by salts and management of reclaimed soils
Week 10	Biological and Biochemical properties of soil
Week 11	Soil fertility
Week 12	Plant nutrition
Week 13	Desertification
Week 14	Desertification in Iraq
Week 15	Classification and management of soils in Iraq
Week 16	**Exam 2**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Collect soil samples and transport them to the laboratory
Week 2	Soil moisture content Determination
Week 3	Determination of some physical properties of the laboratory: Bulk density, true density

Week 4	Volumetric analysis of soil particles
Week 5	Determination, pH and Ec
Week 6	Determination of Organic Matter Percentage of Soil
Week 7	Determination of some available nutrients, NPK

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1(١٩٨٠) . مبادئ علم التربة / د. عبد الله نجم العاني . 2. (١٩٨٨) مبادئ التربة العملي / م.م. منذر ماجد تاج الدين ، م.م. عماد بشير يعقوب . ٣. التسميد وخصوبة التربة / د. كاظم مشحوت عواد (١٩٨٧). ٤. اساسيات علم التربة / د. عبد الفتاح العاني (١٩٨٤). ٥. استصلاح الأراضي / د. احمد حيدر الزبيدي (١٩٩٣) . ٦. ادارة التربة في تخطيط واستعمال الا ا رضي / د . محمد خضير عباس (١٩٩٩). ٧ . التصحر / ا.م.د. ماجد خضير عباس ، ا.م.د. عبد الامير ثجيل صالح (٢٠١٣).	yes
Recommended Texts	مجلة الزراعة العراقية – علوم التربة والمكننة	
Websites	**Googal**	

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Principles of Agricultural Economics**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Tutorial** ☒ **Seminar**	
Module Code	**AGEC110**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level			**Semester of Delivery**	**2**	
Administering Department	Plant Protection		**College**	**College of Agriculture**	
Module Leader	**Dr. Alaa Kazem Farhan**		**e-mail**		
Module Leader's Acad. Title	**Lecturer**		**Module Leader's Qualification**		
Module Tutor			**e-mail**	**alaa.k.f@uomisan.edu.iq**	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	**04/10/2024**		**Version Number**		

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. Introduce students to the importance of agricultural economics 2. Introducing students to the agricultural economic problem and its most important causes. 3. Definition of economic and non-economic resources and their uses among alternatives. 4. Definition of the productive function and the first principles of selection.

	5. Introducing students to the nature of production costs. 6. Introducing students to the importance of farm planning and its most important objectives. 7. Definition of the laws of decreasing yields and successive stages
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will learn: 1. Clarify the basic ideas and concepts of agricultural economics. 2. Address possible problems that arise in how economic resources are used in the production process.How to plan the production process. 3. Explain the substitutionary relationships through the total production function.
Indicative Contents المحتويات الإرشادية	• Introduction, main principles of production, key definitions of the science of agricultural economics. • Introducing the agricultural economic problem and its causes, and introducing the factors of production and their prices. • Examine the relationships between productive resources and their mutual potential. • Study the relationships between productive resources and their interchangeable potential. • Identify agricultural productivity costs and factor returns

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in offering this module is to encourage students' participation in discussion and lectures, while at the same time improving and expanding their critical thinking skills. This will be achieved through classrooms where learning takes place through classroom lectures, participation in lecturing, and snap, semester and final exams.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	92	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #7, #6
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	2	10% (10)	13	LO #5, #7 and #8
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Economics and its branches
Week 2	Definition of agricultural economics and its importance
Week 3	Agriculture and its characteristics
Week 4	Objectives of studying farm business
Week 5	The basic pillars of economic activity الزراعي
Week 6	**Definition of farm ,Farm manager jobs**
Week 7	**examination**
Week 8	Introduction to the economics of agricultural production
Week 9	Introducing economic resources and human needs
Week 10	Definition of price elasticity of demand
Week 11	Definition of income elasticity of demand
Week 12	Definition of cross elasticity of demand
Week 13	Definition: Law of diminishing returns
Week 14	**Estimating the Simple Regression Line Equation for the Farm Production Function**
Week 15	Preparatory week before the final Exam
Week 16	**examination**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	**- Economics of Agricultural Resources, Dr. Hamed Abdel Shafi / Faculty of Agriculture - Mansoura**	

	University . **.**	
Recommended Texts	**- Principles of Agricultural Economics, Dr. Mohamed Shata / Faculty of Agriculture - Mansoura University**	
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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**Computer applications/1**	**Module Delivery**	
Module Type	**B**	☒ **Theory**	
Module Code	**UOM** 122	☐ **Lecture** ☒ **Lab**	
ECTS Credits	**3**	☒ **Tutorial**	
SWL (hr/sem)	**75**	☒ **Practical** ☐ **Seminar**	

Module Level	UGx11 1	**Semester of Delivery**	2
Administering Department	Plant Protection	**College**	**Agriculture**
Module Leader	Abbas luaibi obaid	**e-mail**	abbas.alrajhe@uomisan.edu.iq
Module Leader's Acad. Title	Asst.Lecturer	**Module Leader's Qualification**	Msc
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	1/10/2024	**Version Number**	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Objectives أهداف المادة الدراسية	Introducing the student to the basics of computers and types of computers Its classificatio , operating systems and objectives. As for the goals of the practical side It is to provide t e student with skills in using operating and application programs and how to maintain comput r security.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will learn: 1. The basics, basic ideas and concepts necessary to understand the structure of the computer. 2. Explain the basic components of the computer and learn about them in detail. 3. Explain computer security and explain malware and how to prevent it. 4. Understand how to deal with programs safely. 5. Explain operating systems and learn about them. 6. Explain how to deal with the Windows system and how to install it on computers.

	7. Learn about keyboard shortcuts and how to use them.
Indicative Contents المحتويات الإرشادية	Here's a detailed outline of indicative contents for an OOP course. The indicative contents typically cover the following key topics: 1. **Computer Basics** 1. The development of computer generations 2. Electronic computer 3. Data and information 4. Computer features 5. Areas of computer use 6. Computer components 7. Types of computers 8. Classification of computers **2. Computer components** 1. Computer components 2. The physical parts of the computer 3. Input devices 4. Output devices 5. Computer box1.Software entity 6. Number systems 7. Your personal computer 8. Computer platform 9. Factors that must Take this into consideration when purchasing a computer **3.(Computer security and licensing programs)** 1. Ethics of the electronic world 2. Forms of abuses in the world Electronic 3. Computer security 4. Computer privacy 5. Computer software licenses 6. Types of licenses 7. Intellectual property 8. Electronic hacking 9. Types of electronic hacking 10. Sources of hacking Electronic 11. The most security risks widespread 12. Malicious software 13. Computer viruses 14. Damages resulting from Viruses 15. Components of viruses 16. Types of viruses 17. Necessary steps for protection From viruses 18. Computer damage On human health **4.Operating Systems** 1. Definition of the operating system 2. Operating system functions 3. Objectives of the operating system 4. Operating system classification 5. Examples of some operating systems 6.Windows 7 operating system 7.Windows 7 installation requirements 8.Windows 7 features 9. Surface components

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	**1- Explanation, clarification, and honing general and qualifying skills** **2- Urging the student to write simple research using the lecture method to create a state of balance between methodological information and source information.** **3- Urging the student to work on practical projects on the calculator and hold discussion circles among the students on the methodology of the subject and distribute the students into groups.** **4-Practical lessons in the laboratory** **5- The method of self-learning and writing scientific reports, and urging the student to evaluate the answers of his fellow students to develop self-development.** .

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**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)	5 and 10	To be selected by the module leader
	Class group assignments	1	5% (5)	Continuous	
	Report	1	10% (10)	12	
Summative assessment	**Midterm Exam**	1hr	25% (25)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	**Material Covered**
Week 1	Chapter One: Computer Basics 1. The development of computer generations 2. Electronic computer

	3. Data and information
Week 2	4. Computer features 5. Areas of computer use
Week 3	1. Computer components 2. Types of computers 3. Classification of computers
Week 4	Chapter Two: Computer components 1. Computer components 2. The physical parts of the computer 3. Input devices
Week 5	4. Output devices 5. Computer box
Week 6	1.Software entity 2. Number systems 3. Your personal computer 4. Computer platform 5. Factors that must Take this into consideration when purchasing a computer
Week 7	**Mid-term Exam**
Week 8	(Computer security and licensing programs) 1. Ethics of the electronic world 2. Forms of abuses in the world Electronic 3. Computer security 4. Computer privacy
Week 9	5. Computer software licenses 6. Types of licenses 7. Intellectual property
Week 10	1. Electronic hacking 2. Types of electronic hacking 3. Sources of hacking Electronic
Week 11	4. The most security risks widespread 5. Malicious software 6. Computer viruses
Week 12	7. Damages resulting from Viruses 8. Components of viruses 9. Types of viruses
Week 13	10. Necessary steps for protection From viruses 11. Computer damage On human health
Week 14	the fourth chapter Operating Systems 1. Definition of the operating system 2. Operating system functions 3. Objectives of the operating system 4. Operating system classification 5. Examples of some operating systems
Week 15	1.Windows 7 operating system 2.Windows 7 installation requirements 3.Windows 7 features 4. Surface components
Week 16	**Final examination**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

Week	Material Covered
Week 1	Showing the components of the computer to the students and what the parts of the computer consist of in detail
Week 2	Introducing students to the input and output parts and explaining the operation of each device.
Week 3	Opening the computer case, explaining the internal parts and explaining the function of each part
Week 4	Show programming examples inside the lab using one of the programming languages to familiarize students
Week 5	Introducing students to personal computers, explaining their components and parts, how to choose them, and
Week 6	what are the most important factors to consider when purchasing a computer.
Week 7	**Mid-term Exam**
Week 8	Practical implementation of computer security, privacy protection and computer software licenses and identifying types of licenses, intellectual property statement, examples of hacking and types of hacking
Week 9	Practical implementation of Introducing students to the sources of hacking, its risks, the most important malware, and examples of it in the form of a presentation. Introducing students practically to computer viruses and the damages resulting from them, what are the types of viruses, and the most important steps necessary to protect against hacking
Week 10	Practical implementation of The harms of computers on human health, introducing students to using computers for prevention and , Introducing students to the operating system, what are the requirements for installing the operating system, and how to install the operating system.
Week 11	Practical implementation of Explain the components of the desktop, the Start menu, and the taskbar.
Week 12	Practical implementation of Folders and files. Explaining the types of files. Introducing the student to the main icons.
Week 13, 14	Practical implementation of Perform operations on windows, how to change the desktop,
Week 15	Practical implementation of To explain the control panel in detail, and to show the control button, and how to install programs

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	**Written by:** **1- Professor Dr. Ghassan Hamid Abdel Majeed** **2-Professor Dr. Ziad Muhammad Abboud** **3-Professor Dr. Muhammad Nasser Al-Tarfi** **4-Professor Dr. Safaa Abbas Al-Mamouri** **2- International Information Network, the Internet** **1- Internet Ethics - A. M. Alawi Hind - Al-Shabsi Arab University Center** **2- Ethics of dealing with technical and communication resources - Dr. Hussein bin Saeed bin Saif** **3- Ethics of the virtual world - Dr. Louay Al-Zoubi 2013**	yes
Websites	**websites:** **-History of the development of computer networks, objective website: http://mawdoo3.com** **http://youstaff.blogspot.com: Information and Internet security** **http://geeklesstech.com : Internet Law Laws for using the Internet-** **-Real-time communication protocols in the Internet (RTP SIP), World of Technology website.** **ARPANET logical map, http://russbellew.com/Documents/Arpanet_sep_1974.**	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	**Arabic language**		**Module Delivery**	
Module Type	**Basic**		☒ **Theory** ☒ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	**UOM 123**			
ECTS Credits	**2**			
SWL (hr/sem)	**50**			
Module Level	UGx11 1	**Semester of Delivery**	**Two**	
Administering Department	Plant Protection	**College**	Agriculture	
Module Leader	Asmaa Salam Khalil	**e-mail**	Asmaa_aljbori@uomisan.edu.iq	
Module Leader's Acad. Title		**Module Leader's Qualification**	M.Sc.	
Module Tutor		**e-mail**		
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date	01/10/2024	**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	أهمية اللغة العربية للاختصاصات العلمية وميزتها بين اللغات الحية تجنب الاخطاء الشائعة وسلامة النطق
Module Learning	أن يتعرف الطالب على قواعد اللغة العربية

Outcomes مخرجات التعلم للمادة الدراسية	أن يعرف الطالب كيفية بناء الجمل واستخراجها للعنوان المطلوب.
Indicative Contents المحتويات الإرشادية	تدرس اللغة العربية على عدة مستويات: المستوى النحوي: وهو المستوى الذي من خلاله يمكن معرفة المعنى التركيبي للنص. المستوى الصرفي وهو المستوى الذي يمكن من خلاله معرفة المعنى المتفرع على المعنى المعجمي، المستوى الدلالي: وهو المستوى الذي من خلاله يمكن معرفة دلالة الألفاظ (الجذر). المستوى الصوتي: وهو المستوى الذي يدرس الحروف والحركات والمقاطع الصوتية سواء كانت لفظا أو جزءا من لفظ.

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	٣2	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	٢
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	١8	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	١
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	٥٠		

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	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All

Total assessment	100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	The Holy Quran/The Miracle of Rhetoric
Week 2	Surat Al-Kahf: Reasons for Revelation
Week 3	Tafsir of Twenty Verses with Memorization
Week 4	Arabic Grammar/Grammar Rules
Week 5	Subject and Predicate
Week 6	Nonsenses
Week 7	Defective Verbs
Week 8	Objects
Week 9	Numbers
Week 10	Spelling/Rules for Writing the Hamza
Week 11	Rules for Writing the Ta
Week 12	Arabic Literature/Introduction to the Ages of Arabic Literature, the Characteristics of Each Age, and Its Artisti Origins
Week 13	A Study and Criticism of an Ancient Poetic Text/The Mourning Dove by Abu Firas Al-Hamdani
Week 14	Common Writing Mistakes
Week 15	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	كتاب منهجي	Yes
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.