



**Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation System
Department of Quality Assurance and Academic Accreditation
The Accreditation Department**

Academic Program and Course Description Guide

2026

Introduction

The educational program is considered a coordinated and organized package of academic courses that include procedures and experiences organized in the form of academic vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program. The description of the academic program provides a summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone of obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments. This guide, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the latest developments in the educational system in Iraq, which included a descriptionThe academic program in its traditional form is a system (annual, quarterly), in addition to adopting the description of the academic program circulated according to the letter of the Department of Studies TC 3/2906 dated 3/5/2023 with regard to programs that adopt the Bologna Process as a basis for their work. In this area, we can only emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth conduct of the educational process.

Concepts and terms:

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

Course Description: Provides a necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has 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 a developed, inspiring, motivating, realistic and applicable programme.

The program's mission: It briefly explains the goals and activities necessary to achieve them, and defines the program's development paths and directions.

Program objectives: These are statements that describe what the academic program intends to achieve within a specific period and are measurable and observable

Curriculum structure: All courses/study subjects included in the academic program according to the approved learning system (semester, annual, Bologna track), whether it is a requirement (ministry, university, college, or scientific department), along with the number of study units.

Learning outcomes: A consistent set of knowledge, skills, and values that the student has acquired after the successful completion of the academic program. The learning outcomes for each course must be determined in a way that achieves the program objectives.

Teaching and learning strategies: They are the strategies used by the faculty member to develop the student's teaching and learning, and they are plans that are followed to reach the learning goals. That is, it describes all curricular and extracurricular activities to achieve the learning outcomes of the programme.

Academic program description form

University Name: Diyala

Faculty/Institute: Collage of Agriculture

Scientific Department: Field Crop Sciences

Academic or Vocational Program Name: Field Crop Sciences

Final Certificate Name: Bachelor of Agriculture /Field Crop Science

Academic system: Semester

Date of issue of the description: 2025-2026

File Filling Date: 1-6-2026

Signature:

Name of the scientific assistant: Prof.
Dr.Mohammed Ali Abood
Date : 1-6-2026

Signature:

Name of Head of Department: Prof. Dr.Adnan
Hussein Ali
Date : 1-6-2026

The file was audited by the Quality Assurance and University

Performance Division Name of the Director of the Quality

Assurance and University Performance Division: Prof. Dr. Basem Rahem Bader

Date: 1-6-2026

Signature:

Authentication of the Dean
Prof. Dr. Raaed Ibrahim Khalil

1/6/2028

1. Program vision

The Department of Field Crop Sciences seeks to achieve excellence between the departments of the corresponding colleges, enhance its scientific and research capacity, and work to create real partnerships with the corresponding departments, in addition to excellence and upgrading the applications of field crops to achieve the structure of sustainable agriculture and food security.

Working on continuous excellence and academic leadership regionally and globally in the field of production, breeding and improvement of field crops through achieving the highest levels of education, scientific research, and dissemination.

2. Program Mission

The department defined its scientific mission to build a scientific community specialized in the field of field crop cultivation and its applications within quality standards that meet the requirements of the labor market to serve the community and achieve self-sufficiency of field crops. Preparing specialists in crop production and breeding, qualifying students, providing them with a high level of knowledge in their field of specialization, contributing to the development of agricultural production, preserving the environment and sustainable development of natural resources through the preparation of human competencies, innovation and creativity in scientific research, knowledge dissemination and community service.

3. Program Objectives:

1. Preparing a generation of engineers specialized in agricultural fields by granting them a bachelor's degree in agricultural sciences/field crop sciences
2. . Graduating advanced scientific competencies from holders of two master's degrees in field crop sciences that contribute to the promotion of sustainable development and can formulate agricultural economic policies and develop plans for the agricultural sector.
3. Preparing qualified cadres according to scientific standards that keep pace with the development in discreet universities within the field crops specialization is able to contribute to the achievement of sustainable agriculture or food and environment

and meets the requirements of the labour market.

4. Preparing research cadres in the various disciplines of the department that adopt the development of research work and actively contribute to the development and development of participation in scientific seminars and conferences, as well as the participation of department professors in the various agricultural activities held by the Ministry of Agriculture.
5. Developing the agricultural reality in the field of field crops towards a better future through the implementation of research plans carried out by the department's employees in the fields of the department or the fields of the private agricultural sector using modern technologies in agriculture and production.
6. Providing consultations and cooperation with individuals and agricultural companies in the public and private sectors or relevant ministries through the participation of department professors in various scientific activities.
7. Adopting community service in joint scientific cooperation to find solutions to the problems experienced by the agricultural sector of field crops within the public and private agricultural sector through joint research and the establishment of conferences, seminars, workshops, and training courses
8. Opening channels of joint communication between scientific cadres with Iraqi, Arab and international universities and with agricultural and environmental departments through the exchange of experiences, consultations, teaching and joint supervision to develop the scientific process.

4. Program Accreditation

approval

5. Other external influences				
Opportunity for support				
4. Program Organization				
Program Structure	Number of resolutions	study unit	Percentage	Remarks*
Enterprise requirements	11		18.64	Basic
Faculty Requirements	19		32.2	Basic
Department Requirements	29		49 (15%)	Basic
SUMMER TRAINING:	1	None.	None.	Basic
Other	None	None	None	Basic

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

Program Description				
Year/Stage	Course Code	Name of the course	Credit Hours	
			Theoretical	Practical
year 1 Stage One	MATH 109	Mathematics	2	0
	ENGL 103	Specific English Language 1	2	0
	DEMH 104	Democracy and Human Rights	2	0
	ORGC 105	Organic Chemistry	2	3
	COMA108	Computer Applications 1	0	3
	PLAS 114	Plan Survey	1	3
	PRIA 113	Principles of Agricultural Economics	2	0
	GENP 102	Genral plant	2	3
year 1 Stage Two	PRIF 109	Principles of Field Crops Production	2	3
	PRIA 107	Principles of Animal Production	2	3
	ENGD 115	Engineering Drawing	0	3
	BIOC 106	Biochemistry	2	3
	PRIS 110	Principles of Soil Sciences	2	3
	COMA111	Computer Applications 2	-	3
year 2 Stage One	PLAT201	Plant taxonomy	2	3
	SOIF202	Soil fertility	2	3
	ENGL 203	Specific English Language 2	2	-
	PRIA 214	Principles of Agricultural Extension	2	-
	CBRI211	The Crimes of the Baath regime in Iraq	2	-
	COMA208	Computer Applications 3	-	3
	PRIH204	Principles of Horticulture	2	3
	PRTF206	Principles of Food Technology	2	3
	SUGO207	Suger and oil crops	2	3

Year 2 Stage Two	IRRD210	Irrigation and Drainage	2	3
	PRIS217	Principles of Statistics	2	3
	PRIM205	Principles of Microbiology	2	3
	PIAE212	Plant Ecology	2	3
	COMA209	Computer Applications 4	0	3
	MGRA213	Agricultural Machinery and Equipment	2	3
	FARM215	Farm Management	2	3
	ARAL216	Arabic Language	2	-
Year 3 Stage One	FIBC301	Fibre crops	2	3
	CROD302	Crop diseases	2	3
	FORC304	Forage crops	2	3
	MECF305	Mechanization of Field Crops	2	3
	EXPD306	Experimental Design and Analysis	2	3
	SALR307	Salinity and Reclamation of Land	2	3
	SEET313	Seed Technology	2	3
Year 3 Stage Two	GENG308	General Genetics	2	3
	CERC309	Cereal Crops	2	3
	LEGC310	Legume Crops	2	3
	BEEB311	Bee Breeding	2	3
	INSF312	Insect Field Crops	2	3
	ENGL303	Specific English Language 3	2	3
Year 4 Stage One	MEDS401	Medicinal and Stimulant Plants	2	3
	HERM402	Heredities Molecular	2	3
	CROM404	Crops Management	2	3
	WEEB405	Weed Biology	2	3
	LANF406	Land Farming	2	3
	PLAP407	Plant Physiology	2	3
	RESP408	Reserach Project 1	1	-
Year 4 Stage Two	RESP409	Research Project 2	1	-
	PLAG410	Plant Growth Regulators	2	3
	ECOS411	Ecology Stress	2	3
	PLAB412	Plant Breeding	2	3
	WEEC413	Weed control	2	3
	SEMN414	Seminars	2	3
	ENGL403	Specific English Language 4	2	-
	PASM415	Pasture Management	2	3

6. Program Learning Outcomes

Knowledge

1 Knowledge Objectives

- 1- Building a detailed database on the owners of the department and their activities and products and linking them to the information network
- 2- Preparing plans to accept primary and higher studies
- 3- Preparing scientific and artistic owners that include administrative and scientific positions in the Iraqi agricultural sector.
- 4- Training students to acquire agricultural applied experiences in addition to the academic theoretical foundations

B- Program Skills Objectives:

- 1-Introducing the student to the various agricultural processes in agriculture and how to conduct them.
- 2- Preparing agricultural cadres capable of caring for field crop plants and spreading their cultivation and how to maintain the cultivated areas.
- 3-The skill of conducting field application for self-development and personal development and the skill of using educational means.
- 5- Qualifying them to promote the reality of the crops that the department is interested in eating in its study programs.

C-Emotional and value goals

- 1- Asking inferential questions to students.
- 2- Finding solutions to the problems and obstacles that students encounter in the practical and theoretical part of the subject and finding solutions to them.
- 3- Enabling students to conduct as many exercises and applications on topics as possible

D - General skills and qualification transferred to other skills related to employability and personal development

- 1- Enabling students to develop continuously after graduation
- 2- Empowering students on how to conduct research and scientific research to solve the problems facing the agricultural management.
- 3- Developing students' abilities on how to benefit from the vocabulary of the materials and employing them with the information gained in the study stage.
- 4- Enabling students to use scientific sources and not to quote from them .

Skills

- 1- Ability to absorb and apply study materials in practice
- 2- Building scientific and knowledge foundations for the student in the Field Crops Department
- 3- Dealing with economic obligations and problems

4- Students' ability to apply scientific research skills to find new solutions

Values

- 1- The student's ability to apply the concepts of sustainability in their daily lives.**
- 2- Learn how to raise awareness and increase field crop production**
- 3- Developing students' abilities to share scientific ideas as well as participate in activities Various terms.**
- 4- The ability of students to apply livelihood support methods in practical projects.**

7. Teaching and learning strategies

- 1- Teaching students how to do methods of thinking and objective analysis
- 2- Provide students with the basics of the course and additional topics
- 3- Asking intellectual questions that require asking different points of view as additional duties
- 4- Using modern presentation methods for the purpose of delivering information well, such as power point
- 5- Urging the student for practical lessons and field visits to the field
- 6- Developing curricula by the department appropriate to the requirements of the labor market
- 7- Urging students to visit libraries and not connect to various sources of information for the purpose of preparing reports Scientific related to the subjects of the subjects
- 8- Assigning students to conduct research and reports and perform examinations

8. Evaluation methods

- 1- Theoretical tests**
- 2- Practical tests**
- 3- Reports and studies**
- 4- Daily and monthly quizzes with multiple-choice questions for course materials.**
- 5- Participation scores for difficult competition questions for students .**
- 6- Graduation Research Discussion Tests**

9.teaching personnel.						
Faculty Members						
Academic rank	Specialization:		Special Requirements/ Skills (if applicable)		teaching personnel.	
	Public	Private			Staffs	Lecture r (n.)
Prof.Dr. Adnan Hussein Ali Al-Wakaa	Field Crops	Weed control			1	
Prof. Dr. Nader Fleih Ali	Field Crops	Crop and Weed Physiology			1	
As.Prof. Dr. Marwan Sami Said	Field Crops	Forage Crops			1	
As.Prof. Dr. Nizar Suleiman Ali	Field Crops	Breeding and Genetics			1	
Prof. Dr. Ahmed Yassin Hassan	Field Crops	Medicinal plants			1	
As. Prof.Nasr Salem Hassan	Agricultural mechanizati on	Mechanization of agricultural machinery			2	
L.Dr. Omar Ali Ahmed	Field Crops	Physiology and Crop Production			1	
As.Prof. Dr. Ali Ghaidan Zaidan	Agricultural Economics	Agricultural Economics			1	
L.Dr. Dania Salman Qahraman	Field Crops	Plant Breeding			1	
L.Dr. Hassan Ali Majeed	Field Crops	Seeds Technology			1	
As. Prof.Dhilal Mahdi Abdul Qadir	Housekeepi ng	Food and Nutrition			1	
As. Prof. Mohamed Nadeem Qassem	Plant Protection	Plant Diseases			1	
L.Dr. Aqeel Ibrahim Mustafa	Computer Science	Softwares			1	

As.L. Nabil Ibrahim Mohamed	Plant Production	Plant Environment			1	
As.L. Husham Abdulwahab Abdulkarim	Field Crops	Physiology and Weed Control			1	
L. Muhna Abdullah Mahmoud	Agricultural Economics	Agricultural Economics			1	
As.L. Inas Abdul Rahim Khalaf	Field Crops	Crop Production			1	
As.L. Ghufraan Ali Hussein	Biology Sciences Education	Plant Breeding			1	
L.Dr. Mayada Mohammed Abdul Latif	Arabic Language Arts	Narratives			1	
As.L. Othman Nassif Jassim	Field Crops	Plant Breeding			1	
As.L. Abeer Najm Abdullah	Education Chemistry	General Chemistry			1	

Professional Development

(New faculty members)

- ❖ Introducing the university and its development vision: New members learn about the vision of the university, the college and the department and its plan towards development and global. This helps them set their goals and contribute to achieving them
- ❖ Urging new teachers to participate in the development courses held by the university and the college, as well as participating in practical lessons as a listener to learn from old teachers on teaching methods, classroom management and dealing with students
- ❖ Knowledge of the university role and responsibilities New members must have a good understanding of the role played by the university, college and department and their responsibilities towards each of them. This includes academic and administrative obligations
- ❖ To get acquainted with university resources and services, new members must have knowledge of the available sources of knowledge and electronic information at the university. They can learn Internet research skills and benefit from databases
- ❖ Practical and psychological adaptation: New members are directed to adapt to the university environment and alleviate the anxiety they may face. Providing advice and

support to help them integrate into their work and university activities

- ❖ Building a network of relationships New members can build relationships with their peers from other departments and colleges. Knowledge Exchange
- ❖ Professional development programs: New members must be familiar with the professional development programs available at the university. This enables them to participate in workshops and training courses to develop their teaching and research skills. There are compulsory courses in order for the teacher to teach. These courses include the safety of the Arabic language, teaching methods and testing the validity of teaching

Professional development of teaching staff:

Directing teachers to participate in conferences, workshops and seminars, especially international ones, as well as emphasizing their involvement in the development courses held by the university and the college to increase knowledge of modern learning methods and keep pace with development.

10. Acceptance Standard

Central admission by the Ministry of Higher Education and Scientific Research, as well as the college depends on criteria in the distribution of students to departments

1. Student's average in middle school
2. Student Desire
3. Capacity

11. The most important sources of information about the program

- 1- Academic Research
- 2- Central Library
- 3- Books and resources for the department
- 4- Internet
- 5- The accumulated scientific experience of the staff of the department
- 6- Labour market feedback

12. Program Development Plan

- 1- The use of new concepts in the field of agricultural sciences in general and field crops in particular.
- 2- The use of modern electronic sources and devices to present the scientific material.
- 3- Addressing weaknesses that may appear during the implementation of academic

programs and developing executive plans for development and improvement

Program Skills

				Learning outputs required from the program											
Year / Stage	Course Code	Course Name	Basic or Optional	Knowledge				Skills				Values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	A4
Year 1 Stage One	MATH 109	Mathematics	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL 101	Specialized English (1)	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	DEMH 103	Human rights and democracy	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ORGC 105	Organic Chemistry	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	COMA102	Computer Applications (1)	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PLAS 115	Plan Survey	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIA 113	Agricultural economics	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	GENP 104	General plant	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Year I Stage Two	PRIF 107	Principles of Field Crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIA 106	Animal Production	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGD 111	Engineering Drawing	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	BIOC 108	BIOCHEMISTRY	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIS 110	Principles of Soil Sciences	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	COMA112	Computer Applications (2)	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Program Skills															
								Learning outputs required from the program							
Year/ Stage	Course Code	Course Name	Basic or Optional	Knowledge				Skills				Values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	A4
Year 2 Stage One	PLAT205	Plant taxonomy	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOIF206	Soil fertility	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL 201	Specialized English 2	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIA211	Agricultural extension	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CBRI204	Crimes of the Baath regime in Iraq	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	COMA202	Computer Applications 3	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIH207	Principles of Horticulture	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRTF208	Principles of Food Industries	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SUGO210	Sugar And oil crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Year 2 Stage Two	IRRD211	Irrigation and Drainage	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIS213	Principles of statistics	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIM209	Principles of Microbiology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PIAE215	Plant Ecology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	COMA203	Computer Applications 4	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	MGRA212	Agricultural	Basic	√	√	√	√	√	√	√	√	√	√	√	√

		machinery and machinery													
	FARM216	Farm Management	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ARAL217	Arabic	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Program Skills															
				Learning outputs required from the program											
Year / Stage	Course Code	Course Name	Basic or Optional	Knowledge				Skills				Values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	A4
Year 3 Stage One	FIBC303	Fibre crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CROD304	Crop diseases	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	FORC305	Forage crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	MECF306	Field Crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	EXPD302	Analysis and design of agricultural experiments	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SALR307	Salinity and soil reclamation	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SEET313	Seed TECHNOLOGICAL	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Year 3 Stage 2	GENG308	Inheritance	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CERC309	Cereal crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	LEGC310	Legume Crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√

	BEEB311	Apiculture technician	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	INSF312	Insects Field Crops	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL301	Specialized English Language 3	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Program Skills															
				Learning outputs required from the program											
Year / Stage	Course Code	Course Name	Basic or Optional	Knowledge				Skills				Values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	A4
Year 4 Stage One	MEDS402	medicinal plants	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	HERM403	Molecular Genetics Technician	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CROM404	Crop Management	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	WEEB405	Weed Biology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	LANF406	Land Farming	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PLAP407	Plant physiology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	RESP408	Graduation Project 1	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	RESP409	Graduation Research Project	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Year 4 StageTwo	PLAG410	Plant Growth Regulators	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ECOS411	Environmental stress	Basic	√	√	√	√	√	√	√	√	√	√	√	√

	PLAB412	Plant Breeding	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	WEEC413	Weed control	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SEMN414	Seminars	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL401	Specialized English 4	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PASM415	Natural rangeland management	Basic	√	√	√	√	√	√	√	√	√	√	√	√

***Please check the boxes corresponding to the individual learning outcomes from the program being assessed**

STAGE I (Autumn + Spring Semester)

Stage I /Fall Semester		
	Course Name	Course Code
	Mathematics	MATH 109
	English Language	ENGL 101
	Democracy and Human Rights	DEMH103
	Organic Chemistry	ORGC 10
	Computer applications	COMA 102
	Plan Surviving	PLAS 115
	General plant	GENP 104
	Principles of Agricultural Economics	PRIA 113

Description of the course of the Mathematics

Course name
Mathematics
1. Course Code:
MATH109
2. Semester/year
Autumn – 2026
3. Date this description was prepared
1-6-2026
4. Available attendance forms
Compulsory
5. Number of Credit Hours (Total)/ Number of Units (total)
Number of Hours = 2 , Number of Units = 3
6. Name of the course administrator (if more than one name is mentioned)
Dr. Ahmed Salman Abdullah
7. Course objectives
This course aims to deepen the student's knowledge of the basics of mathematics and includes the following basic topics, types of matrices, applications in solving matrices, functions and their diagrams, objectives and their basic theories, continuity, differentiation and partial derivation and integration.
8. Teaching and learning strategies
1- Provide students with additional basics and topics related to pre-skills learning outcomes to solve scientific problems. 2- Enabling students to obtain knowledge and understanding of the field of matrices. 3- Enabling students to obtain knowledge and understanding in the basics of integration and its

applications.

4- Enabling students to obtain knowledge and understanding in derivatives of different functions.

9. Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Matrix Concept	Mathematics	Explanation, Model Presentation and Lecture	Exam
2	2	Types of matrices	Mathematics	Explanation, Model Presentation and Lecture	Exam
3	2	Applications in Matrix Solution	Mathematics	Explanation, Model Presentation and Lecture	Exam
4	2	Period and Types	Mathematics	Explanation, Model Presentation and Lecture	Exam
5	2	Scope and starting point of the function	Mathematics	Explanation, Model Presentation and Lecture	Exam
6	2	Functions and their diagrams	Mathematics	Explanation, Model Presentation and Lecture	Exam
7	2	Objectives and their basic theories	Mathematics	Explanation, Model Presentation and Lecture	Exam
8	2	Sustainability	Mathematics	Explanation, Model Presentation and Lecture	Exam
9	2	differential, differentiation	Mathematics	Explanation, Model Presentation and Lecture	Exam
10	2	differential, differentiation	Mathematics	Explanation, Model Presentation and Lecture	Exam
11	2	Partial Derivation	Mathematics	Explanation, Model Presentation and Lecture	Exam
12	2	Partial Derivation	Mathematics	Explanation, Model Presentation and Lecture	Exam
13	2	Complementarities	Mathematics	Explanation, Model Presentation and Lecture	Exam
14	2	Definite integration.	Mathematics	Explanation, Model Presentation and Lecture	Exam
15	2	Definite integration.	Mathematics	Explanation, Model Presentation and Lecture	Exam

Course Evaluation

EXAMINATIONS

Daily exams with discussion questions within the lecture
Degree of participation in questions related to the subject

learning and teaching resources;	
Required textbooks (methodology if any)	George B. Thomas, 2003. Calculus and Analytic Geometry.
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	

Course Description of English Language 1

Course name	
English Language 1	
CourseCode	
ENGL301	
Semester/year	
Fall / 2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms	
Full-time (theoretical lecture) weekly	
6.Number of study hours (total) / number of units (total)	
Number of Hours = 2 , Number of Units = 2	
Name of the course administrator (if more than one name is mentioned)	
Name: M.M. Suhaib Saeed Hameed sohaibsaedhameed@gmail.com	
Course Objectives	
Objectives of the course :	1- Students acquire knowledge, concepts and trends in the smooth pronunciation of the English language. 2- Facilitate understanding of concepts. 3- Showing the different talents of students. 4- English is essential.
Education Strategies	
Strategy	In-person lectures for 15 weeks with two monthly exams, daily exams and

	monthly reports.
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Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Teaching*method	Evaluation Method
1	2	Unit 1 / What's this in English ?/ Numbers 1-10 / Plurals	English	Explanation and presentation of the lecture	Exam
2	2	Unit 2 / Countries/ Adjectives Numbers 11-30	English	Explanation and presentation of the lecture	Exam
3	2	Unit 3/ Personal information / Jobs	English	Explanation and presentation of the lecture	Exam
4	2	Social expressions1 / Negatives & Questions	English	Explanation and presentation of the lecture	Exam
5	2	Unit 4 / The alphabet / Possessiv's	English	Explanation and presentation of the lecture	Exam
6	2	Unit 5 / Sports / Pronouns/ Numbers & prices	English	Explanation and presentation of the lecture	Exam
7	2	Discussion.	English	Explanation and presentation of the lecture	Exam
8	2	Present Simple	English	Explanation and presentation of the lecture	Exam
9	2	Unit 6 / The Time / Days of the week	English	Explanation and presentation of the lecture	Exam
10	2	Always / sometimes / never / words that go together	English	Explanation and presentation of the lecture	Exam
11	2	Unit 7/ Question words / Can I	English	Explanation and presentation of the lecture	Exam
12	2	Prepositions / Directions	English	Explanation and presentation of the lecture	Exam

13	2	Unit 8 / Past simple	English	Explanation and presentation of the lecture	Exam
14	2	Saying years	English	Explanation and presentation of the lecture	Exam
15	2	Grammar Revision	English	Explanation and presentation of the lecture	Exam

Evaluation of the course

Distributing the grade out of 100 according to the tasks assigned to the student such as preparation and daily written and oral exams

Learning and teaching resources

Required textbooks (methodology, if any)	New Headway Plus " Beginner "
Key References (Sources)	
Mainstream books and references recommended by scientific journals, reports	
E-References, Websites	

Course Description Form Human Rights and Democracy

Course name

Human rights and democracy

Course Code

DEHR103

Semester/year

Fall-2026

Date this description was prepared

1-6-2026

Available attendance forms

In-Person

Number of Credit Hours (Total)/ Number of Units (total)

Number of hours = 1 (1 theoretical) , number of units = 1

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

Name: Dr. Mayada Mohammed Abdullatif

Course objectives

- 1- Knowing the meaning of democracy and its historical origin
- 2- Knowing the advantages of the democratic approach
- 3- Types of Democracy
- 4- Knowing the most important points that hinder democracy
- 5- Knowing the most important guarantees that guarantee the democratic system
- 6- Definition of what human rights .
- 7- Learning about human rights in ancient civilizations (Mesopotamian civilization, Nile Valley

Teaching and learning strategies

In-person lectures for 15 weeks with two monthly exams and daily exams

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Definition of the concept of democracy with an understanding of its historical origin	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
2	2	Shows the most important characteristics and components of democracy	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
3	2	Enumerates the forms of democratic democracy and how they relate to state institutions	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
4	2	Clarifies the types of democracy and its most important manifestations	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
5	2	Clarify the most important guarantees that guarantee the democratic system	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
6	2	Month 1	Human rights and democracy		
7	2	Definition of human rights and the emergence and development of the concept of human rights	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
8	2	A glimpse of human rights in ancient civilizations (Mesopotamian civilization, Nile Valley)	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
9	2	Human Rights in the Divine Religions with a Focus on Human Rights in Islam	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
10	2	Human rights and their relationship to other variables: the relationship of rights to law, the relationship of rights to duties	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
11	2	The most important international declarations and covenants of human rights The Universal Declaration of Human Rights 1948	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
12	2	The most basic human rights	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
13	2	Corruption and its manifestations, types of	Human rights and democracy	Lecture and explanation by model presentation	Daily Exam
24					

		corruption: administrative corruption - moral corruption - financial corruption. Corruption Political corruption			
14	2	Second month			

Course Evaluation

EXAMINATIONS

Monthly and daily exams with discussion questions within the lecture
Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	Human Rights, Democracy and Public Freedoms,by Associate Professor Dr. Maher Sabri Kazim , Baghdad,2010
Key References (Sources)	1. The Concept of Contemporary Democracy, Ali Khalifa Al-Kuwari , from the Arab Future Magazine, p. 168, February 1993. 2. A treatise on women's issues,Hussein Darwish Al-Adly , Democracy for All from a series issued by the Organization for Islam and Democracy 3. Universal Declaration of Human Rights , United Nations Department of Public Information .
Recommended supporting books and references (scientific journals, reports)	Scientific studies, field visits, seminars and conferences
E-References , Websites	Social networks

Course Description Form Organic Chemistry

Course name
Organic Chemistry
Course Code
ORGC105
Semester/year
Fall-2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Number of Credit Hours (Total)/ Number of Units (total)
Number of Hours = 5 , Number of Units = 3.5
Course administrator's name (if more than one name)

Dr. Mohamed Nadim - . Abeer Najem

Course objectives

The aim of the course is to teach students the basics and concepts of the chemistry of saturated and unsaturated fibrous hydrocarbons. It includes lessons on chemical bonds and chemical formulations of hydrocarbons. It also includes a definition of each of these compounds, its name and derivatives in accordance with the IUPAC international system, as well as the physical properties of each compound and its chemical reactions with other hydrocarbons.

Teaching and learning strategies

1. Shows the basic concepts in organic chemistry.
2. Distinguish the chemical formulas of hydrocarbons.
3. Differentiate between the types of chemical reactions of hydrocarbons.
4. Compares the results of hydrocarbon reactions.
5. The rules of the IUPAC system for naming hydrocarbons shall apply.
6. Conducts hydrocarbon detection tests in the laboratory.
- 7-The writing of laboratory reports on the analysis of hydrocarbons shall be completed in accordance with the guidelines.

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	It shows the basic concepts in organic chemistry.	Organic chemistry	Explanation and presentation the model and lecture	Exam
1	2	Distinguishes the chemical formula of hydrocarbons.	Organic chemistry	Explanation and presentation the model and lecture	Exam
3	2	Differentiate between the types of chemical reactions of hydrocarbons	Organic chemistry	Explanation and presentation the model and lecture	Exam
4	2	Compares the results of hydrocarbon reactions.	Organic chemistry	Explanation and presentation the model and lecture	Exam
5	2	The rules of the IUPAC system for naming hydrocarbons shall apply.	Organic chemistry	Explanation and presentation the model and lecture	Exam
6	2	Hydrocarbon detection testing experiments are conducted in the laboratory	Organic chemistry	Explanation and presentation the model and lecture	Exam
7	2	Not achieved . Writing laboratory reports on hydrocarbon analysis is completed according to the guidelines.	Organic chemistry	Explanation and presentation the model and lecture	Exam

8	2	Works efficiently within the team analyzing and testing the properties and ingredients of food products.	Organic chemistry	Explanation and presentation of the model and lecture	Exam
9	2	Uses the information network to obtain up-to-date knowledge in the field of organic chemistry.	Organic chemistry	Explanation and presentation of the model and lecture	Exam
10	2	It shows the basic concepts in organic chemistry. Shows the foundations and principles of basic sciences and their applications in sciences of agriculture, food technology and nutrition, explaining the chemical composition of food contents and their interactions, factors of food corruption, and appropriate methods of preservation and processing.	Organic chemistry	Explanation and presentation of the model and lecture	Exam
11	2	Assesses the nutritional needs of different age groups	Organic chemistry	Explanation and presentation of the model and lecture	Exam
12	2	Efficiently employs modern technologies related to agricultural processes and food production to develop and improve the food product and apply the correct specifications and standards in the field of food and nutrition science food analysis and composition and changes that occur	Organic chemistry	Explanation and presentation of the model and lecture	Exam
13	2	He works with his colleagues in a team spirit, and the possibility of communicating with others	Organic chemistry	Explanation and presentation of the model and lecture	Exam
14	2	Carries out applied research, the use of statistical software in experimental design and data analysis in the field of food and nutrition research.	Organic chemistry	Explanation and presentation of the model and lecture	Exam
15					

Course Evaluation

EXAMINATIONS

Daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject	
learning and teaching resources;	
Required textbooks (methodology if any)	Prof. Dr. Yousef Ali Al-Fattahi, 1989, Foundations of Organic Chemistry, Methodological book for students of the Faculty of Agriculture and Biology Sciences, University of Baghdad, Baghdad, Iraq Al-Hikma
Key References (Sources)	Raymond Chang 2002 "Chemistry" 7th Ed. McGraw-Hill Higher Education. • Richard E. Beil (2005). Clinical Chemistry Manual, Dakota State university, U.S.A.
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References , Websites	• http://en.wikipedia.org/wiki/Organic_chemistry • http://www.organic-chemistry.org • www.Springer.com

Course Description Form Computer Basics and Desktop Applications

Course name
Computer Basics and Office Applications (Part One)
Course Code:
102
Semester/year
Autumn / 2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Number of Credit Hours (Total)/ Number of Units (total)
Total number of hours 45 / number of units 3
Course administrator's name (if more than one name)
Dr. Aqeel Ibrahim Mustafa
Course objectives
Teaching the student to be familiar with the basic rules of dealing with the computer and managing it to help him accomplish projects, printing matters, preparing statistics and diagrams, creating presentations and engineering designs, etc. Because of the emergence of the Internet as a means of communication available to all, it has become very necessary for the student to learn to use the computer for the role of the Internet in many fields, including education, scientific research, trade and marketing through electronic correspondence, web pages and electronic speaking.
Teaching and learning strategies
5- Course Objectives 1-The amount of student's comprehension of the material 2-The ability to analyze and apply what he learned practically to the calculator 3-The evaluation should be done through the presentation of the material among the students in the

laboratory and then applied by them

6- Course Skills Objectives:

- 1- Direct questions and answers about the previous article
- 2- Analyzing the student's ability to absorb through the home work carried out at home and stored on disks to be displayed directly to the students to see the extent of what they learned from the previous lecture.
- 3- Presentation of educational films related to the subject in order to consolidate the ability to learn

Course Evaluation

First exam score of (15)

Second exam score of (15) grades (5) grades for practical + 10 grades for theoretical)

Daily attendance and participation score (5) marks

End of First Semester

EXAMINATIONS

Daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	• Computer Fundamentals and Desktop Applications Part One Ministry of Higher Education and Scientific Research
Key References (Sources)	• Yusr Al-Mustafa Science Series Fundamentals of Computer and Internet Office 2010 , Dr. Ziad Mohammed Abboud Dar Al-Dr Publishing and Distribution Baghdad 2013
Recommended supporting books and references (scientific journals, reports)	
E-References, Websites	• Word 2010 Digital Classroom Book • https://www.agitraining.com/books/microsoft-officebooks/word-2010-digital-classroom-book

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Computer Cycle Phases, Generation Data and Information	Computer Basics	Theoretical + introductory video	Daily quizzes or reports
2	2	Computer features, areas of use and components	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
3	2	Types of computers and their classification	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
4	2	Computer components Physical parts Input and output devices	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
5	2	Computer Box and Software Entity	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
6	2	Number and personal computer systems	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
7	2	Computer platform and factors to consider when buying a computer	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
8	2	Computer Box and Software Entity	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
9	2	Number and personal computer systems	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
10	2	Computer platform and factors to consider when buying a computer	Computer hardware	Theoretical + introductory video	Daily quizzes or reports
11	2	Ethics of the electronic world, forms of abuse and computer security		Theoretical + introductory video	Daily quizzes or reports
12	2	Computer software licenses and types of licenses		Theoretical + introductory video	Daily quizzes or reports
13	2	Intellectual Property and Cyber Penetration		Theoretical + introductory video	Daily quizzes or reports
14	2	Electronic penetration and types of penetration		Theoretical + introductory video	Daily quizzes or reports
15	2	Damage caused by viruses Recipes		Theoretical + introductory video	Daily quizzes or reports

					reports
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Course Description Form Plan Survey

Course Name
Plan Survey
Course Code
115
Semester/year
Fall Semester
Date this description was prepared
1-6-2026
Available forms of attendance:
Full-time (theoretical lecture + practical) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 Theoretical +3 Practical weekly for (15 weeks)/2.5 units
Course administrator's name (if more than one name)
Dr. Bassem Abboud Abbas basimabbas@uodiyala.edu.iq
Course objectives
Identify what area is and its importance to other sciences
Teaching and learning strategies
1-The student should be familiar with the flat area 2-The student should be classified on the tools used in the various field measurements 3-The student should separate between the management of modern surveying science and its management in the past and the difference in management programs between the past and the present

Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	The student should get acquainted with the definition of space and its importance	Plan Survey	Explanation and presentation of the model and lecture	Exam:
2	2	The student should be familiar with the survey methods	Plan Survey	Explanation and presentation of the model and lecture	Exam:
3	2	The student should know the types of space	Plan Survey	Explanation and presentation of the model and lecture	Exam:
4	2	The student should be familiar with the units of measurement	Plan Survey	Explanation and presentation of the model and lecture	Exam:
5	2	The student should get acquainted with the English system of units	Plan Survey	Explanation and presentation of the model and lecture	Exam:
6	2	The student should get acquainted with the metric system of units	Plan Survey	Explanation and presentation of the model and lecture	Exam:
7	2	The student should know how to measure distances on level ground	Plan Survey	Explanation and presentation of the model and lecture	Exam:
8	2	The student should know how to measure horizontal distances on sloped land	Plan Survey	Explanation and presentation of the model and lecture	Exam:
9	2	The student should identify the columns in measuring areas	Plan Survey	Explanation and presentation of the model and lecture	Exam:
10	2	The student should identify the obstacles and their types	Plan Survey	Explanation and presentation of the model and lecture	Exam:
11	2	The student should know about the settlement and its importance in agriculture	Plan Survey	Explanation and presentation of the model and lecture	Exam:
12	2	The student should know the types of levelling devices	Plan Survey	Explanation and presentation of the model and lecture	Exam:

13	2	The student should get to know Topographic Survey	Plan Survey	Explanation and presentation of the model and lecture	Exam:
14	2	The student should identify the survey in the flat panel	Plan Survey	Explanation and presentation of the model and lecture	Exam:
15	2	The student should know the areas and sizes	Plan Survey	Explanation and presentation of the model and lecture	Exam:

Learning and teaching resources

Required textbooks (methodology if any)	Foundations of planar and topographical area Riyad Saleh Al-Khafaf/ 2000 Internet
Key References (Sources)	Foundations of planar and topographical area Riyad Saleh Al-Khafaf/ 2000 Internet
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	Google browser

Description of the course of the General plant

Course Name
General plant
Course Code
104
Semester/year
Fall Semester
Date this description was prepared
1-6-2026
Available forms of attendance
Full-time (theoretical lecture + practical) weekly
Number of Hours = 5 Hours / Number of Units 3.5
Course administrator's name (if more than one name)
Dr. Ahmed Yassin Ghufran Ali Hussein
Course objective

- 1- The general plant explains the foundations of other sciences related to it
- 2- Includes the study of plant cell components and their cellular functions
- 3- Studying plant tissues in terms of their structure and functional role
- 4- Plant characteristics of each type of root, leaves, flowers and fruits
- 5- Clarify some important biological processes in the plant such as photosynthesis

Course outcomes and teaching and learning methods

A-Cognitive goals

- 1-The student should be familiar with the morphological characteristics of plants
- 2-To identify the living and non-living components in the plant cell
- 3-The student should understand the functions of each of the cellular organelles
- 4-The student should know each of the plant tissues, their types, their connection and their functions in the plant
- 5- Identify the characteristics of plants in a dry and humid environment

(b) The skill objectives of the course.

- 1 – The student's definition of the structural structure of the plant and its importance in terms of physiology and morphology
- 2- The student's ability to know, distinguish and classify plants, especially field crop plants

Teaching and learning methods

- 1- I'm sick and tired of it.
- 2- Lecture method
- 3- Student Groups -2
- 4- Practical Lessons in Plant Tissue Laboratories
- 5- Views of various plants belonging to the scientific department

Evaluation methods

- 1- Theoretical tests
- 2- Practical tests
- 3- Reports and studies

C-Emotional and value goals

- 1- The skill of thinking according to the student's ability and the goal of this skill is for the student to believe in what is tangible and understand when what and how he should think and work to improve the ability to think reasonably.
- 2-Observation and Perception
- 3-ANALYSIS AND INTERPRETATION
- 4- Preparation and Evaluation
- 5- Learning Critical Thinking Strategy

Teaching and learning methods

- 1- I'm sick and tired of it.
- 2- Lecture method
- 3- Student Groups -2
- 4- Practical lessons using electron microscopy to view plant tissue
- 5- Views of plant parts of plants of the same scientific specialization in the same section
- 6- Self-learning

Evaluation methods

- 1- Theoretical tests
- 2- Practical tests
- 3- Reports and studies

D-Public and rehabilitation skills (other skills related to employment and personal development)

- 1- Verbal communication (the ability to express ideas clearly and confidently in speech)
- 2- Teamwork (working confidently within a team work group)
- 3- Investigation analysis (collecting information systematically and scientifically to establish facts and principles as a solution to a particular problem).
- 4- Written communication (the ability to express yourself clearly in writing) .

Course Structure

Week	Hours	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Botany is the most important science associated with it	General plant	Explanation and presentation of the model and lecture	Exam:
2	2	Plant cells and their components and the functions of their cellular parts	General plant	Explanation and presentation of the model and lecture	Exam:
3	2	Seed and its germination	General plant	Explanation and presentation of the model and lecture	Exam:
4	2	The most important factors affecting seed germination	General plant	Explanation and presentation of the model and lecture	Exam:
5	2	Plant tissues and their divisions	General plant	Explanation and presentation of the model and lecture	Exam:
6	2	The Functional Role of Plant Tissues	General plant	Explanation and presentation of the model and lecture	Exam:
7	2	Month 1	General plant	Explanation and presentation of the model and lecture	Exam:
8	2	A morphological study of the root, its types and divisions	General plant	Explanation and presentation of the model and lecture	Exam:
9	2	Morphological study of the leg, its types and sections	General plant	Explanation and presentation of the model and lecture	Exam:
10	2	Morphological study of leaves and their types and its divisions	General plant	Explanation and presentation of the model and lecture	Exam:
11	2	Morphological study of flowers, fruits and seeds	General plant	Explanation and presentation of the model and lecture	Exam:
12	2	Photosynthesis and the most important factors affecting it	General plant	Explanation and presentation of the model and lecture	Exam:
13	2	Exam	General	Explanation and	Exam:

			plant	presentation of the model and lecture	
Practical Part					
Week	Hours	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	3	Methods of preparing permanent and temporary slides	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
2	3	Plant cells and distinguish their organelles	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
3	3	Distinguish between plant and animal cells under a microscope	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
4	3	Cell division and its types, filamentous and reductive division	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
5	3	Tissues and their types	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
6	Month 1				
7	3	Meristematic, secretory and connective tissues	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly

					Final and Reports day
8	3	Internal root anatomy and developing root apex areas	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
9	3	Internal anatomy of the leg and its metamorphoses	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
10	3	The paper identifies its parts and distinguishes them in terms of appearance	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
11	Second month				
12		Internal anatomy of the flower and its internal parts	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
13		Fruits and their types	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
14		The impact of the environment on the internal structure of the plant	General plant	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

Course Development Plan

- 1- Sending students, especially the first of them in their scientific departments, outside Iraq, especially in developed countries, to develop skills, each according to his desire and according to the disciplines in the scientific department.
- 2- Cooperation between Iraqi universities and international universities by sending teachers to international universities.
- 3- Developing the idea of the visiting professor to provide young universities with expertise and the latest findings of science in the agricultural fields.

Description of the course of the basics of an agricultural economy

Course name

Agricultural economics

Course Code

PRIA113

Semester/year

Fall / 2026

The history of the preparation of this description :

1-6-2026

Attendance format available :

In Person

Number of Credit Hours (Total) / Number of Units (Total

30 hours / 3 units

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

Prof. Dr.Ali Ghidan Zidan

Course Objectives

- 1-Teaching the student about the applications of economics in agriculture economically and compared to the technical aspect.
- 2- The student's knowledge of economic laws and economic principles used in the field of agriculture.
- 3- Optimal employment of agricultural production elements.
- 4-How to achieve optimal levels of production.
- 5- How to produce agricultural products under market prices.
- 6-Introducing the student to economics in general and agricultural economics in particular
- 7- The student's ability to determine the knowledge of deviation in the optimal use of resources and production from the actual use of them

8- Teaching the student how to achieve economic efficiency of the farm

Teaching and learning strategies

How to give lectures

1- Brainstorming

2- Thinking strategy according to the student's ability, for example (if the student can learn the concept of applying the concept of agricultural economy in the farm, whether in terms of optimization of resources and production, as well as how to discharge production in detail .

3- A critical thinking strategy in learning, a term that symbolizes the highest levels of thinking, which aims to pose a problem and then analyse it logically to reach the desired solution.

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Principles in Agricultural Economics	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
2	2	Relative scarcity	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
3	2	Economic Problem	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
4	2	Demand for agricultural crops	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
5	2	Agricultural supply	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
6	2	Economics of Agricultural Production	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
7	2	Dual agricultural production	Fundamentals of Agricultural	Explanation and	Quick and Monthly Exams,

			Economics	presentation of the model and lecture	Class Activity and Reports
8	2	Agricultural production costs	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
9	2	Revenues and profits for agricultural production projects	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
10	2	• Agricultural Marketing	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
11	2	Price policy	Fundamentals of Agricultural Economics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
12	2	Farm Management	Fundamentals of Agricultural Economics		Quick and Monthly Exams, Class Activity and Reports
					Quick and Monthly Exams, Class Activity and Reports
					Quick and Monthly Exams, Class Activity and Reports
					Quick and Monthly Exams, Class Activity and Reports

Course Evaluation

- Quick daily exams (kozat) .
 - Monthly exams (two or more).
 - Evaluating the class activity of the students .
- Evaluating the laboratory activities of students
- Assessments on writing scientific reports and homework .

learning and teaching resources;

Required textbooks (methodology if any)	1-Al-Dahiri, Abdul Wahab Matar . 1987 Agricultural economy. Ministry of Higher Education and Scientific Research University of Baghdad second edition Baghdad . 2-Al-Najafi, Salem Tawfiq. 1990. Agricultural economy . Dar Al-Hikma for Printing and Publishing – Mosul
Key References (Sources)	1-Al-Maksousi, Rahman Hassan Ali. 2007. Agricultural economy. Ministry of Higher Education and Scientific Research University of Wasit. Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	

Stage 2 /Spring Semester

Field Crops	Principles of Field Crops Production	107
Animal Production	Principles of Animal production	106
Engineering Drawing	Engineering drawing	111
BIOCHEMISTRY	Biochemistry	108
Pedology	Principles of Soil Sciences	110
Computer Applications (2)	Computer applications	112

Course Description Form Principles of Field Crops Production

Course Name
Field Crops
Course Code
107

Term / Year: Annual					
Spring 2026					
The history of preparation of this description :					
1-6-2026					
Available attendance forms					
Full-time (theoretical lecture and practical lecture) weekly					
Total Credit Hours / Number of Units (Total)					
2 theoretical hours and 3 working hours per week for 14 weeks					
Course administrator's name (if more than one name)					
1- Dr. Omar Ali Ahmed					
2- Othman Nassif Jassim					
Course Objectives					
1- The student should know what is meant by the field crop the place of origin of those crops and how they have evolved and then identify the methods of dividing those crops. 2- Identify the importance of these crops and their relationship to food security. 3- Studying the most important environmental factors affecting crop production. 4- Studying agricultural processes from sowing to harvesting. 5- Studying the stages of crop production and multiplication.					
Teaching and learning strategies					
1- I'm sick and tired of it. 2- Lecture method 3- Student Groups -2 4- Self-learning					
Course Structure					
theoretical.					
Week	Hours	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	field crops you know and Split it	Field crops	Explanation and presentation of the model and lecture	Exam:
2	2	Botanical description of the most important families	Field crops	Explanation and presentation of the model and lecture	Exam:
3	2	Environmental factors and the relationship Field Crops	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:

4	2	Environmental factors and the relationship Field Crops (Soil and biological factors)	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
5	2	Land preparation operations for agriculture First	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
6			Month 1		
7	2	Land preparation operations for agriculture Second	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
8	2	Seeds, germination and seed storage	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
9	2	Accompanying bushes and ways to combat them	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
10	2	Agricultural Courses	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
11	2	Introduction to Crop Breeding Methods	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
12	2	Stages of production and propagation of improved seeds	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
13			Second month		
14	2	The most important annual crops in Iraq	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Viewing and drawing plants - scientific and English names	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:

2	3	Crop Seed Marking	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
3	3	Vegetation and environmental factors Influencing it	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
4	3	Soil Service Operations	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
5	3	Tilling, smoothing and leveling	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
6			Month 1		
7	3	Fertilizer & Composting	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
8	3	Crop Service Operations	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
9	3	Irrigation and drainage	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
10	3	Crop-associated bushes Winter and Summer Weed Chemical Control	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
11	3	Slippers & Patchwork	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
12	3	Grain Grading	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
13			Second month		
14	3	Field visit	Principles of Field Crops Production	Explanation and presentation of the model and lecture	Exam:
Course Evaluation					
Daily and monthly tests, reports and student effectiveness during the lecture .					
learning and teaching resources;					

Required textbooks (methodology if any)	Field Crops Ministry of Higher Education and Scientific Research University of Baghdad - Hatem Jabbar Attia 1989 .
Key References (Sources)	Scientific foundations for the management, product and improvement of field crops - Ministry of Hig Education. Iyad Hussein Ali - Mohamed Ow Ghadeer 2018
Recommended books and references (scientific journals, reports	C/N H. Roldos de la Sovera, Montevideo
E-References, Websites	

Course description of animal production basics

Course Name
animal production
CourseCode
APD1201
semester/ year
Second Semester of the Academic Year 2026
The date of preparing this description
1/ 6/2026
Available forms of attendance
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours) Total /(Number of Units total
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Name: Prof. Dr. Raed Ibrahim Khalil Email: raaedibrahim@uodiyala.edu.iq
Eng. Mohamed Ali Ahmed

Course Objectives					
Objectives of the course :			• Giving an idea of the importance of livestock production • Giving an idea of the types of farm animals and how to care for them • Introducing the importance of reproduction, feeding and management methods.		
TEACHING AND LEARNING STRATEGIES					
Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	General introduction to animal production and its importance .	animal production	Course Brainstorming	Examinations Daily and
2	2	The relationship of animal production to plant production, the sciences that are related	animal production	Course Brainstorming Debating	Examinations Daily and Monthly
3	2	The potential of livestock production in Iraq , the obstacles facing livestock	animal production	Course Brainstorming Debating	Examinations Daily and Monthly
4	2	Classification and types of breeds of milk and meat cows, local cows of importance	Animal Production	Course Brainstorming Debating	Examinations Daily and Monthly
5	2	Buffalo , Breeds , Specifications , Importance	animal production	Course Brainstorming	Examinations Daily and
6			First Exam		
7	2	Milk production in the world and the factors affecting it.	animal production	Course Brainstorming Debating	Examinations Daily and Monthly

8	2	Sheep and goat breeds and their importance	animal production	Course Brainstorming Debating	Examinations Daily and Monthly
9	2	Nutritional Needs, Complex Stomach Sections	animal production	Course Brainstorming Debating	Examinations Daily and Monthly
10	2	Domestic birds ,their species	animal production	Course Brainstorming Debating	Examinations Daily and Monthly
11	2	Barns , construction conditions and types	animal production	Course Brainstorming	Examinations Daily and
12			Second Exam		
13	2	Reproduction in farm animals	animal production	Course Brainstorming	Examinations Daily and
14	2	Pisciculture (Zool.)	animal production	Course Brainstorming	Examinations Daily and

Practical Part

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Visit to the fields of the Faculty of Agriculture	animal production	Case history Brainstorming Debating and	Examinations Daily and Monthly
2	3	Observations of field operations in livestock fields	animal production	Case history Brainstorming Debating and	Examinations Daily and Monthly
3	3	Milking operations	animal production	Case history Brainstorming Debating and	Examinations Daily and Monthly
4	3	Breastfeeding calves	animal production	Case history Brainstorming Debating	Examinations Daily and
5	3	Scientific trip to one of the livestock projects	animal production	Case history Brainstorming Debating	Examinations Daily and
6			First Exam		

7	3	Physiology of reproduction and artificial insemination	animal production	Case history Brainstorming Debating and	Examinations Daily and Monthly
8	3	Hatching and selecting hatchable eggs	animal production	Case history Brainstorming Debating and	Examinations Daily and Monthly
9	3	Feedstuffs and agglutinogenesis	animal production	Case history Brainstorming Debating	Examinations Daily and
10	3	Animal dwellings and specifications	animal production	Case history Brainstorming Debating	Examinations Daily and
11	3	Animal diseases and methods of prevention and treatment	animal production	Case history Brainstorming Debating	Examinations Daily and Monthly
12			Second Exam		
13	3	General applications in the management and breeding of other	animal production	Case history Brainstorming Debating	Examinations Daily and
14	3	Observations of field operations in livestock fields	animal production	Case history Brainstorming Debating and	Examinations Daily and Monthly

Course Evaluation

Daily and monthly exams, reports and student effectiveness during the lecture.

learning and teaching resources;

Required textbooks (methodology if any)	Fundamentals of Animal Production Zuhair Al-Jalili, Mohammed Adel, Farid Al-Shahwani Talal Youssef
Key References (Sources)	Production of milk cattle. Nateq Hamid Al-Qudsi The basics of sheep and goat production and breeding.
Recommended supporting books and references (scientific journals, Reports)	Iraqi academic scientific journals
Electronic references, websites	www.fao.org

Sample Description of Engineering Drawing Material

Course Name:
Geometrical drawing
Course Code
111
Semester
Spring Semester / 2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Number of Credit Hours (Total) / Number of Units (Total):
Number of Hours = 2 Practical/ Number of Units 1.5
administrator's name (if more than one name)
Name: Prof. Dr. Amer Khaled Ahmed
Course Objectives
1- Geometric graphics studies the drawing of geometric shapes and methods of geometric drawing that are used in geometric designs and the extent of their usefulness in scientific fields 2- Includes basic knowledge of engineering drawing 3- Knowledge of the features and specifications of the drawings of India 4- - Consequential scientific methods in the development of the use of engineering drawing 5- Knowledge of the theoretical basis in the processes of drawing Hind Disi and the scientific methods followed in drawing 6- Studying the impact of the use of Indian drawing in the design of engineering projects
Teaching and learning strategies
In-person lectures for 15 weeks with two monthly exams and daily exams

Course Structure					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Identify geometric drawing tools	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
2	2	Types of geometric lines	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
3	2	Dimensions and how to sign them	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
4	2	Performing some simple engineering operations	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
5	2	Arcs, curves and tangents	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
6	2	Projection and explanation of the three projections	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
7	2	First Quiz	Geometrical drawing		
8	2	Conclusion of the three projections from the model	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
9	2	Three projections of simple geometric shapes	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
10	2	Third Projection Conclusion	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
11	2	Sectors of all kinds	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
12	2	Exercises on sectors and scrubbing	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
13	2	Geometric Perspective	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
14	2	Drawing Perspective from the Three Projections	Geometrical drawing	Theoretical Explanation with Practical Drawing	Daily Exam
15		Second Quiz	Geometrical drawing		

Course Evaluation	
EXAMINATIONS	
Monthly and daily exams	
learning and teaching resources;	
Required textbooks (methodology if any)	Hassan , Nateq Sabri , 1988 , Engineering Drawing for Students of Faculties of Agriculture , Faculty of Agriculture and Forest University of Mosul , Iraq .
Key References (Sources)	Hassan , Nateq Sabri , 1988 , Engineering Drawing for Students of Faculties of Agriculture , Faculty of Agriculture and Forest University of Mosul , Iraq .
Recommended supporting books and references (scientific journals, reports	
E-References, Websites	Internet

course description form Biochemical

Course name	
BIOCHEMISTRY	
Course Code	
108	
Semester/year	
Spring Semester	
Date this description was prepared	
1-6-2026	
Available attendance forms	
In-Person	
Number of Credit Hours (Total)/ Number of Units (total)	
Number of hours = 5 (2 theoretical hours + 3 practical hours) , number of units = 3.5	
Name of the course administrator (if more than one name is mentioned)	
Dr. Mohamed Nadim Abeer Najm Abdullah	
Course Objectives	
<u>Objectives of the course :</u>	Introducing the student to the cell and its carbohydrates, sugars, fats and proteins, its composition, construction and divisions
Teaching and learning strategies	
Making the learner able to practically detect intracellular compounds such as monosaccharides, diabetics polysaccharides and detect fat and acidosis	
Minimization and Proteins	

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	5	Ingredients - Introduction to Biochemistry The living cell and its functions.	BIOCHEMISTRY	Explanation and presentation the model and lecture	General questions and discussion
2	5	Carbohydrates Divisions – Importance – Definition – Monosaccharides , polysaccharides, polysaccharides	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
3	5	Monosaccharides Similar in Sugars – Composition - Monosaccharide Derivatives - Monosaccharides .Cyclic Sugars	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
4	5	Low polysaccharides Reduced and non-reduced types	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
5	5	Polysaccharides of homogeneous and non-homogeneous types – Homogeneous	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
6	5	First Quarter Examination	BIOCHEMISTRY		
7	5	(exercises)	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
8	5	Fatty acids - their importance - fats - their definition Similarities - their interaction - their structures and sections - Engineering for Fatty Acids	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
9	5	Fat sections Types – simple fats - constants - oils, fats and candles – FAT	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
10	5	Composite and derived fats, their compositions . - Types –	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
54					

11	5	Amino acids properties - their structures - their sections – their reactivity. – amino acids	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
12	5	Proteins - Peptides - Its divisions - its definition - nitrification. - Levels of protein synthesis	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
13	5	Second Quarterly Examination			
14	5	Nucleic Acids Nucleotides - their importance - types of nucleic acids. - Installation – Functions	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam
15	5	The mechanism of action of the enzyme - its classification - its definition - enzymes Factors Affecting Speed - Idle and Active . Enzymatic reaction	BIOCHEMISTRY	Explanation and presentation the model and lecture	Exam

Course Evaluation

Theoretical Quarterly Tests Practical Quarterly Tests Theoretical Daily Tests Practical Final Test Theoretical Final Test

learning and teaching resources;

Required textbooks (methodology if any)

Key References (Sources)

Recommended supporting books and references (scientific journals, reports

E-References, Websites

Course Description Form Principles of Soil Sciences

Course name

Soil Science Fundamentals

Course Code

SOIF314

Semester/year

Spring Semester

Date this description was prepared

1-6-2026

Available attendance forms

In-Person

Number of Credit Hours (Total)/ Number of Units(total)

Number of hours = 5 (2 theoretical hours + 3 practical hours) , number of units = 3.5

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

Eng. Dr.Louay Dawood Farhan

Course objective

Objectives of the course :

Familiarize yourself with the concept of soil science
Soil properties
Soil formation factors, physical, chemical, biological and fertility traits

Teaching and learning strategies

In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	General Concepts - Soil Components - Mineral and Organic Soils – Soil Formation Factors	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
2	2	Soil Prospects - Soil Genesis and Development - Soil Formation Processes	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
3	2	Soil Physical Properties – Soil Texture – Soil Construction – Apparent and Real Density	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
4	2	Soil Ventilation – Soil Heat – Soil Color	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
5	2	Soil water	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
6	2	First Quarter Examination	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
7	2	Colloids and Soil Chemical Properties: Soil Minerals	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
8	2	Colloids and Chemical Soil Properties: Organic Soil Colloids - Ion Exchange Capacity - Basal Saturation Ratio	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
9	2	Salinity and alkalinity	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
10	2	Determination of soil salinity and the effect of salts on plant growth - crop tolerance and coexistence with salinity	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
11	2	Biochemical and biochemical properties of soil	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
12	2	Nitrogen transformations and symbiotic fixation of nitrogen in soil	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
13	2	Second Quarterly Examination	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
14	2	Nutrients essential for plant growth	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
15	2	Classification of soils and lands in Iraq	Principles of Soil Sciences	Explanation and presentation of the model and lecture	Exam
57					

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Samples of soil can be collected	Principles of Soil Sciences	Attendance Lecture	Work Report
2	3	Moisture content (Chem.)	Principles of Soil Sciences	Attendance Lecture	Work Report
3	3	Bulk density	Principles of Soil Sciences	Attendance Lecture	Work Report
4	3	Real-density measurement and porosity mapping	Principles of Soil Sciences	Attendance Lecture	Work Report
5	3	Estimating Percentages of Primary Soil Separators and Determining Soil Texture	Principles of Soil Sciences	Attendance Lecture	Work Report
6	3		Practical Examination	Attendance Lecture	Work Report
7	3	Measurement of pH and soil salinity	Principles of Soil Sciences	Attendance Lecture	Work Report
8	3	Estimation of some dissolved positive ions	Principles of Soil Sciences	Attendance Lecture	Work Report
9	3	Estimation of some dissolved negative ions	Principles of Soil Sciences	Attendance Lecture	Work Report
10	3	Estimation of mutual positive ions	Principles of Soil Sciences	Attendance Lecture	Work Report
11	3	Estimation of soil carbonate content	Principles of Soil Sciences	Attendance Lecture	Work Report
12	3	Organic Matter in Soil (L.O.I.)	Soil Science Fundamentals	Attendance Lecture	Work Report
13	3	Practical Examination	Practical Examination	Attendance Lecture	Work Report
14		Total Meter Estimation of Bacteria and Fungi	Principles of Soil Sciences		
15		Excavation and Description of Soil Preparation	Principles of Soil Sciences		
Course Evaluation					
EXAMINATIONS					
Daily exams with discussion questions within the lecture					
Degree of participation in questions related to the subject					
learning and teaching resources;					
58					

Required textbooks (methodology if any)	Najem, Abdullah, Principles of Soil Science. MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH (In Arabic.)
Key References (Sources)	Najem, Abdullah, Principles of Soil Science. MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH (In Arabic.)
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	Soil Science Society of America Library Genesis

Course Description Form (Computer Basics 2)

Course Name
(Computer Basics)
Course Code
112
Semester/year
Second Semester/Academic Year 2024-2026
The date of preparing this description
1-6-2026
Available forms of attendance
Attendance on a weekly basis
Number of Credit Hours (Total)/ Number of Units(total)
45 hours (total number of study hours) / number of units (3) per week in (15) weeks per semester
Course Admin Name
Dr. Aqeel Ibrahim Mustafa
1. Course objective

Objectives of the course :

- The course also aims to provide students with knowledge of applications
Microsoft Office (Word , PowerPoint) and how actually use it.
- and its practical application in computer laboratories as well as explained theoretically .
- Urging students to learn to use the Internet and sites in a way that Correct and of scientific benefit to them
- Introducing students to the most important and latest technology developments.

Teaching and learning strategies

Strategy

- Discussion strategy
- The strategy of urging students to learn to use the computer and its applications, the most important of which are some of the (Microsoft Office applications)
- The strategy of teaching students how to use presentation applications and use them in various research and presentation activities.

Course structure(first phase/ second semester of the academic year 2024-2026)

Course Structure
(First Stage/ Second Semester of the Academic Year 2024-2026)

Wee k	Cre dits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Knowledge and understandi ng	Introduction to Microsoft Application	Lecture Lecture Presentation and Presentation on Data Show	discussions.
2	2	Knowledge and understandi ng	Microsoft Word (how to save documents and write texts)	Lecture Presentation and presentation on Data Show+	Discussions + Asking Questions

				Computer Lab	
3	2	Knowledge and understanding	Microsoft Word (home + Insert bar)	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
4	2	Daily Exam (1) /Practical	Daily Exam (1) /Practical	Daily Exam (1) /Practical	Daily Exam (1) /Practical
5	2	Knowledge and understanding	Microsoft Powerpoint (how to save documents and write presentations)	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
6	2	Knowledge and understanding	Microsoft Powerpoint (home + Insert bar)	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
7	2	Knowledge and understanding	Microsoft Powerpoint (how to add video and audio files)	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
8	2	Knowledge and understanding	Microsoft Powerpoint (how to add images and animations to slides)	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
9	2	Daily Exam (2)	Daily Exam (2)	Daily Exam (2)	Daily Exam (2)
10	2	Knowledge and understanding	Introduction to Microsoft Excel The basics of the electronic tables program (how to create tables and worksheets in Excel	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
11	2	Knowledge and understanding	Learn the instructions for inserting, deleting, renaming and hiding each of the cells + columns + rows + worksheets in Excel	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
12	2	Knowledge and	Learn to instruct to hide rows, columns and cells + Learn to	Lecture Presentation and	Discussions +

		understandi ng	instruct to filter and sort in Excel	presentation on Data Show+ Computer Lab	Asking Questions
13	2	Monthly Exam	Monthly Exam	Monthly Exam	Monthly Exam
14	2	Knowledge and understandi ng	Mathematical formulas and arithmetic factors	Lecture Presentation and presentation on Data Show+ Computer Lab	Discussions + Asking Questions
15	2	Knowledge and understandi ng	Explanation of how to prepare graphs in the Excel table	Lecture Presentation and presentation on Data Show+ Computer Lab	Lecture Presentation and presentation on Data Show+ Computer Lab

Course Evaluation

(20%) monthly exam, (30% distributed between daily exams, reports, daily preparation and commitment to lectures) + (50%) final exam.

learning and teaching resources;

Required textbooks (methodology if any)	Computer Fundamentals and Desktop Applications Part One Ministry of Higher Education and Scientific Research
Key References (Sources)	None
Recommended supporting books and references (scientific journals, reports	Book (<u>Computer Fundamentals</u>)/ Author of the book Dr. Qais Al-Hadi Babiker Al-Hadi Assistant Professor at Al-Jazeera University - Department of Computer Science (Sudan)
Electronic references, websites ,.....	Electronic Reports + Research

Stage 2 (Autumn + Spring Semester)

Phase 2 /Fall Semester		
Course Name	Course Name	Course Code
Plant taxonomy	Plant Taxonomy	PLAT205
Soil fertility and fertilization	Soil Fertility	SOIF208
Specialized English 2	Specific English Language 2	ENGL 201
Agricultural extension	Principles of Agricultural Extension	PRIA211
Crimes of the Baath regime in Iraq	The crimes of the Baath regime in Iraq	CBRI204
Computer Applications 3	Computer applications	COMA202
Principles of Horticulture	Principles of Horticulture	PRIH207207
Principles of Food Technology	Principles of Food Technology	PRTF208
Sugar and oil crops	Sugar and Oil crops	SUGO210

Description of the course of the Plant Taxonomy

Course Name
Plant taxonomy
CourseCode
PLAT205
semester/ year
Autumn /School Year 2026
Date of preparation of this description
1/ 6/2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly

Number of Credit Hours (Total)/ Number of Units(total)

2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units

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

Dr. Marwan Sami Saeed Email: marwansamia@uodiyala.edu.iq

Ghufran Ali Hussein

Course Objectives

Objectives of the course :

- 1- Plant taxonomy examines the applied fields of taxonomy and relationships between plants on the basis of the principles adopted in plant taxonomy.
- 2- Knowing the different plant organs through which a plant can be classified
- 3- Knowledge of vegetative and reproductive traits and their importance in the classification of plants
Methods used in plant classification
- 4- Studying the evolutionary importance of reproductive organs.

TEACHING AND LEARNING STRATEGIES

Strategy

- In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports

Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Introduction to plant classification and its importance – the foundations of plant classification and general terms about	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

		classification		Brainstorming	
2	2	Applied fields of classification science – Relationships between plants and classification systems – Patterns of ancient and modern classification - Scientific nomenclature and its laws – Taxonomic ranks	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Primitive and advanced traits in plant parts – vegetative and reproductive traits and their importance in classification	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	The arrangement of the pink organs on the pink takht – the symmetry of the flower – the number of flower rings and the number of members of one ring	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Floral systems – Floral equation - Tamasheem	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
6	2	Evolutionary Importance of Reproductive Parts – Non Floral Vascular Plants – Floral Vascular Plants	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
7	2	The evolutionary qualities of	Plant taxonom	Explanation and model presentation	Examinations Daily and

		flowering plants – the origin of flowering plants	y	and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports day
8	2	Studying plant groups – and emphasizing seed plants and the characteristics of families of gymnosperms	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Cotyledon and cotyledon plants	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Description of selected single-cotyledon families such as Najiliya and Saidiya	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Description of selected families of cotyledons such as legumes, marshmallows, ramyas, composite and cruciferous	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Description of selected dual-cotyledon families such as the Ramarameya and the Composite	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Description of selected double-cotyledon families such as Sulaibiya and Batanjaniya	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		
14	2	Description of	Plant	Explanation and model	Examinations

		selected dual-cotyledon families such as parachute and cataract	taxonomy	presentation and lecture Brainstorming Debating and discussing Brainstorming	Daily and Monthly Final and Reports day
15	2	Iraqi Plants	Plant taxonomy	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Studying the external manifestations of roots – types of roots	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Study the paper – Arrange the papers on the stem – Parts of the paper – Types	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Studying the shape of the blade – the edge of the blade – the top and base of	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Studying the external manifestations of the flower, including –	Plant taxonomy	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Study of ovaries – pruning and types of eggs – arrangement	Plant taxonomy	Case history Brainstorming Debating and	Examinations Daily and Monthly
6			First Exam		
7	3	Floral inflorescences – types of inflorescences (limited	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

8	3	Simple, clustered, multiplicative, tender and dry fruits and their varieties	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Explanation of how to use the key of plant families and	Plant taxonomy	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3	Study of different plant families using the key of plant	Plant taxonomy	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	How to Collect Plant Models – Form Bag Drying Plants – Plant Sublimation	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
12			Second Exam		
13	3	Methods of preserving plant models in grasses	Plant taxonomy	Case history Brainstorming Debating and	Examinations Daily and Monthly
14	3	Students collect and diagnose at least twenty-five plant models belonging to	Plant taxonomy	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	1- Plant classification/ d. Ali Hussein Al-Mousawi , 1987
Key References (Sources)	Recent articles from the Internet, specialized scientific journals and the virtual library.
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals

E-References, Websites

science plant
plant taxonomy

course description form Soil fertility and fertilization

Course name

Soil fertility and fertilization

Course Code

SOIF206

Semester/year

Fall/ 2026

Date this description was prepared

1-6-2026

Available attendance forms

In-Person

Number of Credit Hours (Total)/ Number of Units(total)

Number of hours = 5 (2 theoretical hours + 3 practical hours) , number of units = 3.5

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

Dr.Louay Dawood Farhan

Course objective

**Objectives of the
course :**

Learn about the concept of soil fertility and its relationship to productivity
Study of nutrient interactions in soil and factors affecting its readiness
Identify mineral and organic fertilizers and their reactions in the soil

Teaching and learning strategies

In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	NUTRITIONAL ELEMENTS	soil fertility	Explanation and presentation of the mod and lecture	Exam
2	2	Soil fertility and factors affecting it	soil fertility	Explanation and presentation of the mod and lecture	Exam
3	2	Ways to get the nutrient to the root	soil fertility	Explanation and presentation of the mod and lecture	Exam
4	2	Relationship between productivity and soil fertility	soil fertility	Explanation and presentation of the mod and lecture	Exam
5	2	Soil Nitrogen and Fertilizer	soil fertility	Explanation and presentation of the mod and lecture	Exam
6	2	Soil Nitrogen and Fertilizer	soil fertility	Explanation and presentation of the mod and lecture	Exam
7	2	Soil phosphorus and fertilizer	soil fertility	Explanation and presentation of the mod and lecture	Exam
8	2	Soil phosphorus and fertilizer	soil fertility	Explanation and presentation of the mod and lecture	Exam
9	2	Potassium	soil fertility	Explanation and presentation of the mod and lecture	Exam
10	2	Potassium	soil fertility	Explanation and presentation of the mod and lecture	Exam
11	2	Sulfur, calcium and magnesium	soil fertility	Explanation and presentation of the mod and lecture	Exam
12	2	Zinc, copper and manganese	soil fertility	Explanation and presentation of the mod and lecture	Exam
70					

13	2	Iron and Boron	soil fertility	Explanation and presentation of the mod and lecture	Exam
14	2	Microelement	soil fertility	Explanation and presentation of the mod and lecture	Exam
15	2	Organic fertilizers	soil fertility	Explanation and presentation of the mod and lecture	Exam
Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluati on Method
1-2	3	Calculate the amount of fertilizer added to carry out a fertility trial	soil fertility	Attendance Lecture	Work Report
3-4	3	Basis and rules of fertility survey	soil fertility	Attendance Lecture	Work Report
5	3	Fertility Calendar	soil fertility	Attendance Lecture	Work Report
6	3	Nitrogen Fertilizer Descriptive Tests	soil fertility	Attendance Lecture	Work Report
7	3	Nitrogen Readiness Guide	soil fertility	Attendance Lecture	Work Report
8	3	Phosphate Fertilizer Descriptive Tests	soil fertility	Attendance Lecture	Work Report
9	3	Phosphorus Readiness Guide	soil fertility	Attendance Lecture	Work Report
10	3	Potash Fertilizer Descriptive Tests	soil fertility	Attendance Lecture	Work Report
11	3	Potassium Readiness Guide	soil fertility	Attendance Lecture	Work Report
12	3	Minor Items Readiness Guide	soil fertility	Attendance Lecture	Work Report
13	3	Plant Analysis and Fertility Assessment	soil fertility	Attendance Lecture	Work Report
14	3	Exam	soil fertility	Attendance Lecture	Work Report
15	3	Discussion of the experience report	soil fertility	Attendance Lecture	Work Report
Course Evaluation					
EXAMINATIONS Daily exams with discussion questions within the lecture Degree of participation in questions related to the subject learning and teaching resources;					
71					

Required textbooks (methodology if any)	1- Awad, Kazem Mashhout (1987) Fertilization and Soil Fertility, Ministry of Higher Education and Scientific Research, University of Basra. 2- Al-Nuaimi, Saadallah (1999) Fertilizers and soil fertility. Ministry of Higher Education & Scientific research Al-Mustaqbal University 3- Havlin, J.L., Tisdale, S.L., Nelson, W.L., and Beaton, J.D. 2005, Soil Fertility and Fertilizers, ^{5th} edition. USA 4- Awad, Kazem Mashhout, 1984. Practical tests for fertilizers and soil fertility. UN>Basra 5- Page, A.L. et. Al. 1982, Methods of soil analyisi, part 2 2 nd Chemical and microbiological properties. Madison, Wisconsin, USA.
Key References (Sources)	1- Awad, Kazem Mashhout (1987) Fertilization and Soil Fertility, Ministry of Higher Education and Scientific Research, University of Basira. 2- Al-Nuaimi, Saadallah (1999) Fertilizers and soil fertility. Ministry of Higher Education & Scientific research Al-Mustaqbal University
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	Soil Science Society of America Library Genesis

Course Description of English Language 2

Course name
English
CourseCode
ENGL203
Semester/year
Fall 2026
Date this description was prepared
1-6-2026

Available attendance forms					
Full-time (theoretical lecture) weekly					
Number of study hours (total) / number of units (total)					
Number of Hours = 2 , Number of Units = 2					
Name of the course administrator (if more than one name is mentioned)					
Name: M.M. Suhaib Saeed Hameed Email: sohaibsaeedhameed@gmail.com					
Course Objectives					
Objectives of the course :		1- Students acquire knowledge, concepts and trends in the smooth pronunciation of the English language. 2- Facilitate understanding of concepts. 3- Showing the different talents of students. 4- English is essential.			
Teaching and learning strategies					
Strategy		In-person lectures for 15 weeks with two monthly exams, daily exams and monthly reports			
10. Course Structure					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Teaching*method	Evaluation Method
1	2	Unit 1 / Questions / Social expressions 1	English	Explanation and presentation of the lecture	Exam
2	2	Present tenses	English	Explanation and presentation of the lecture	Exam
3	2	Unit 3 / Past tenses	English	Explanation and presentation of the lecture	Exam
4	2	formation	English	Explanation and presentation of the lecture	Exam
5	2	Time expressions	English	Explanation and presentation of the lecture	Exam

6	2	Unit 4 / Countable and uncountable / Articles	English	Explanation and presentation of the lecture	Exam
7	2	Discussion.	English	Explanation and presentation of the lecture	Exam
8	2	Unit 5/ Verb patterns 1 / Hot verbs	English	Explanation and presentation of the lecture	Exam
9	2	Future Forms	English	Explanation and presentation of the lecture	Exam
10	2	Unit 6 / Comparatives and superlatives	English	Explanation and presentation of the lecture	Exam
11	2	Synonyms and antonyms / Directions	English	Explanation and presentation of the lecture	Exam
12	2	Unit 7 / Present perfect	English	Explanation and presentation of the lecture	Exam
13	2	For & since / word pairs	English	Explanation and presentation of the lecture	Exam
14	2	Have (got) to / should & must	English	Explanation and presentation of the lecture	Exam
15	2	Grammar Revision	English	Explanation and presentation of the lecture	Exam

Evaluation of the course

Distributing the grade out of 100 according to the tasks assigned to the student such as preparation and daily written and oral exams

Learning and teaching resources

Required textbooks (methodology if any)	New Headway Plus “ Pre-Intermediate ”
Key References (Sources)	
Recommended supporting books and references (scientific journals,	

reports)	
E-References, Websites	

Course Description Form Basics of Agricultural Extension

Course name
Fundamentals of Agricultural Extension
CourseCode
PRIA211
Semester/year
Fall 2026
Date this description was prepared
1-6-2026
Available attendance forms
Full-time (theoretical lecture) weekly
Number of study hours (total) / number of units (total)
Number of Hours = 30 , Number of Units = 2
Name of the course administrator (if more than one name is mentioned)
Mohna Abdullah Mahmoud
Course Objectives
1- Agricultural Extension , Introduction , Tariff , Agricultural Extension Philosophy 2- Agricultural Extension Goals, The Role of Agricultural Extension in Rural Development, Agricultural Extension Site among Agricultural Sciences

Course Outcomes and Methods of Teaching, Learning and Assessment

1- Learning objectives and competencies:

A1-The student should learn about the concept of agricultural extension

A2-The role of agricultural extension in the agricultural sector, and the relationship of agricultural extension with other sciences

A3-The structure of agricultural extension organizations and the planning of extension programs.

(b) The skill objectives of the course.

1 – Teaching the student about the applications of the concept of extension in agriculture in practice

2- The importance of agricultural extension in agriculture to achieve high rates of agricultural production.

3- The importance of agricultural extension in the social aspect.

3- The importance of agricultural extension in the economic aspect.

C-Emotional and value goals

1- The skill of thinking according to the student's ability and the goal of this skill is for the student to believe in what is tangible and understand when what and how he should think and work to improve the ability to think reasonably.

2-Observation and Perception

3-ANALYSIS AND INTERPRETATION

4- Preparation and Evaluation

5- Learning Critical Thinking Strategy

D-General skills and rehabilitation transmitted (other skills related to the ability to recruit and personal development

1- Verbal communication (the ability to express ideas clearly and confidently in speech)

2- Teamwork (working confidently within a team workgroup)

3- Investigation analysis (collecting information systematically and scientifically to establish facts and principles as a solution to a particular problem).

4- Written communication (the ability to express yourself clearly in writing) .

Teaching and learning methods

6- I'm sick and tired of it.

7- Lecture method

8- Student Groups -2

Evaluation methods

4- Theoretical tests

5- Practical tests

6- Reports and studies

Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Agricultural Extension , Introduction , Tariff , Agricultural Extension Philosophy	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
2	2	Agricultural Extension Objectives, Role of Agricultural Extension In rural development, the agricultural extension situation between Agricultural Science	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
3	2	Agricultural extension systems principles of organization , Functions of the Administrative Organization of Agricultural Extension	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
4	2	Agricultural Extension Organization in Iraq	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
5	2	Contacts, Contact Elements, Adoption	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
6	2	Roads and agricultural guidance aids	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
7	2	Leadership , Definition of Leadership , Leader , Types of leadership according to the method used in leadership	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
8	2	Types of leaders according to the metaphorical method, leadership and its relationship to guidance work, qualities of a leader in rural society	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
9	2	Change , change and change	Fundamentals	Explanation and	Exam:

		and the difference between them , social change and reasoning	ls of Agricultural Extension	presentation of the model and lecture	
10	2	Levels of change , obstacles and catalysts for change in the field of agricultural extension	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
11	2	Indicative Program Planning, Indicative Planning, Indicative Planning Principles	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
12	2	Planning objectives, the process of building agricultural extension programs	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
13	2	Learning and Teaching ,The Concept of Learning , The Process of Learning and Teaching	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:
14	2	Theories of Counseling Education, Adult Education, Adult Characteristics	Fundamentals of Agricultural Extension	Explanation and presentation of the model and lecture	Exam:

Description of the course of the crimes of the Baath regime in Iraq

Course name
Crimes of the Baath regime in Iraq
Course code
CBRI204
Semester/year
Autumn/ 2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Number of Credit Hours (Total)/ Number of Units (total)
Number of Hours = 30, Number of Units = 2
Name of the course administrator (if more than one name is mentioned)
Eng. Inam Mahdi Saleh
Course objectives

- 1- Preparing educated students with correct ideas
- 2- - Instilling noble values and morals
- 3- Assist in writing scientific research objectively
- 4- - Knowing the facts and not falsifying them
- 5- Knowing the repressive methods used by the former regime

Teaching and learning strategies

- 1- Enabling Al-Tamba to obtain the blindness of the intellectual framework
- 2- - Preparing the pump with a correct culture
- 3- Instilling and preserving the principles of patriotism
- 4- Developing the intellectual aspect of students
- 5- Vocabulary wording and its absence
- 6- - Expanding cognitive awareness

Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	The student should be familiar with the humanitarian laws	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
2	2	The student should get acquainted with the concept of crimes and their parts	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
3	2	The student should be familiar with the types of international crimes	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
4	2	The student should identify the crimes committed by the former regime	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
5	2	The student should be familiar with psychological and social crimes	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
6	2	The student should identify the effects of psychological crimes on the individual	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
7	2	The student should learn about the effects of social crimes on the individual	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
8	2	The student should identify the previous regime's violation of Iraqi laws	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
9	2	The student should know the places of prisons and detention in the	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:

		former regime			
10	2	The student should be familiar with environmental crimes	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
11	2	The student should know about the drying of the marshes in the time of the former regime	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
12	2	The student should know about the bulldozing of orchards in the time of the former regime	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
13	2	The student should learn about the crimes of social graves in the time of the former regime	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
14	2	The student should learn about the temporal classification of mass graves in the time of the former regime	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
15	2	The student should know about personal freedom, its dimensions and limits	Crimes of the Baath regime in Iraq	Explanation and presentation of the lecture	Exam:
Recommended supporting books and references (scientific journals, reports)					
The Method of the Crimes of the Baath Regime Iraq					

Course Description Form Computer Applications 3

Course name

Computer Applications 3

Course Code

COMA202

Semester/year

Autumn/ 2026

Date this description was prepared

1-6-2026

Available attendance forms

In-Person

Number of Credit Hours (Total)/ Number of Units (total)

Number of Hours = 3 , Number of Units = 1.5

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

Dr. Aqeel Ibrahim Mustafa

Course Objectives

1. The student should get acquainted with the concept of Excel
2. The student should be familiar with the input processes and the use of instructions and commands in Excel
3. The student should understand how to create tables and mathematical equations
4. The student should be familiar with the use of advanced applications
5. The student should be familiar with the various advanced applications in Excel.

Teaching and learning strategies

In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	The student should learn how to use Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
2	3	The student is familiar with the use of tapes and tools	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
3	3	The student should recognize the creation of text with special effects	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
4	3	Student will be introduced to changing effects when adding basic images and shapes in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
5	3	The student learns about basic images and shapes in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
6	3	Month 1	Computer Applications 3		
7	2	The student should be familiar with graphs in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
8	2	The student learns about the tables included in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
9	2	Preparing a multi-page project in Excel and preparing a document in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
10	2	Preparing a multi-page project in Excel and preparing a document in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
11	2	Preparing a multi-page project in Excel and preparing a document in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
12	2	Preparing a multi-page project in Excel and preparing a document in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
13	2	Preparing a multi-page project in Excel and preparing a document in Excel	Computer Applications 3	Lecture and explanation by model presentation	Daily Exam
14	2		Second month		
15					

Course Evaluation

EXAMINATIONS

Monthly and daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

1. learning and teaching resources;

Required textbooks (methodology if any)	Computer Basics and Desktop Applications Book Part 3
Key References (Sources)	Computer Basics and Desktop Applications Book Part 3
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	Library Genesis

Course Description Form Basics of Horticulture

Course name:

Basics of Horticulture

Course code

PRIH207

Semester/year

Fall Semester 2026

3-Date this description was prepared

1-6-2026

Available attendance forms

In Person

Number of Credit Hours (Total)/ Number of Units (total)

5 hours (2 theoretical +3practical)/3.5 units

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

Prof. Dr. Nisreen Mohammed Hathal

Course objectives

- Introducing students to the concept of horticulture and the botanical classification of horticultural plants as well as horticultural plant families of fruits, vegetables, ornaments and medicinal and aromatic plants.
- Learn about the agricultural service operations of horticultural crops and how to establish orchards, farms, gardens and parks.
- Knowing how to establish nurseries and take care of fruit and vegetable seedlings, ornaments and internal coordination plants.
- Familiarity with the methods of breeding horticultural plants and knowing the best methods in breeding important and economic plants.

Teaching and learning strategies

- **Lecturing with the use of modern presentation methods.**
- **Direct dialogue with students by asking them questions.**

Course Structure					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2Theoretical	Knowing the history of the emergence of horticulture and its nutritional and economic importance in the Biology of humanity	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
2	2Theoretical	Knowledge of the departments of horticultural plants (vegetables, fruits and ornaments)	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
3	2Theoretical	Identify the climatic conditions suitable for the cultivation, growth and production of horticultural plants	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
4	2Theoretical	Identify the most important methods of breeding sexual and vegetable horticultural plants and plant tissue cultivation	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
5	2Theoretical	Learn how to establish specialized nurseries and take care of plants	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
6	Month 1				
7	2Theoretical	Identify the most important agricultural operations and crop service	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
8	2Theoretical	Identify the protected environments, whether greenhouses or greenhouses, and how to produce vegetable and ornamental crops inside	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports

		them			
9	2Theoretical	Identifier of plant description of fruit plants and their nutritional, medical and economic importance and methods of propagation and production	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
10	2Theoretical	Knowing the most important strategic crops	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
11	2Theoretical	Some examples of ornamental plants, garden engineering and interior coordination	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
12	Second month				
13	2Theoretical	Some examples of cultivation of the most important medicinal and aromatic plants.	Principles of Horticulture	lecture, discussion, reports,	Quick and Monthly Exams, Class Activity and Reports
14	2Theoretical	Knowledge of the most important methods of breeding and improving horticultural plants	Principles of Horticulture	lecture, discussion, reports,	Quick and Monthly Exams, Class Activity and Reports
Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Introducing fields and horticultural constructions (gardens, orchards, fields, greenhouses and glass houses).	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
2	3	Conducting and practicing vegetative reproduction operations (pens, incubation, grafting, installation etc.)	Principles of Horticulture	Lecture, Discussion, Reports	Quick and Monthly Exams, Class Activity and Reports
3	3	Planting various seeds and carrying out	Principles of Horticulture	Lecture, Discussion	Quick and Monthly

		seedling operations (sexual reproduction)		,Reports	Exams, Class Activity and Reports
4	3	Establishing nurseries, planting and caring for plants and managing nurseries .	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
5	First Month Exam				
6	3	Introducing the method of irrigation and fertilization and conducting these operations in the field .	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
7	3	Conducting pruning , layering, slipping, and pest resistance operations of all kinds .	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
8	3	Processes that take place in greenhouses and plastic houses and methods of controlling environmental factors and harnessing them in the production of crops in the off-season .	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
9	3	Practicing harvesting, packing and crop handling.	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
10	3	Visit parks, gardens and orchards to learn about them on the ground.	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
11	3	Examples of palm, citrus, apple and hard core cultivation.	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
12	Second Month Exam				
13	3	Examples of crop production for some families .	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class

					Activity and Reports
14	3	Examples of the most important ornamental plants.	Principles of Horticulture	Lecture, Discussion ,Reports	Quick and Monthly Exams, Class Activity and Reports
15					
Course Evaluation					
- Quick daily exams (Quizzes) . - Monthly exams (two or more). - Evaluating the class activity of the students . Evaluating the laboratory activities of students - Assessments on writing scientific reports and homework .					
learning and teaching resources;					
Required textbooks (methodology if any)		Principles of Horticulture – Faisal Rashid Al Kinani Principles of Horticulture -Dr. Karim Saleh Abdul and Dr.Saad Zaghlol			
Key References (Sources)		Fruit production for non-specialized departments in gardening / d. Dr. Ali Al-Douri Adel Al-Rawi - Production of fruits and vegetables Makki Alwan Al-Khafaji, Dr. Faisal Abdulhadi Al-Mukhtar			
Recommended supporting books and references (scientific journals, reports)		Iraqi academic journals			
E-References, Websites		International Network for information on the subject of the course			

Course Description Form Principles of Food Technology

Course name
Principles of Food Technology
Course code
PRTF208
Semester/year
Fall 2026
Date this description was prepared
1-6-2026
Available attendance forms
Morning

Number of Credit Hours (Total)/ Number of Units (total)

30hours/ 3.5 units

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

Delal Mahdi Abdul Qadir

Course Objectives

- 1- A science that **researches** the science of food industries and introduces it
- 2- Includes the study of food ingredients
- 3- Learn how to make fats and oils - sugar industry
- 4- Recognize chemical reactions in food
- 5- Identify the methods of processing and preservation of food

Course Structure					
Week	Credits	Intended Learning Outcomes	Module Course Name or /	Teaching*method	Evaluation Method
1	2	Definition (with the knowledge of industries (and a historical overview of the emergence and development of the science of food industries	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
2	2	Water – Food Ingredients and Carbohydrates	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
3	2	Food ingredients - proteins and fats	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
4	2	Food ingredients -enzymes and minerals – vitamins, dyes and others	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
5	2	Fat and Oil	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
6	2	Sugar industry.	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
7	2	Grains - Tea- Coffee - Fruits and Vegetables	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
8	2	Meat – Fish – Eggs	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
9	2	Chemical reactions in food	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
10	2	Methods of preserving and processing food – drying	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
11	2	Food Preservation and Processing Methods - Low Temperature (Refrigeration and Freezing)	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
12	2	Food preservation and processing methods – high temperature (canning)	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:
13	2	Methods of preserving and	Principles of	Explanation and	Exam:

		processing food fermentation - salting	Food Technology	presentation of the model and lecture	
14	2	Chemical additives in food	Principles of Food Technology	Explanation and presentation of the model and lecture	Exam:

Week	Credits	Intended Learning Outcomes	Unit Name or Topic(Practical Part)	Learning Method	Evaluation Method
1	3	About the Science of Food Industries	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
2	3	Food Preservation	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
3	3	Solutions	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
4	3	Basic steps in food preservation (canning) – peeling, boiling, packing and unloading	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
5	3	Canning Steps - Sterilization and Cooling	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
6	3	Manufacture of molasses	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
7	3	Exam			
8	3	Vinegar Manufacturing	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
9	3	Dates	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
10	3	Manufacture of nannies	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
11	3	Manufacture of tomato paste	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
12	3	Laboratory Bread Manufacturing	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
13	3	Laboratory Bread Manufacturing	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
14	3	Juice Manufacturing	Principles of Food Technology	Explanation, Model Presentation and Lecture	Examination
15	3	Exam			

Course Description Form of Oil and Sugar Crops

Course Name
Oil and sugar crops
Course Code
SUGO210
semester/ year
-2026 academic year.
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Name: Dr. Dania Salman Qahraman Nabil Ibrahim Email: daniasalman@uodiyala.edu.iq
Course Objectives

Objectives of the course :	1-The science of oil and sugar crops examines the most important crops spread in Iraq and the world and the extent of their usefulness, whether as food or Forage . 2- Studying the most prevalent oil and sugar crops in Iraq and some countries of the region . 3- Splitting the plants of oil and sugar crops according to their Biology cycle 4- Knowing the methods of breeding oil and sugar crops. 5- Studying the impact of oil and sugar crops on the economic returns. 6- Knowing which oil and sugar crops are highly
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TEACHING AND LEARNING STRATEGIES

Strategy	• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports
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Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Oil crops , their economic importance, the most important crops represented by oils and their types	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Sunflower, methods of cultivation and soil suitable for it , when to plant it and serve the crop and harvest and the pests that affect it	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

3	2	Sesame, its methods of cultivation, its economic importance, the appropriate soil for it, and the service of the crop and its harvest	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Cotton, its methods of cultivation, appropriate soil, crop service, pound and pests that infect it	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	The field's pistachios, its importance, the methods of cultivation, the appropriate soil for it, its harvest and the pests that affect it	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
First Quarter Examination					
6	2	Soybeans, its importance, methods of cultivation, soil, its suitability, harvesting and pests that affect it	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
7	2	Castor and safflower, their importance, methods of cultivation and soil suitable for them and their service	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Linen, Favorable Environment, Tempering,	Sugar and oil crops	Explanation and model presentation and lecture	Examinations Daily and Monthly

		Botanical Description, Varieties		Brainstorming Debating and discussing Brainstorming	Final and Reports day
9	2	Ridge of economic importance of origin, species and varieties , plant description, suitable environment	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Historical overview of sugar crops, geographical distribution, suitable soils, methods of cultivation and quantity of seeds	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Soil and crop service operations, which include hoeing, fertilization, slippers, patching, sugar cane breeding methods, and its genetic types	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		
12	2	Chemical Components of Sugarcane Plant Weed control, Disease and Insect Control Operations, Maturation, Harvesting and Raw Sugar Production	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Sugar beet, its	Sugar and	Explanation and	Examinations

		economic importance, geographical distribution, the development of sugar beet cultivation, the most important problems of its cultivation , its stages of growth and methods of breeding	oil crops	model presentation and lecture Brainstorming Debating and discussing Brainstorming	Daily and Monthly Final and Reports day
14	2	Soil and crop service factors from the date and methods of planting and classification of seeds and crop service processes, which include hoeing, weeding, fertilization, irrigation, harvesting and agricultural cycles	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2	White and yellow sugary corn and their methods of cultivation and importance	Sugar and oil crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Subject	Learning Method	Evaluation Method
1	3	The chemical composition of oil, the manufacture of vegetable oils, the importance of vegetable oils	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports

2	3	Botanical description of sunflower, division and composition of dietary oils and fats, qualities of	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Botanical description of sesame plant, fatty acids and their types, qualities of ~~sesame oil~~	Sugar and oil crops	Case history Brainstorming Debating and ~~discussing~~	Examinations Daily and Monthly ~~Final and~~
4	3	Botanical description of cotton, its oil recipes and methods of extraction	Sugar and oil crops	Case history Brainstorming Debating and ~~discussing~~	Examinations Daily and Monthly ~~Final and~~
5	3	Botanical description of field pistachios, its oil recipes and methods of extraction	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
6		1st Month			
7	3	Vegetarian Description of Soybeans and Oil Recipes	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Botanical description of them and methods of extracting their oil	Sugar and oil crops	Case history Brainstorming Debating and ~~discussing~~	Examinations Daily and Monthly ~~Final and~~
9	3	Botanical description of the plant and methods of oil extraction and its qualities	Sugar and oil crops	Case history Brainstorming Debating and ~~discussing~~	Examinations Daily and Monthly ~~Final and~~
10	3	Botanical Description, Oil Extraction Methods and Recipes	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
11	3	Sugarcane plant, its importance, species and areas of cultivation, plant description of sugar cane	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and ~~Reports~~
12	3	Botanical description of leaves and inflorescence and the conditions that must be met to start flowering the ~~plant~~	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and ~~Reports~~
			Second Exam		
13	3	The process of extracting	Sugar	Case history	Examinations

		sugar from the sugar cane plant and the stages of its manufacture	and oil crops	Brainstorming Debating and discussing	Daily and Monthly Final and Reports day
14	3	Botanical description of sugar beets, types of seeds	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
15	3	Tools used in controlling agricultural pests, Weeds and harvesting crops	Sugar and oil crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	Oil and Sugar Crops, Nasser Hussein Safar, 1985
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	crop Science Society Of America Library Genesis

Stage 2 /Spring Semester

Irrigation and puncture	Irrigation and Drainage	IRRD211
Principles of Statistics	Principles of Statistics	PRIS213
Microbiology	Principles of Microbiology	PRIM209
Plant Ecology	plant Ecology	PIAE215
Computer Applications 4	Computer applications	COMA203
Agricultural machinery and machinery	Machinery and equipment	MGRA212
Farm Management	Farm Management	Farm216
Arabic	Arabic language	ARAL217

Irrigation and Puncture Course Description Form

Course name
Irrigation and puncture
Course code
IRRD211
Semester/year
Spring / 2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Number of Credit Hours (Total)/ Number of Units (total)
Number of hours = 5 (2 theoretical hours + 3 practical hours) , number of units = 3.5
Course administrator's name (if more than one name)
Dr.Mohammed Ali Aboud .Shaimaa Tarek Falih
Course objective
2- The science of irrigation and puncture researches the sources of irrigation water and ways to control it, exploit it and deliver it to agricultural fields 3- Includes planning, designing and implementing irrigation facilities 4- Transfer and distribution of irrigation water and study ways to add it 5- Calculating the water needs of the plant by studying the relationship of water, soil and climate 6- Studying problems related to water addition such as problems of salinisation, puncture and reclamation 7- Calculating the cost of maintenance of irrigation and puncture projects within the production costs

Teaching and learning strategies
In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports
Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Irrigation and puncture	A Brief History of Irrigation in Iraq	Explanation and presentation of the model and lecture	Exam
2	2	Irrigation and puncture	soil moisture	Explanation and presentation of the model and lecture	Exam
3	2	Irrigation and puncture	Irrigation water quality	Explanation and presentation of the model and lecture	Exam
4	2	Irrigation and puncture	Physical Soil Characteristics Associated with Irrigation	Explanation and presentation of the model and lecture	Exam
5	2	Irrigation and puncture	Soil water deficit	Explanation and presentation of the model and lecture	Exam
6	2	Irrigation and puncture	The most important mathematical relationships for irrigation calculations	Explanation and presentation of the model and lecture	Exam
7	2	Irrigation and puncture	Irrigation water measurements	Explanation and presentation of the model and lecture	Exam
8	2	Irrigation and puncture	Irrigation Water Transmission and Distribution	Explanation and presentation of the model and lecture	Exam
9	2	Irrigation and puncture	Irrigation Competencies	Explanation and presentation of the model and lecture	Exam
10	2	Irrigation and puncture	Water Needs Part 1	Explanation and presentation of the model and lecture	Exam
11	2	Irrigation and puncture	Water Needs Part II	Explanation and presentation of the model and lecture	Exam
12th Grade	2	Irrigation and puncture	Irrigation roads	Explanation and presentation of the model and lecture	Exam
Thirteenth	2	Irrigation and puncture	Drip Irrigation	Explanation and presentation of the model and lecture	Exam
14	2	Irrigation and puncture	sprinkler Irrigation	Explanation and presentation of the model and lecture	Exam

15	2	Irrigation and puncture	Puncture	Explanation and presentation of the model and lecture	Exam
Practical Part					
Week	Credits	Irrigation and puncture	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Irrigation and puncture	Methods of taking moisture samples and visiting college fields	Explanation and presentation of the model and lecture	Exam
2	3	Irrigation and puncture	Mathematical relationships of soil components and soil water equivalent depth	Explanation and presentation of the model and lecture	Exam
3	3	Irrigation and puncture	soil moisture	Explanation and presentation of the model and lecture	Exam
4	3	Irrigation and puncture	Measure field capacity and permanent wilting point	Explanation and presentation of the model and lecture	Exam
5	3	Irrigation and puncture	Tissue Measurement	Explanation and presentation of the model and lecture	Exam
6	3	Irrigation and puncture	Water Consumption	Explanation and presentation of the model and lecture	Exam
7	3	Irrigation and puncture	Watching illustrations of irrigation equipment and the most important irrigation systems used through a scientific trip or film show	Explanation and presentation of the model and lecture	Exam
8	3	Irrigation and puncture	Irrigation Water Drainage Measurement Methods	Explanation and presentation of the model and lecture	Exam
9	3	Irrigation and puncture	Design of irrigation canals	Explanation and presentation of the model and lecture	Exam
10	3	Irrigation and puncture	Irrigation Methods	Explanation and presentation of the model and lecture	Exam
11	3	Irrigation and puncture	Design of drip irrigation network	Explanation and presentation of the model and lecture	Exam
12	3	Irrigation and	Irrigation Drainage Measurement	Explanation and presentation of the model and lecture	Exam

		puncture			
13	3	Irrigation and puncture	Types of pumps	Explanation and presentation of the model and lecture	Exam
14	3	Irrigation and puncture	Some terms that express the capacity of the pumps	Explanation and presentation of the model and lecture	Exam
15	3	Irrigation and puncture	Visiting the agricultural research station for the purpose of viewing irrigation roads	Explanation and presentation of the model and lecture	Exam

Course Evaluation

EXAMINATIONS

Daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	Irrigation Basics and Applications by Dr.Nabil Ibrahim Al-Taif and Dr.Essam Khudair Hamza Al-Hadithi, 1988 Ministry of Higher Education and Scientific Research – University of Baghdad Irrigation and Puncture by Dr.Layth Khalil Ismail, 2000 Ministry of Higher Education and Scientific Research – University of Mosul Design and management of field irrigation systems by Dr.Samir Mohammed Ismail, 2002 Faculty of Agriculture – Alexandria University 4-Modern irrigation technologies and other topics in the water issue by Dr.Essam Khudair Al-Hadithi, Dr.Ahmed Madloul Al-Kubaisi and Dr. Yas Khudair Hamza Al-Hadithi, 2010 Ministry of Higher Education and Scientific Research - Anbar University
Key References (Sources)	Irrigation Basics and Applications by Dr.Nabil Ibrahim Al-Taif and Dr.Essam Khudair Hamza Al-Hadithi, 1988 Ministry of Higher Education and Scientific Research – University of Baghdad
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References , Websites	Soil Science Society of America Library Genesis

Course Description Form Principles of Statistics

Course name

Principles of Statistics

Course code					
PRIS213					
Semester/year					
Spring/ 2026					
Date this description was prepared					
1-6-2026					
Available attendance forms					
In Person					
Number of Credit Hours (Total)/ Number of Units (total)					
5h /3.5unit					
Course administrator's name (if more than one name)					
Dr. Ali Ghidan Zidan					
Course objective					
- Fundamentals of Statistics - Statistical Codes - Presenting and summarising statistical data - Frequency Distribution Schedules - Measures of dispersion. - analysis Correlation - Regression Analysis - Statistical tests - Statistical significance					
Teaching and learning strategies					
How to give lectures 4- Brainstorming 5- Thinking strategy according to the student's ability, for example (if the student can learn the concept of applying statistical concepts in the fields of research and academic application in detail 6- A critical thinking strategy in learning, a term that symbolizes the highest levels of thinking, which aims to pose a problem and then analyse it logically to reach the desired solution.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	5	Fundamentals of Statistics	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
2	5	Statistical Codes	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports

3	5	Presenting and summarizing statistical data	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
4	5	Frequency Distribution Schedules	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
5	5	Measures of Central Tendency	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
6	5	Measures of dispersion	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
7	5	Correlation, its types and measurement	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
8	5	Regression, its types and measurement	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
9	5	Analysis of vari-	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Activity Class and Reports
10	5	Normal distribution and probability	Principles of Statistics	Explanation and presentation of the	Quick and Monthly Exams, Activity Class and

		distributions		model and lecture	Reports
11	5	Testing hypotheses statistical errors	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
12	5	Test hypotheses and distribute t, f, z	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
13	5	Distribution of Hypothesis Test – f	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
14	5	Chi-square Test	Principles of Statistics	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports

Course Evaluation

- Quick daily exams (kozat) .
- Monthly exams (two or more).
- Evaluating the class activity of the students .
- Evaluating the laboratory activities of students
- Assessments on writing scientific reports and homework .

learning and teaching resources;

Required textbooks (methodology if any)	Al-Rawi, Khasha , Introduction to Statistics (1986), Dar Al-Ku for Printing and Publishing, Mosul University.
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports)	
E-References , Websites	

Course Description Form Principles of Microbiology

Course Name
Principles of Microbiology (Biol.)
Course Code
PRIM209
Semester
Spring / 2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Number of Credit Hours (Total)/ Number of Units (total)
5h / 3.5
Course administrator's name (if more than one name)
Dr. Mohamed Nadeem Kassem Abeer Najm Abdullah
Course objective
1- Microbiology researches the identification of the most important beneficial and harmful microorganisms spread in various environments

- 2- How to distinguish between microorganisms
- 3- Identify the most important methods of feeding microorganisms
- 4- Following scientific methods in dealing with microbiology
- 5- Identify the risks and benefits of microorganisms

1. Teaching and learning strategies

1-Explanation and clarification

Lecture method

- 3- Student groups
- 4- Self-learning method

2. Course Evaluation

EXAMINATIONS

Monthly and daily exams with discussion questions within the lecture
Degree of participation in questions related to the subject

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Microbiology, its definition, origin and development	Principles of Microbiology	Lecture and explanation by model presentation	Exam
2	2	Classification of microorganisms and their location from other sciences	Principles of Microbiology	Lecture and explanation View template	Exam
3	2	Bacteria, their forms, composition and classification	Principles of Microbiology	Lecture and explanation View template	Exam
4	2	Bacterial cell components	Principles of Microbiology	Lecture and explanation View template	Exam
5	2	Permeability and Transmembrane Transmission	Principles of Microbiology	Lecture and explanation View template	Exam
6	2	Feeding bacteria and their stages of growth and reproduction	Principles of Microbiology	Lecture and explanation View template	Exam
7	2	Bacteria nuclear material	Principles of Microbiology	Lecture and explanation View template	Exam
8	2	Fungi, their forms, classification, benefits and harms	Principles of Microbiology	Lecture and explanation View template	Exam
9	2	Fungal Cell Structure	Principles of Microbiology	Lecture and explanation View template	Exam
10	2	Fungal nutrition, growth and reproduction	Principles of Microbiology	Lecture and explanation View template	Exam

11	2	Algae, its problems and spread	Principles of Microbiology	Lecture and explanation View template	Exam
12	2	Species of algae and their nutrition	Principles of Microbiology	Lecture and explanation View template	Exam
13	2	Viruses. Its shapes, components and reproduction	Principles of Microbiology	Lecture and explanation View template	Exam
14	2	Microbiology of water and sewage	Principles of Microbiology	Lecture and explanation View template	Exam
15	2	Plant Pathogenic Microbiology	Principles of Microbiology	Lecture and explanation View template	Exam
Week			Principles of Microbiology		
1	3	Identify laboratory equipment and tools and follow safety instructions	Principles of Microbiology	Lecture and explanation by model presentation	Exam
2	3	Microscope, its types and how to use	Principles of Microbiology	Lecture and explanation View template	Exam
3	3	Agricultural media , their types and components	Principles of Microbiology	Lecture and explanation View template	Exam
4	3	Sanitization	Principles of Microbiology	Lecture and explanation View template	Exam
5	3	Forms of Bacteria	Principles of Microbiology	Lecture and explanation View template	Exam

6		Isolation and purification of microorganisms	Principles of Microbiology	Lecture and explanation View template	Exam
7			Principles of Microbiology	Lecture and explanation View template	Exam
8		Microorganism staining, simple staining	Principles of Microbiology	Lecture and explanation View template	Exam
9	3	Compound pigmentation	Principles of Microbiology	Lecture and explanation View template	Exam
10		Microbiology	Principles of Microbiology	Lecture and explanation View template	Exam
11		The Effectiveness of Antibiotics Microbiology	Principles of Microbiology	Lecture and explanation View template	Exam
12		Examination of molds	Principles of Microbiology		
13		Water Inspection	Principles of Microbiology	Lecture and explanation View template	Exam
14	3	Microbiology	Principles of Microbiology	Lecture and explanation View template	Exam
15	3	Methods of preserving bacteria and fungi	Principles of Microbiology	Lecture and explanation View template	Exam

Course Evaluation

EXAMINATIONS

Daily exams with discussion questions within the lecture
Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	1- Microbiology Dr. Faiz Aziz Al-Ani and Dr. Amir Suleiman Badawi 2000 . University of Al Mosul 2- Mycology Formation of a committee of teachers the Department of Biology Sciences -University of Baghdad, Dar Al-Hikma for Printing and Publishing, 199
Key References (Sources)	Microbiology (theoretical part). Adnan Ahmed Ali Nizar Kamal Al-Ashqar (2008). Damascus University Publications – Faculty of Science.
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References , Websites	

Description of the course of the Plant Ecology

Course Name
Plant Ecology
CourseCode
PLAE215
semester/ year
Spring – 2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
:Dr. Hassan Ali Majeed Email: hasanmajeed@uodiyala.edu.iq Nabil Ibrahim Mohamed
Course Objectives

Course objective	1- Plant ecology is concerned with the study of plants as they relate to each other and as they relate to the conditions of the environment in which they live. " It deals with the study of individual plants to find out their living conditions in their natural environments and the extent to which they are affected by the surrounding factors, and the extent to which they interact with them.
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TEACHING AND LEARNING STRATEGIES

Strategy	• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports
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Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Introduction to Ecology	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Importance of Environment	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and	Examinations Daily and Monthly Final and Reports

				discussing Brainstorming	day
3	2	4.2. Climatic Factors	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Lumen	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Temperature	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
6	2	Test (1)	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		Dew...			

7	2	fogs	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Air	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Topographical Factors	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Soil factors	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	fogs	Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Test_0002	Plant	Explanation and model	Examinations

			Ecology	presentation and lecture Brainstorming Debating and discussing Brainstorming	Daily and Monthly Final and Reports day
13	2		Plant Ecology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
14	2			Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2			Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part

Week	Credits	Intended Learning Outcomes	Name of the unit or course	Learning Method	Evaluation Method
1	3	Ecology	Plant Ecology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Psychrometry (Meteor.)	Plant Ecology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Rain gauge	Plant Ecology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Checked Warning type windshear detection system	Plant Ecology	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Quiz 1	Plant Ecology	Case history Brainstorming Debating and	Examinations Daily and Monthly
6		Salinization	Plant Ecology		Examinations Daily and Monthly
7	3	Vegetation	Plant Ecology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	soil moisture	Plant Ecology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	SECOND TEST	Plant Ecology	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3		Plant Ecology	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3		Plant Ecology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
12			Plant Ecology		
13	3			Case history Brainstorming Debating and	Examinations Daily and Monthly

14	3			Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
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Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	1- Plant Environment Book 2- Plant Ecology Kamal Hussain Shaltut 3- Plant Environment Hikmat Al-Ani
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	. Plant ecology

Course Description Form Computer Applications 4

Course name:
Computer Applications
Course code
COMA203
Semester/year
Spring-2026
Date this description was prepared

1-6-2026

Available attendance forms

In-Person

Number of Credit Hours (Total)/ Number of Units (total)

Number of Hours = 3 , Number of Units = 1.5

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

Dr. Aqeel Ibrahim Mustafa

Course objective

1. The student should be familiar with the Internet and its uses
2. The student should be familiar with computer networks and cloud computing
3. The student should get acquainted with the concept of computer networks and their types.
4. The student should be familiar with the input processes and the use of instructions and commands in browsers.
5. The student should understand how to create the email.

Teaching and learning strategies

In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Computer Applications	The student should learn how to use the basics of networks and the Internet 1	Lecture and explanation by model presentation	Daily Exam
2	3	Computer Applications	The student should learn how to use the basics of networks and the Internet 2	Lecture and explanation by model presentation	Daily Exam
3	3	Computer Applications	The student should learn how to use the basics of networks and the Internet 3	Lecture and explanation by model presentation	Daily Exam
4	3	Computer Applications	The student should learn how to use the basics of networks and the Internet 4	Lecture and explanation by model presentation	Daily Exam
5	3	Computer Applications	The student should get acquainted with the concept of browsing and searching in the Internet 1	Lecture and explanation by model presentation	Daily Exam
6	3	Computer Applications	Month 1		
7	2	Computer Applications	The student should get acquainted with the concept of browsing and searching in the Internet 2	Lecture and explanation by model presentation	Daily Exam
8	2	Computer Applications	The student should get acquainted with the concept of browsing and searching in the Internet 3	Lecture and explanation by model presentation	Daily Exam
9	2	Computer Applications	Messages and Electronic Conversations 1	Lecture and explanation by model presentation	Daily Exam
10	2	Computer Applications	Messages and Electronic Conversations 2	Lecture and explanation by model presentation	Daily Exam
11	2	Computer Applications	Messages and Electronic Conversations 3	Lecture and explanation by model presentation	Daily Exam
12	2	Computer Applications	Messages and Electronic Conversations 4	Lecture and explanation by model presentation	Daily Exam
13	2	Computer Applications	Advanced Search Engines	Lecture and explanation by model presentation	Daily Exam
14	2	Computer Applications	Second month		
15					

Course Evaluation

EXAMINATIONS

Monthly and daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	Computer Basics and Desktop Applications Book Part 4
Key References (Sources)	Computer Basics and Desktop Applications Book Part 4
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	Library Genesis

Course Description Form Agricultural Machinery and Machinery

Course Name
Agricultural machinery and machinery
CourseCode
AGRM212
semester/ year
Spring-2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical hours and 3 working hours per week for 15 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Dr. Nasr Salem Hassan Dr. Amer Khaled Ahmed Email: nasirhassen@uodiyala.edu.iq
Course Objectives

Objectives of the course :	2- The science of agricultural machinery and machinery examines the most important machines and machinery used in agricultural fields and the extent of their usefulness 3- Includes knowledge of the basic concepts of agricultural machinery and machinery 4- Knowledge of the features and specifications of agricultural machinery and machinery 5- Knowing the theoretical basis in the work of agricultural machines and the scientific methods used in their use 6- Studying the impact of the use of agricultural
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TEACHING AND LEARNING STRATEGIES

Strategy	• 15-week in-person lectures interspersed with two monthly exams, weekly exams and scientific reports
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Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	General definitions and basic concepts in the science of agricultural machinery and machinery	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
2	2	transmission	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
3	2	Agricultural tug (definition - general description -job -	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming	Examinations Weekly and Monthly Final and

		species)		Debating and discussing Brainstorming	Reports Monthlies
4	2	Main parts of the agricultural tug	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
5	2	Engine General Description - Fixed and Moving Parts	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
6	2	Fuel System (Diesel - Benzene)	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
		First Quarter Examination			
7	2	Lubrication system (types - parts) Benefits of lubrication	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
8	2	Cooling system (water cooling - air cooling)	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
9	2	Transmission Devices (Separator - Gearbox - Differential Device - Final Transmission)	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies

10	2	Hydraulic device - agricultural machinery, its types in terms of the method of connection with the tug	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
11	2	Primary and secondary soil preparation equipment	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
12	2	Composting equipment of all kinds	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
13	2	Irrigation equipment of all kinds	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
			Second Quarter Examination		
14	2	Plant protective equipment of all kinds	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
15	2	Harvesting and harvesting equipment of all kinds	Agricultural machinery and machinery	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Familiarization with agricultural machinery and machinery	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
2	3	To know about the means of transmission	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
3	3	Identifying the agricultural tug	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
4	3	Identify the main parts of the agricultural tug	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports
5	3	Motor Identification - Fixed and Moving Parts	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
6	3	Identifying the fuel system (diesel - benzene)	First Exam	Case history Brainstorming Debating and	Examinations Weekly and monthly

7	3	Identifying the lubrication system (its types - parts)	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
8	3	Identifying the cooling system (water cooling - air cooling)	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports Monthlies
9	3	Identifying the transmission devices (separator - speed box - differential device – final transmission)	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports Monthlies
10	3	Identifying the hydraulic device - agricultural machinery, its types in terms of the method of linking with the tug	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
11	3	Identify primary and secondary soil preparation equipment and how to connect it to the drawer	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
12	3	Identify all types of composting equipment and connect them to the drawer	Second Exam	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports
13	3	Identify irrigation equipment of all kinds	Agricultural machinery and machinery	Case history Brainstorming Debating and	Examinations Weekly and monthly

14	3	Identify plant protection equipment of all kinds and how to link them to the tug	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies
15	3	Identify harvesting and harvesting equipment of all kinds	Agricultural machinery and machinery	Case history Brainstorming Debating and discussing	Examinations Weekly and monthly activities. Final and Reports Monthlies

Course Evaluation

Weekly and monthly exams, reports and student effectiveness during the lecture .

learning and teaching resources;

Required textbooks (methodology if any)	Agricultural machinery and machinery
Key References (Sources)	7- College and university website 8- University Directory 9- Central Library 10- The most important books and resources of the department Internet- 5
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References, Websites	

Course Description Form Farm Management

Course name:
Farm management
Course code
FARM216
Semester/year
Spring - 2026
Date of preparation of this description
1-6-2026
Available attendance forms
In Person
Number of Credit Hours (Total)/ Number of Units (total)
5h /3.5unit
Course administrator's name (if more than one name)
Prof. Dr. Ali Ghidan Zidan Abdullah Mahmood
Course objectives
- General Principles in Farm Management and Administration -Decision, Decision Making, Types of Decisions - The farm and the stages of achieving the objectives -Factors influencing the selection of an agricultural business project, qualifications of successful management -Functions of agricultural management science, development of agricultural productive work - The farm as an economic unit costs and revenues of the agricultural production process - Profit Types Loss Types and Product Behavior - Economic principles used in farm management The principle of determining the best level of production - The principle of substitution and replacement marginal returns-Equi - The Principle of Opportunity Costs The Principle of Comparative Advantage - Farm Planning and Partial Farm Budget Use - Farm Management Methods - Farm Management in Conditions of Risk and Uncertainty - Measurements of Economic Efficiency on the Farm - Farm Records
Teaching and learning strategies
How to give lectures 7- Brainstorming 8- Thinking strategy according to the student's ability, for example (if the student can learn the concept of applying the concept of agricultural economy on the farm, whether in terms of optimization of resources and production, as well as how to discharge production in detail.

9- A critical thinking strategy in learning, a term that symbolizes the highest levels of thinking aims to pose a problem and then analyse it logically to reach the desired solution.

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	General Principles in Farm Management and Administration	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
2	2	Decision, Decision Making, Types of Farm Decisions and Stages of Achieving Goals	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
3	2	Factors influencing the selection of an agricultural business project, qualifications of successful management	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
4	2	Functions of agricultural management science, development of agricultural productive work	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
5	2	The farm as an economic unit Costs and revenues of the agricultural production process	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
6	2	Profit Types Loss Types and Product Behavior	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
7	2	Economic principles used in farm management The principle of determining	Farm Management -	Explanation and presentation of the	Quick and Monthly Exams, Class Activity and Reports

		the best level of production -		model and lecture	
8	2	Principle of Substitution and Substitution	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
9	2	marginal returns-Equi	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
10	2	The Principle of Opportunity Costs The Principle of Comparative Advantage	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
11	2	Farm Planning and Partial Farm Budget Use	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
12	2	Farm Management Methods	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
13	2	Farm Management in Conditions of Risk and Uncertainty	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports
14	2	Economic efficiency	Farm Management	Explanation and presentation of the model and lecture	Quick and Monthly Exams, Class Activity and Reports

Practical Part

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method	
1	3	Managing the elements of agricultural production	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
2	3	Land element management General economic concepts	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
3	3	Farm Establishment Necessary Maps	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
4	3	Agricultural land:	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
5	3	Methods of estimating the value of the farm	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
6	3	Depreciation account for fixed assets	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
7	3	The trade-off between owning and leasing agricultural land	Farm Management -	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
8	3	Capital Element Management General Economic Concepts	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity
9	3	Farm capital and assets and the relationship between capital and labor	Farm Management	Explanation and presentation	Quick Exams, Class and Reports	Monthly Activity

					of the model and lecture		
10	3	Managing agricultural machinery as a model for capital management	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity	
11	3	The trade-off between owning and renting agricultural machinery	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity	
12	3	Work item management and general concepts	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity	
13	3	Description of agricultural work Types of agricultural work	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity	
14	3	Farm Work Timing, Farm Work System, Farm Work Productivity	Farm Management	Explanation and presentation of the model and lecture	Quick Exams, Class and Reports	Monthly Activity	
F							

Course Evaluation

- Quick daily exams (kozat) .
- Monthly exams (two or more).
- Evaluating the class activity of the students .
- Evaluating the laboratory activities of students
- Assessments on writing scientific reports and homework .

learning and teaching resources;

Required textbooks (methodology if any)	Al-Samarrai , Hashem Alwan. 1984. Farm business management University of Baghdad Iraq.
Key References (Sources)	1-Arhouma and Shallouf, Ali Ahmed and Faisal. 1998.Fundamentals of Farm Management.Omar Al-Mukhtar University 8- Al-Ruwais , Khaled. 2009. Management of agricultural facilities. King Saud University Faculty of Food Science and Agriculture

	.Agricultural economics.213 Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	

Course Description Form Arabic

Course name
Arabic Language
Course code
ARAL217
Semester/year
Spring /2026
Date this description was prepared
1-6-2026
Available attendance forms
Full-time (theoretical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical units per week for (15 weeks)/2 units
Course administrator's name (if more than one name)
Dr. Mayada Mohammed Abdullatif
Course objectives
This curriculum examines the correct learning of the Arabic language and the knowledge and preservation of its beginnings.
Teaching and learning strategies
1- The student should learn the basics of the Arabic language 2- The student identifies common linguistic errors and tries to avoid them 3- The student can write a clear and accurate dictation.

Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	The student should recognize the importance of the Arabic language and to preserve it	Arabic Language	Explanation and presentation of the lecture	Exam:
2	2	The student should get acquainted with a historical overview of the Arabic language	Arabic Language	Explanation and presentation of the lecture	Exam:
3	2	The student should recognize the alphabet and the alphabet	Arabic Language	Explanation and presentation of the lecture	Exam:
4	2	The student should identify common linguistic errors	Arabic Language	Explanation and presentation of the lecture	Exam:
5	2	The student should recognize punctuation marks	Arabic Language	Explanation and presentation of the lecture	Exam:
6	2	The student learns about general grammar rules	Arabic Language	Explanation and presentation of the lecture	Exam:
7	2	The student should identify the number and the enumerated number	Arabic Language	Explanation and presentation of the lecture	Exam:
8	2	The student should get acquainted with Hamza writing in Arabic	Arabic Language	Explanation and presentation of the lecture	Exam:
9	2	The student should learn about the difference between antidote and antidote	Arabic Language	Explanation and presentation of the lecture	Exam:
10	2	The student should identify the missing verbs	Arabic Language	Explanation and presentation of the lecture	Exam:
11	2	The student should identify the copied names	Arabic Language	Explanation and presentation of the lecture	Exam:
12	2	The student should learn about the types of (what)in the Arabic language	Arabic Language	Explanation and presentation of the lecture	Exam:
13	2	The student should identify the link and the cutter	Arabic Language	Explanation and presentation of the lecture	Exam:

14	2	The student learns about the sentence, the subject and the experience	Arabic Language	Explanation and presentation of the lecture	Exam:
15	2	The student should get acquainted with the elements of the sentence	Arabic Language	Explanation and presentation of the lecture	Exam:
Learning and teaching sources					
Mughnī al-Labīb ‘an Kutub al-A‘āryb (Primer Grammar)					
Alfiyyat Ibn Mālik (The Thousand-Line Poem Ibn Mālik)					

Stage third (Autumn + Spring Semester)

Phase 3 /Fall Semester		
Course Name	Course Name	Course Code
Fibre crops	Fiber crops	FIBC303
Plant diseases	plant Diseases	CROD304
Forage crops	Forage Crops	FORC305
Mechanization of Field Crops	Mechanization of Field Crops	MECF306
Analysis and design of agricultural experiments	Experimental Design and Analysis	EXPD302
Salinity and soil reclamation	Salinity and reclamation of land	SALR307

Course Description Form Fibre Crops

Course Name

Fibre crops	
CourseCode	
FIBC303	
semester/ year	
Fall-2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total)/ Number of Units (total)	
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units	
Name of the course administrator (if more than one name is mentioned)	
Dr. Hassan Ali Majeed Email: hasanmajeed@uodiyala.edu.iq	
Othman Nassif Jassim	
Course Objectives	
Objectives of the course :	8- It aims to introduce the most important crops of fiber cultivated globally, seed, bark and paper, by studying their economic importance, their original homeland, their productive area, their environmental and agricultural requirements, and the service operations provided for each crop, and focusing on the reality of cotton cultivation in Iraq and its development, how to prepare cotton for industry, and on cotton by-products. 9- Eliciting varieties with a high production capacity of fibers 3-The oil is decomposed to inappropriate environmental and biological conditions. The application of modern technical
TEACHING AND LEARNING STRATEGIES	

Strategy	• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports
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Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Introduction to Fibre Crops	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Division of Fibre Crops	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Obstacles to the cultivation and production of fiber crops	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Cotton Crop	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Cotton plant Biology cycle	Fibre Crops	Explanation and model presentation and lecture Brainstorming	Examinations Daily and Monthly Final and Reports

				Debating and discussing Brainstorming	day
6	2	First Quiz	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
7	2	Flax	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Ways to give linen	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Jute	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Jingle	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	SECOND TEST	Fibre Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

12	2			Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2			Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
14	2			Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2			Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Preparing soil for growing fiber crops	Fibre Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
2	3	Cotton Botanical Description Study	Fibre Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

3	3	Study of cotton varieties cultivated in Iraq	Fibre Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Quiz 1	Fibre Crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Flax Botanical Description Study	Fibre Crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
6		Flax Crop Cultivation	Fibre Crops	watching. Brainstorming Debating and	Examinations Daily and Monthly
7		A study of linen fibre administration	Fibre Crops	watching. Brainstorming Debating and	Examinations Daily and Monthly
8		Jute Botanical Description Study	Fibre Crops	watching. Brainstorming Debating and	Examinations Daily and Monthly
9		Study of vegetative description of jute	Fibre Crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
10		SECOND TEST	Fibre Crops	Case history Brainstorming Debating and	Examinations Daily and Monthly

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	9- Fibre Crop Production Book 10- Fibre and oil crops Ali Al-Dajwi
Key References (Sources)	Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	Crop Science Society Of America Thomas Forsyth Hunt Forage and fibre crops in America

Description of the course of the Plant Diseases

Course name	
Plant Diseases	
Course Code:	
CROD304	
Semester/year	
First/2026	
Date this description was prepared	
1-6-2026	
Available attendance forms	
Compulsory	
Number of Credit Hours (Total)/ Number of Units (total)	
2 theoretical hours and 3 working hours per week for 14 weeks/ number of units 3	
Course administrator's name (if more than one name)	
Dr. Mohamed Nadeem Kassem	
Course objectives	
The student should know the concept of plant disease and be able to distinguish between the types of field diseases and ways to combat them and between chemical control and biological control and to know the scientific methods used in reducing the harm of diseases and the student should assess the cost of chemical control and quality of pesticides used and the devices used in the control.	
Teaching and learning strategies	
1-Explanation and clarification Lecture method 3- Student groups 4- Self-learning method	
Course Evaluation	
EXAMINATIONS Monthly and daily exams with discussion questions within the lecture Degree of participation in questions related to the subject	
learning and teaching resources;	
Required textbooks (methodology if any)	Plant Diseases, 1988 , by Dr. Abdul Hamid Khaled - Zarzis,Maysar Majeed and Sergeant Akef Hamad and Iyad Abdul Wahid Al-Hiti (1993) Basics of Plant Diseases -Dar Al-Hikma for Printing and Publishing. Al-Ani, Raqeeb Akef, Maysir Majeed Zarzis and

	Kamel Salman Jabr (1989) Field Crop Diseases, Higher Education Press.
	The Basics of Plant Pathology 1995 , Robert Daniel
Key References (Sources)	Phytopathology, Agrios G., 200
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References, Websites	crop Science Society Of America Library Genesis

We ek	Cred its	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Economic Importance of Field Crop Diseases	Plant Diseases	Lecture and explanation by model presentation	Exam
2	2	Field Crop Pathogens	Plant Diseases	Lecture and explanation View template	Exam
3	2	Wheat diseases: - Root rot and damping off of seedlings, powdery mildew, yellowish villous whiteness, stem rust, leaf rust, striped rust, covered charring, loose charring.	Plant Diseases	Lecture and explanation View template	Exam
4	2	Spelt Diseases: - Fluffy charring, smearing of asparagus leaves, stem molds, black dot, spike blight, grain warts, spelt mosaics.	Plant Diseases	Lecture and explanation View template	Exam
5	2	Malt Diseases	Plant Diseases	Lecture and explanation View template	Exam
6	2	Rice diseases	Plant Diseases	Lecture and explanation View template	Exam
7	2	Maize (corn)	Plant Diseases	Lecture and explanation View template	Exam
8	2	Sorghum	Plant Diseases	Lecture and explanation View template	Exam
9	2	Oily Crop Diseases Sunflower diseases	Plant Diseases	Lecture and explanation View template	Exam
10	2	Sesame and safflower diseases	Plant Diseases	Lecture and explanation View template	Exam

11	2	Legume Crop Diseases	Plant Diseases	Lecture and explanation View template	Exam
12	2	Sugary Crop Diseases	Plant Diseases	Lecture and explanation View template	Exam
13	2	Fibre Crop Diseases	Plant Diseases	Lecture and explanation View template	Exam
14	2	Diseases of Forage crops	Plant Diseases	Lecture and explanation View template	Exam
15	2	Tobacco diseases	Plant Diseases	Lecture and explanation View template	Exam
Practical Part					
We ek	Cre dits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Laboratory tools and devices in the Field Crop Disease Laboratory	Plant Diseases	Lecture and explanation by model presentation	Exam
2	3	Symptoms and signs	Plant Diseases	Lecture and explanation View template	Exam
3	3	Study of symptoms and signs of wheat diseases	Plant Diseases	Lecture and explanation View template	Exam
4	3	Study of symptoms and signs of wheat diseases	Plant Diseases	Lecture and explanation View template	Exam
5	3	Studying the symptoms and signs barley diseases	Plant Diseases	Lecture and explanation View template	Exam

6	3	Study of symptoms and signs of plant diseases	Plant Diseases	Lecture and explanation View template	Exam
7	3	Study of the symptoms and signs of maize	Plant Diseases	Lecture and explanation View template	Exam
8	3	Study of Symptoms and Signs of Sorghum Disease	Plant Diseases	Lecture and explanation View template	Exam
9	3	Studying the symptoms and signs of sunflower diseases	Plant Diseases	Lecture and explanation View template	Exam
10	3	Study of symptoms and signs of sesame and safflower diseases	Plant Diseases	Lecture and explanation View template	Exam
11	3	Studying the symptoms and signs of the most important diseases of leguminous crops	Plant Diseases	Lecture and explanation View template	Exam
12	3	Study of symptoms and signs of the most important diseases of sugar crops	Plant Diseases	Lecture and explanation View template	Exam
13	3	Studying the symptoms and signs of the most important diseases of fiber crops	Plant Diseases	Lecture and explanation View template	Exam
14	3	Studying the symptoms and signs of the most important crop diseases of forage	Plant Diseases	Lecture and explanation View template	Exam
15	3	Studying the symptoms and signs of the most important diseases of TOBACCO	Plant Diseases	Lecture and explanation by model presentation	Exam
Course Evaluation					

EXAMINATIONS

Daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	Plant Diseases, 1988 , by Dr. Abdul Hamid Khaled - Zarzis,Maysar Majeed and Sergeant Akef Hamad and Iyad Abdul Wahid Al-Hiti (1993) Basics of Plant Diseases -Dar Al-Hikma for Printing and Publishing. Al-Ani, Raqeeb Akef, Maysir Majeed Zarzis and Kamel Salman Jabr (1989) Field Crop Diseases, Higher Education Press. The Basics of Plant Pathology 1995 , Robert Daniel
Key References (Sources)	Phytopathology , Agrios G., 200
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References , Websites	crop Science Society Of America Library Genesis

Infrastructure

Required textbooks	- Plant Diseases, 1988 , authored by Dr. Abdul Hamid Khaled - Zarzis ,Maysar Majeed and Sergeant Akef Hamad and Iyad Abdul Wahid Al-Hiti (1993) Basics of Plant Diseases -Dar Al-Hikma for Printing and Publishing. Al-Ani, Raqeeb Akef, Maysir Majeed Zarzis and Kamel Salman Jabr (1989) Field Crop Diseases, Higher Education Press. - Plant Disease Fundamentals 1995 , Robert Daniel Phytopathology , Agrios G., 2005
Key References (Sources)	- Zarzis ,Maysar Majeed and Sergeant Akef Hamad and Iyad Abdul Wahid Al-Hiti (1993) Basics of Plant Diseases -Dar Al-Hikma for Printing and Publishing. Al-Ani, Raqeeb Akef, Maysir Majeed Zarzis and Kamel Salman Jabr (1989) Field Crop Diseases, Higher Education Press. 14 Plant Disease Fundamentals 1995 , Robert Daniel Phytopathology , Agrios G., 2005

Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
Electronic references, websites ,.....	crop Science Society Of America Library Genesis

Description of the course of the Forage crops

Course Name
Forage crops
CourseCode
FORC302
semester/ year
Autumn-2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Dr. Marwan Sami Saeed Email: marwansami@uodiyala.edu.iq
Inas Abdul Rahim Khalaf

Course Objectives

Objectives of the course :

1. Identify the importance of Forage crops and methods of cultivation, management, tamping or cutting them
- 2- Knowing the types of Forage crops and where they originate
- 3-Knowledge of the processes related to soil service, including plowing, smoothing, leveling and dividing the land and irrigation channels
- 4-Knowledge of the processes related to crop service, such as methods of planting, appropriate quantities of seeds, fertilization, dates of tampon and appropriate cutting

TEACHING AND LEARNING STRATEGIES

Strategy

- In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports

Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Historical overview of Forage crops and some important terms for Forage crops	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	The importance of Forage crops and the division and classification of Forage crops	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Economic importance and	Forage crops	Explanation and model presentation and lecture	Examinations Daily and Monthly

		agricultural management of legumes, including alfalfa		Brainstorming Debating and discussing Brainstorming	Final and Reports day
4	2	The economic importance and agricultural management of the Egyptian clover crop The economic importance and agricultural management of Hartman, Handcock and Kurt	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Economic importance and agricultural management of Forage cowpea crops	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
6	2	Economic importance and agricultural management of kashoon and clover	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
7	2	Economic importance and agricultural management of fenugreek, livestock and soybean crops	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Economic importance and	Forage crops	Explanation and model presentation and lecture	Examinations Daily and Monthly

		agricultural management of grass crops, including barley and oats		Brainstorming Debating and discussing Brainstorming	Final and Reports day
9	2	Economic importance and farm management of maize and sorghum	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Economic importance and agricultural management of millet and Sudanese cannabis crops	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Feed mixtures – types – advantages and benefits	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Forage Crop Breeding	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Feed Manufacturing – Al-Drees	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		
14	2	Silage Feed Manufacturing	Forage crops	Explanation and model presentation and lecture Brainstorming	Examinations Daily and Monthly Final and Reports

				Debating and discussing Brainstorming	day
15	2	Mechanization of Forage crops	Forage crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Distinguish seeds and plants of Forage crops.	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Alfalfa , Botanical Description, Planting Methods, Planting Dates, Seed	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Egyptian Alfalfa, Botanical Description, Planting Methods, Planting	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Clover (sweet alfalfa) , plant description, planting	Forage crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Mash. Hartmann , Botanical Description, Planting	Forage crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
6			First Exam		
7	3	Ash Sha'ir Oats , Botanical Description, Planting Methods, Planting	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Popcorn. Sorghum, Botanical Description, Planting Methods, Planting Dates, Fertilization,	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports

9	3	millet Rye , Botanical Description, Planting Methods, Planting	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
10	3	Qualitative evaluation of Forage crops, and methods	Forage crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	How to manufacture a thresher	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
12			Second Exam		
13	3	How to make silage	Forage crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
14	3	Reviewed by	Forage crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	11- Forage and pasture crops, d. Ramadan Tikriti et al ., 1982 12- forage crops , 2020 13- forage handbook , 2022 .
Key References (Sources)	Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals

E-References, Websites	Crop Science Society Of America Forage and grasses The field crops _ principles and a practice Agronomy journal. . Websites, Articles, FAO reports .
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Course Description Form Mechanization of Field Crops

Course Name
Mechanization of Field Crops
CourseCode
MECF306
semester/ year
Autumn-2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical hours and 3 working hours per week for 15 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Dr. Nasr Salem Hassan Email: nasirhassen@uodiyala.edu.iq
Dr. Amer Khaled

Course Objectives

Objectives of the course :

- 10- The science of field crop mechanization examines the most important equipment and machines used in agricultural crop fields and the extent of their usefulness
- 11- Includes knowledge of basic concepts in mechanization of field crops
- 12- Knowledge of the features and specifications of the types of field crop mechanization equipment
- 13- Knowledge of the theoretical basis in the work of field crop mechanization equipment and the scientific methods used in its operation
- 14- Studying the impact of field crop mechanization equipment in increasing agricultural production
- 15- Scientific methods used in the development of field crop mechanization equipment and according to the

TEACHING AND LEARNING STRATEGIES

Strategy

- 15-week in-person lectures interspersed with two monthly exams, weekly exams and scientific reports

10. Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Introduction to mechanization of field crops and its importance	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
2	2	Soil Preparation Equipment for Planting	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies

				Brainstorming	
3	2	Composting equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
4	2	Sowing, planting, sapling and precision farming equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
5	2	Crop Irrigation Equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
6	2	Planting equipment between plant lines	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
		First Quarter Examination			
7	2	Agricultural Pest Control Equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
8	2	Cereal harvesters	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
9	2	Growing Crop	Mechanization of Field Crops	Explanation and model presentation	Examinations Weekly and

		Harvesting Equipment		and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports Monthlies
10	2	Cotton culprits	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
11	2	Equipment for trading and transporting agricultural crops	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
12	2	Agricultural Crop Cleaning and Grading Equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports day
13	2	Crop drying and storage equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
			Second Quarter Examination		
14	2	Green Feed Processing Equipment	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Weekly and Monthly Final and Reports Monthlies
15	2	Estimating the farm's need for drawers and agricultural	Mechanization of Field Crops	Explanation and model presentation and lecture Brainstorming Debating and	Examinations Weekly and Monthly Final and Reports

		equipment		discussing Brainstorming	Monthlies
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Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Classification of field crop mechanization equipment	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
2	3	Learn about soil preparation equipment for planting and how it works in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
3	3	To know about the composting equipment and how it works in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
4	3	Identify the equipment of sowing, planting, seedling and cultivation equipment and its method of work in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
5	3	Learn about crop irrigation equipment and how it works in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies

6	3	Identify the planting equipment including the lines of plants and how they work in the field	Mechanization of Field Crops		Examinations Weekly and Monthly Final and Reports Monthlies
7	3	Learn about agricultural pest control equipment and how it works in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
8	3	Identify the grain harvesters and how they work in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
9	3	Learn about growing crop harvesting equipment and how it works in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
10	3	Identify the cotton culprits and how they work in the field	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
11	3	Identifying the equipment for trading and transporting agricultural crops	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
12		Identify the equipment for cleaning and grading agricultural crops	Second Exam	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies

13	3	Identify and store crop drying equipment	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
14	3	Identify green Forage preparation equipment	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	Examinations Weekly and Monthly Final and Reports Monthlies
15	3	Calculations on estimating the farm's need of drawers and agricultural equipment	Mechanization of Field Crops	Case history Brainstorming Debating and discussing	

Course Evaluation	
Weekly and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	Field crops
Key References (Sources)	11- College and university website 12- University Directory 13- Central Library 14- The most important books and resources of the department Internet- 5
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References, Websites	

Course Description Form Designing and Analyzing Experiences

Course Name	
Design and analysis of agricultural experiments	
CourseCode	
EXPD302	
semester/ year	
Fall-2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total)/ Number of Units (total)	
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units	
Name of the course administrator (if more than one name is mentioned)	
Dr. Dania Salman Qahraman Email: daniasalman@uodiyala.edu.iq	
Course Objectives	
Objectives of the course :	1- The course discusses the importance of agricultural experiments and how to develop their own designs 2- Includes knowledge of statistical analysis for each experimental design 3- Know the features of each design and to what type of field crops can be appropriate. 4- Means of statistical analysis by manual methods or using a manual calculator. 5-Studying the types of modern software for statistical analysis of each experimental design.

TEACHING AND LEARNING STRATEGIES					
Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Revision in Statistics	Design and analysis of agricultural experiments	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Basic rules for experimental design - basic elements of experimental design (estimation of experimental error, control of experimental error, interpretation of results)	Design and analysis of agricultural experiments	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Definitions and concepts of terminology in experimental design	Design and analysis of agricultural experiments	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Full Random Design	Design and analysis of	Explanation and model presentation	Examinations Daily and

			agricultural experiment s	and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports day
5	2	Complete Randomizatio n Design Complement	Design and analysis of agricultural experiment s	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
6	2	Design of Full Random Sectors	Design and analysis of agricultural experiment s	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
7	2	Latin Square Design	Design and analysis of agricultural experiment s	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Factor Trials for Complete Randomized Design	Design and analysis of agricultural experiment s	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Factor Trials for Full Randomized Segment Design	Design and analysis of agricultural experiment s	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Factorial Experiences of Latin Square Design	Design and analysis of agricultural experiment s	Explanation and model presentation and lecture Brainstorming Debating and	Examinations Daily and Monthly Final and Reports

				discussing Brainstorming	day
11	2	Splinter Sector Designs	Design and analysis of agricultural experiments	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Wrapping up	Design and analysis of agricultural experiments	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
Second Quarter Examination					

Practical Part					
Week	Credits	Intended Learning Outcomes	Design and analysis of agricultural	Learning Method	Evaluation Method
1	3	Practical applications for solving statistics problems	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Learn how to estimate the experimental error and how to reduce it	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Practical Applications	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Visit to the field	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
5	3	Practical Applications to solve full randomization	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
6		Month 1			

7	3	Practical Applications	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Practical Applications	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Practical Applications	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
10	3	Practical Applications	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
11	3	Practical Applications	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
12	3	Visit to the field	Design and analysis of agricultural experiments	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
			Second Exam		

Course Evaluation
Daily and monthly exams, reports and student effectiveness during the lecture .
learning and teaching resources;

Required textbooks (methodology if any)	The entry to the census is written by Dr. Khasha Mahmoud Al-Rawi, Ministry of Higher Education and Scientific Research, University of Mosul. Commission on the Status of Women, preparatory committee (PrepCom) for the special session of the GA: "Women 2000: gender equality, development and peace for the 21st century", New York 3-17 March
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals, Reports)	Iraqi academic scientific journals
E-References, Websites	

Third Stage/Spring Semester

Course Name	Course Name	Course Code
Seed TECHNOLOGICAL	Seed Technology	SEET313
Inheritance	General Genetics	GENG308
Cereal crops	Cereal Crops	CERC309
LegumeCrops	Legume Crops	LEGC310
Bee Breeding	Bee Breeding	BEEB311
Insect Field Crops	Insect Field Crops	INSF312
Specialized English Language 3	Specific English Language 3	ENGL301

Course Description Form Seed Technology

Course Name

Seed Technology	
CourseCode	
SEET313	
semester/ year	
Spring-2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms :	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total)/ Number of Units (total)	
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units	
Name of the course administrator (if more than one name is mentioned)	
Name:Dr. Hassan Ali Majeed Email: hasanmajeed@uodiyala.edu.iq	
Othman Nassif Jassim	
Course Objectives	
Objectives of the course :	16- Processing high-quality seeds, meaning seeds of high-yielding varieties, disease and insect-resistant varieties. 17- Increase agricultural production by providing high-quality seeds. 18- Ensure rapid propagation of seeds of desired varieties. 19- Provide seeds in a timely manner , well in advance of planting season. 20- Providing seeds at reasonable prices.
TEACHING AND LEARNING STRATEGIES	

Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Fundamentals of Seed Technology	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Parts of Venus	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Seed Ingredients	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Seed Physiology	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Seed activation	Seed	Explanation and	Examinations

			Technology	model presentation and lecture Brainstorming Debating and discussing Brainstorming	Daily and Monthly Final and Reports day
6	2	Seeding rate	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		Test 1			
7	2	On-site inspection	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Growth Regulators	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Seed chemical components	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Polyembryonic Phenomenon	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and	Examinations Daily and Monthly Final and Reports day

				discussing Brainstorming	
11	2	SECOND TEST	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Single-cotyledon seeds	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Dicotyledon seeds	Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
14	2		Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2		Seed Technology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Seed Technology	Learning Method	Evaluation Method
1	3	Seed parts	Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Anatomy of the components of Venus	Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Seed Ingredients	Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Germination	Seed Technology	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Germination	Seed Technology	Case history Brainstorming Debating and	Examinations Daily and Monthly
6		Studying the necessary equipment for	Seed Technology		Examinations Daily and Monthly
7	3	Quiz 1	Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Sampling of Forms	Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Seed consignments	Seed Technology	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3	humidity	Seed Technology	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	Storage	Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
12		SECOND TEST			

13	3		Seed Technology	Case history Brainstorming Debating and	Examinations Daily and Monthly
14	3		Seed Technology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	4- Seed Technology Book Jalal Hamid Hamza 5- Seed Technology Practical Part Riad Jabbar Mansour 6- Foundations of Seed Science and Technology Alft Al-Bagouri
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	Crop Science Society Of America ISTA,1985)

Description of the course of the Inheritance

Course Name
Inheritance
CourseCode
GENG308

semester/ year	
Spring-2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total)/ Number of Units (total)	
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units	
7Name of the course administrator (if more than one name is mentioned)	
Dr. Dania Salman Qahraman Email: daniasalman@uodiyala.edu.iq Ghufran Ali Hussein	
Course Objectives	
Objectives of the course :	21- - Graduating students who can work in scientific research centres and universities to improve the reality of crop cultivation in the country. 22- - Providing an agricultural cadre specialized in field crop sciences that can create job opportunities in the private agricultural sector and start agricultural work by without waiting to work in state institutions. 23- - The possibility of sending the first students to the department to the developed countries in the field of agricultural sciences to transfer the latest science to our
TEACHING AND LEARNING STRATEGIES	
Strategy	• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports
Course Structure	
theoretical.	

Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Introduction to the History and Development of Genetics.	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	The cytological basis of Mendelian inheritance (cell cycle and mitosis.)	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Complementing the Cytological Basis of Mendelian Inheritance (Mayo Dichotomy) .	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Mendelian Inheritance (Isolation Act).	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Mendelian inheritance (Free Distribution Act).	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			Inheritance

					ce
6	2	Interaction between genes and states of superiority.	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
7	2	The chemical basis of the genetic material and the construction of DNA.	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Complementing the chemical basis of the genetic material (DNA replication, cloning and translation).	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Inheriting multiple alleles.	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Gender Identification Systems and Gender-Related Inheritance	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Correlation, Transit and Genetic Mapping.	Inheritance	Explanation and model presentation and lecture Brainstorming	Examinations Daily and Monthly

				Debating and discussing Brainstorming	Final and Reports day
12	2	Environmental (peripheral) influences and gene expression.	Inheritance	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		

Practical Part					
Week	Credits	Intended Learning Outcomes	Weed control	Learning Method	Evaluation Method
1	3	Familiarity with the history and development of genetic sciences	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	To know about the cell cycle and the process of mitosis	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Recognize cell mitosis	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Identifying the law of isolation according to Mendelian	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
5	3	Identifying the law of free distribution according to Mendelian	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
6		Month 1	Inheritance		Examinations Daily and Monthly
7	3	The student learns the relationship of genes to each other	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

8	3	The student learns who the genetic material consists of and how to repeat it	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	That the student learns how to replicate the genetic material and transfer	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
10	3	The student learns what multiple alleles are and what their impact is on genetic	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
11	3	That the student learns about the relationship of heredity to the transmission of sex	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
12		The student learns what is correlation, transit and genetic mapping	Inheritance	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
			Second Exam		

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	Spencer & Cummings , Clug (2014, 2006). Genetics Concepts
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	

Description of the course of the Cereal crops

Course Name
Cereal crops
CourseCode
CERC309
semester/ year
Spring / 2026
Date of preparation of this description
1/ 6/2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Number of Credit Hours (Total)/ Number of Units (total)
2 theoretical hours and 3 working hours per week for 15 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Dr. Nader Fleih Ali Al-Mubarak Email: nadiralmubarak@uodiyala.edu.iq Inas Abdul Rahim Khalaf
Course Objectives

Objectives of the course :		Studying the most important cereal crops (wheat, barley, rice, maize, sorghum, millet, oats and rye) and identifying their economic and nutritional importance, plant classification, discrimination, stages of development, soil conditions suitable for their growth and production, the most important varieties cultivated in Iraq, and the soil and crop service operations of each of them, including calculations of plant density, quantities of seeds, fertilizers and pesticides, methods of harvesting them, conditions of			
TEACHING AND LEARNING STRATEGIES					
Strategy	• In-person lectures for 15 weeks, interspersed with two monthly exams, daily exams and scientific reports				
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Economic Importance – Production Centers	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Wheat – economic importance – production centers – place of origin. Stages ofGrowth – Splitting Wheat	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Irrigation – lying –	Cereal	Explanation and	Examinat

		maturation – harvesting – threshing – productivity – storage – raising and improvement of wheat – stages of flour production.	crops	model presentation and lecture Brainstorming Debating and discussing Brainstorming	ions Daily and Monthly Final and Reports day
4	2	Barley – economic importance – production centers – home country.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinat ions Daily and Monthly Final and Reports day
		First Quarter Examination			
6	2	Maturity – harvesting – threshing – storage – productivity – cultivation methods for barley.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinat ions Daily and Monthly Final and Reports day
7	2	Rice – economic importance – production centers – place of origin.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinat ions Daily and Monthly Final and Reports day
8	2	Growth stages of rice – rice collections in the world – rice division – nutritional value – distribution in Iraq – varieties.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinat ions Daily and Monthly Final and Reports day
9	2	Ripening – harvesting – threshing – drying – productivity – stroking and its	Cereal crops	Explanation and model presentation and lecture Brainstorming	Examinat ions Daily and Monthly Final and

		stages - rice flour – cooking quality qualities.		Debating and discussing Brainstorming	Reports day
10	2	Maize – Economic importance – Chemical composition of maize – Geographical distribution – Historical overview – Origin.. . Maturity – Harvesting – Method of breeding and improvement.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Sorghum – Economic importance – Home country – Corn varieties – Distribution in Iraq – Maturity – Harvesting and threshing.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Millet – Economic importance – Production centers – Home country – Types of millet – Maturity – Harvesting – Productivity – Quality	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
Second Quarter Examination					
14	2	Oats – economic importance – production centers – place of origin – types of oats – maturity – harvest – productivity – quality.	Cereal crops	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2	Rye – economic importance - production centers	Cereal crops	Explanation and model presentation	Examinations Daily and

		– home country – rye species – maturity – harvest – productivity – quality		and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports day
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Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	View soil service operations for wheat crop	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Views of crop service operations for wheat	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Follow up the growth stages of the wheat crop	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Identify wheat pests from diseases, insects and Weeds.	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
5	3	View barley soil and crop service operations	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
First Exam					
7	3	Identify barley pests from diseases, insects and Weeds.	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	View soil service operations for rice crop	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Views of rice crop service operations	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

10	3	Identify rice pests from diseases, insects and Weeds.	Cereal crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	Observations of soil and crop service operations and identification of	Cereal crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
12	3	Observations of soil and crop service operations and identification of	Cereal crops	Case history Brainstorming Debating and	Examinations Daily and Monthly
Second Exam					
14	3	Observations of soil and crop service operations and identification of oat	Cereal crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
15	3	Observations of soil and crop service operations and identification of rye	Cereal crops	watching. Brainstorming Debating and discussing	Daily, Monthly and Final Quizzes and Daily

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	1- Wheat cultivation and production techniques/ Jamal Al-Shabini . - First editions. Egyptian Library 2009. . 2- Production of field crops, d. Salah Al-Din Abdul Razzaq Shafshak and Dr. Abdul Hamid Al-Sayed Al-Dababi, 2008, Dar Al-Fikr Al-Arabi , Egypt. 3- Production of field crops / Dr.Abdul Majeed Al-Ansari , University of Baghdad 1981. 4- Production and improvement of field crops, Dr.Abdul Hamid Ahmed Al-Younis , 1993 Dar Al-Kutub Directorate for Printing and Publishing – Baghdad..
Key References (Sources)	Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.

Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals
E-References, Websites	Crop Science Society Of America Library Genesis The field crops _ principles and a practice Agronomy journal. Websites, Articles, FAO reports .

Description of the course of the Legume crops

Course name:
Legume Crops
Course Code:
LEGC310
Semester/year
Spring Semester
Date this description was prepared
1-6-2026
Available attendance forms
Compulsory
Number of Credit Hours (Total)/ Number of Units (total)
Number of hours = 2 theoretical and 3 practical , number of units = 3
Name of the course administrator (if more than one name is mentioned)
Dr. Ahmed Yassin Hassan Othman Nassif Jassim
Course objectives
This course aims to deepen the student's knowledge of the agricultural environment of each type, obstacles to its production and the appropriate ways to invest it, ways to develop seed production of crops
Teaching and learning strategies
7- Provide students with additional basics and topics related to previous education outcomes to learn the foundations of learning and application in the curriculum of pulses crops. 8- Enabling students to obtain knowledge of the characteristics of their types and food components. 9- Enabling students to obtain knowledge of how pulse crops respond to ideal environmental

conditions for growth and seed crop formation
10- Enabling students to know the ways and means to improve the agricultural reality and the quantitative and qualitative production of pulse crops.

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	The economic importance of legume crops	Legume Crops	Explanation, Model Presentation and Lecture	Exam
2	2	The importance of legumes in human nutrition and their content of various compounds	Legume Crops	Explanation, Model Presentation and Lecture	Exam
3	2	Atmospheric nitrogen fixing bacteria	Legume Crops	Explanation, Model Presentation and Lecture	Exam
4	2	Overlapping agriculture	Legume Crops	Explanation, Model Presentation and Lecture	Exam
5	2	Beans in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
6	2	Lentils are safe in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
7	2	Chickpeas in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
8	2	Cattle in terms of economic importance, global and Arab	Legume Crops	Explanation, Model Presentation and	Exam

		production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests		Lecture	
9	2	The field is poor in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
10	2	Soybeans in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
11	2	Beans in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
12	2	Cowpeas in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
13	2	Basalia is safe in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam

14	2	Hartmann and beans in terms of economic importance, global and Arab production, appropriate environmental conditions, crop cultivation in Iraq, agricultural cycle, chemical composition of seeds, nutritional value and the most important pests	Legume Crops	Explanation, Model Presentation and Lecture	Exam
15	2	Raising and improving important legume crops.	Legume Crops	Explanation, Model Presentation and Lecture	Exam

Practical Part

a Fora week	Cred its	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	An introduction to the most important cultivated legumes in Iraq	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
2	3	Botanical Description	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
3	3	Storage and Seeds	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
4	3	Agricultural processes from preparing the land and methods of cultivation	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
5	3	Plant Service Operations Patching, Slipping, Fertilizing and Irrigation	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
6	3	Maturity and	Legume Crops	Case history	Examina

		harvesting: -		Brainstorming Debating and discussing	tions Daily and Monthly Final and Reports day
7	3		Legume Crops	First Quarter Examination	
8	3	Ingredients for the crop of beans	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
9	3	Ingredients of the crop of lentils	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
10	3	Ingredients for Chickpea Crop	Pulses Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
11	3	Ingredients for the bean crop	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
12	3	Ingredients for the cattle crop	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

					Reports day
13	3	Ingredients for the crop of cowpeas and basalt	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
14	3	Wrapping up	Legume Crops	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
15	3		Legume Crops	Second Quarter Examination	

2. Course Evaluation

EXAMINATIONS

Daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

3. learning and teaching resources;

Required textbooks (methodology if any)

Key References (Sources)

- 1- Legume crops . Dr. Hamid Glob Ali and Dr. Hamed Jadaan and Dr. Talib Ahmed Issa .
- 2.The field crops _ principles and a practice
- 3- Agronomy journal.
4. Websites, Articles, FAO reports .

Recommended supporting books and references (scientific journals, reports)

Iraqi academic scientific journals

E-References, Websites

Description of the course of the **Beekeeping**

Course Name

Beekeeping

CourseCode

BEEB311					
semester/ year					
Spring Semester of the Academic Year 2026					
The date of preparing this description					
1-6-2026					
Available forms of attendance					
Full-time (theoretical lecture and practical lecture)					
Number of Credit Hours (Total)/ Number of Units (total)					
2hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units per week					
Name of the course administrator (if more than one name is mentioned)					
Dr. Mohammed Nadeem Qassem Abeer Najm Abdullah					
Course Objectives					
Objectives of the course : Graduating students who are able to :		• Working in the field of introducing students to the bee insect and the bee community and the importance of breeding it and identifying the external shape and its accessories and its importance in the Biology of the insect and internal devices and tissues and its importance in pollinating plants and its role in increasing plant production.Applying for external tests by local/regional/international bodies. • Thinking and analysis skills that enable the			
TEACHING AND LEARNING STRATEGIES					
Strategy	1- Enabling students to obtain knowledge and understanding in distinguishing between bee species 2- Enabling students to obtain knowledge and understanding in the ways of pathological infections of bees and ways to combat them 3- Enabling students to obtain knowledge and understanding in distinguishing between honey colors and other products produced by				
Course Structure					
Week	Credits	Intended Learning	Unit or Topic Name	Learning Method	Evaluation Method

1	5	Honey bee breeds, genetic traits adopted to diagnose bee breeds, good	The importance of beekeeping ,a historical overview of	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
2	5	Honey bee breeds, genetic traits adopted to diagnose bee breeds, good traits of honey	Lancasterworth hive, its divisions, features, tools used in beekeeping, tools	Lectures Theoretical and Practical Rendering methods	Examinations Daily and Monthly Final and Reports
3	5	External anatomy of the body of bees(head and appendages, chest	Identifying the morphological differences between the	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
4	5	The digestive system and its accessories, the mechanics of	Anatomy of a bee worker, extraction of the digestive system and	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
5	5	Honey bee breeds, genetic traits adopted to diagnose bee breeds, good traits of honey producing breeds	Anatomy of the insect and watching the dorsal blood vessel, exam of the first month	Lectures Theoretical and Practical Rendering methods Brainstorming	Examinations Daily and Monthly Final and Reports day
6	5		First Exam		
7	5	Departments, respiratory holes and their distribution,nervou	Watch for respiratory cavities, watch for abdominal neural	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
8	5	The female reproductive system, its sections, factors affecting the	Anatomy of a queen bee and a male bee and identification of	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
9	5	Biology of members of the bee community (queen, worker, male)	Identifying and watching the different roles of the lives of the members of the sect, examining	Lectures Theoretical and Practical Rendering methods Brainstorming	Examinations Daily and Monthly Final and Reports day
10	5	Various phenomena in the lives of members of the sect(expulsion,	Partitioning, partitioning methods, swarming, how to	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and

11	5	The basic rules are not the creation of the apiary, the foundations of	Queens Breeding, Queens Breeding Methods,(Practical Practice of	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
12	5		Second Exam		
13	5	The importance of bees in the cross-pollination of plants ,. Monthly	Identify the pathological diseases of brood and adult diseases	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
14	5	Number of beehives needed for pollination per cultivated area unit	Identifying insect and non-insect pests that attack bees, the second	Lectures Theoretical and Practical Rendering	Examinations Daily and Monthly Final and
Course Evaluation					
Distribution of the score of 100 according to the tasks assigned to the student such as daily preparation, daily, oral, monthly and written examinations and reports etc.					
learning and teaching resources;					
Required textbooks (methodology if any)			1. Survivor, Louay Karim. (1980) Beekeeping and silkworms		
Key References (Sources)			2. Al-Ali, Abdul Baqi Muhammad. (2011). Beekeeping		
Recommended supporting books and references (scientific journals, reports)			The hive and honey bee.		
Electronic references, websites					

Course Description Form Field Crop Insects

Course name:
Field Crops Insects
Course code
INSF312
Semester/year
Spring/ 2026

Date this description was prepared					
1-6-2026					
Available attendance forms					
In-Person					
Number of Credit Hours (Total)/ Number of Units (total)					
Number of Hours = 5 , Number of Units = 3.5					
Name of the course administrator (if more than one name is mentioned)					
Dr. Tarek Saadi Abbas					
Course Objective					
Introducing students to the most important insects harmful to field crops in Iraq in terms of their spread, families that infect them, the symptoms of infection and the Biology history of the insect , and developing available programs for integrated pest management, with a focus on protecting the environment from pollution by chemical pesticides, with the need to preserve the natural enemies of these insects , as well as protecting farmers and their plant and animal wealth from the risks of pollution by these chemical compounds.					
Teaching and learning strategies					
1 Crop insects are part of economic entomology. The basic material of this science depends on the results of studying the Biology history of the harmful insect, its spread and the plant families that infect it, as well as the forms of relations with its natural enemies. This science is also concerned with the means of control that can be applied to reduce the damage of harmful insects.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	The kingdoms of Biology and the location of insects in the animal kingdom, the binomial designation, the forms of insect damage to plants, animals and stored foodstuffs	Field Crops Insects	Explanation and presentation of the model and lecture	Exam
2	2	Field Crop Pest Control Methods	Field Crops Insects	Explanation and presentation of the model and lecture	Exam
3	2	Field Crop Pest Control Methods Integrated management of field crop insects	Field Crops Insects	Explanation and presentation of the model and lecture	Exam
4	2	The most important grass crop insects, wheat and barley insects	Field Crops Insects	Explanation and presentation of the model and lecture	Exam
5	2	Yellow corn and sorghum insects	Field Crops Insects	Explanation and presentation of the model and lecture	Exam
6	2	Month 1	Field Crops Insects	Explanation and presentation of the model and lecture	Exam

7	2	Rice insects	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
8	2	Legume Insects	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
9	2	Jet and Clover Insects	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
10	2	The most important industrial crop insects are cotton insects	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
11	2	Sesame Bugs	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
12	2	rapeseed insects Sugar Beet Insects	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
13	2	Second month	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
14	2	Sunflower Insects	Field Crops Insect	Explanation and presentation of the model and lecture	Exam
15					

Course Evaluation

EXAMINATIONS

Daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	1- Al-Azzawi , Abdullah Fleih , Ibrahim Qaddouri Qadd , Haider Saleh Al-Haidari . 1990 Economic Insects Dar Al-Hikma for Printing and Publishing. 2- Al-Adil, Khaled Muhammad. 2006 Pesticides are basic concepts and their role in the agricultural and health fields. - First editions.
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports)	C/N H. Roldos de la Sovera, Montevideo
E-References, Websites	

Course Description of English Language 3

Course name					
English 3					
CourseCode					
ENGL303					
Semester/year					
Spring / 2026					
Date this description was prepared					
1-6-2026					
Available attendance forms					
Full-time (theoretical lecture) weekly					
Number of study hours (total) / number of units (total)					
Number of Hours = 2 , Number of Units = 2					
Name of the course administrator (if more than one name is mentioned)					
Name: M.M. Suhaib Saeed Hameed Email: sohaibsaeedhameed@gmail.com					
Course Objectives					
Objectives of the course :		5- Students acquire knowledge, concepts and trends in the smooth pronunciation of the English language. 6- Facilitate understanding of concepts. 7- Showing the different talents of students. 8- English is essential.			
Teaching and learning strategies					
Strategy		In-person lectures for 15 weeks with two monthly exams, daily exams and monthly reports			
Course Structure					
Week	Credits	Intended Learning	Unit or Topic	Teaching*method	Evaluation

		Outcomes	Name		Method
1	2	unit 1 / Auxiliary verbs do-be-have	English	Explanation and presentation of the lecture	Exam
2	2	Negatives and short answers	English	Explanation and presentation of the lecture	Exam
3	2	Present Simple	English	Explanation and presentation of the lecture	Exam
4	2	Present continuous :	English	Explanation and presentation of the lecture	Exam
5	2	Unit 3 / past simple	English	Explanation and presentation of the lecture	Exam
6	2	Past Continuous	English	Explanation and presentation of the lecture	Exam
7	2	Discussion.	English	Explanation and presentation of the lecture	Exam
8	2	Unit 4 / Modal verbs /can-can not	English	Explanation and presentation of the lecture	Exam
9	2	Must – must not / Have to / allowed to	English	Explanation and presentation of the lecture	Exam
10	2	Unit 5 / The future	English	Explanation and presentation of the lecture	Exam
11	2	Present continuous :	English	Explanation and presentation of the lecture	Exam
12	2	Unit 6 / Do you like?	English	Explanation and presentation of the lecture	Exam
13	2	Want to do	English	Explanation and presentation of the lecture	Exam
14	2	Present Perfect	English	Explanation and presentation of the	Exam

				lecture	
15	2	Grammar Revision	English	Explanation and presentation of the lecture	Exam
Evaluation of the course					
Distributing the grade out of 100 according to the tasks assigned to the student such as preparation and daily written and oral exams					
Education and teaching resources					
Required textbooks (methodology if any)		New Headway Plus " Intermediate "			
Key References (Sources)					
Recommended supporting books and references (scientific journals, reports)					
E-References, Websites					

Stage Fourth (Autumn + Spring Semester)

stage 4 /Fall Semester		
Course Name	Course Name	Course Code
medicinal plants	Medicinal and Stimulant Plants	MEDS402
Molecular Genetics Technician	Heredities Molecular	HERM403
Crop field Management	Crops Management	CROM404
Weed Biology	Weed Biology	WEEB405
Land Farming	Land Farming	LANF406
Plant physiology	Plant Physiology	PLAP407
Graduation Project 1	Research Project	RESP408

Course description form Medicinal and stimulant plants

Course title:
medicinal plants
Course Code:
MEDS402
Semester/year
Autume / 2026
Date this description was prepared
1-6-2026
Available attendance forms
Compulsory
Credit Hours (total) / Number of Units (Total):
Number of hours = 2 and practical 3 , number of units = 3
Name of the course administrator (if more than one name is mentioned)
Dr. Ahmed Yassin Hassan
Course objective
This course aims to deepen the student's knowledge of the sections of medicinal plants according to the forms, uses and chemical compounds, the impact of environmental factors on the growth of plants, synthesis of biochemical compounds in medicinal plants , and the storage and preservation of medicinal plants after harvest
Teaching and learning strategies
11- Provide students with additional basics and topics related to previous learning outcomes to learn the foundations of learning and application in the curriculum of the subject of medicinal plants. 12- Enabling students to obtain knowledge of plant types according to their types and distribution in different environments . 13- Enable students to gain knowledge of how plants respond to optimal environmental conditions for growth and formation of biochemical compounds 14- Enabling students to know the ways and means to improve the agricultural reality and the quantitative and qualitative production of medicinal plants.

Course Structure					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Teaching*method	Evaluation Method
1	2	Introduction to Medicinal Plants and their Economic Importance	medicinal plants	Explanation and presentation of the model and lecture	Exam:
2	2	Division of medicinal plants according to their therapeutic and chemical importance	medicinal plants	Explanation and presentation of the model and lecture	Exam:
3	2	Volatile oils and their installation	medicinal plants	Explanation and presentation of the model and lecture	Exam:
4	2	Alkaloids and their composition	medicinal plants	Explanation and presentation of the model and lecture	Exam:
5	2	Glycosides and their composition	medicinal plants	Explanation and presentation of the model and lecture	Exam:
6	2	Tannins and their composition	medicinal plants	Explanation and presentation of the model and lecture	Exam:
7	2	Biological pathway for the synthesis of plant active substances	medicinal plants	Explanation and presentation of the model and lecture	Exam:
8	2	Methods of growing and propagating medicinal plants	medicinal plants	Explanation and presentation of the model and lecture	Exam:
9	2	Environmental factors affecting growth and production : temperatures and light	medicinal plants	Explanation and presentation of the model and lecture	Exam:
10	2	Environmental factors affecting growth and production : soil and water	medicinal plants	Explanation and presentation of the model and lecture	Exam:

11	2	The importance of genetic factors in the growth and production of medicinal plants	medicinal plants	Explanation and presentation of the model and lecture	Exam:
12	2	Scientific names and the environment of growth of each of them	medicinal plants	Explanation and presentation of the model and lecture	Exam:
13	2	Date of picking or cutting the economic part containing the active substances	medicinal plants	Explanation and presentation of the model and lecture	Exam:
14	2	Conditions for storing medical forms and drugs and according to their content of medical vehicles	medicinal plants	Explanation and presentation of the model and lecture	Exam:
15	2	Identify the most important laboratory equipment and equipment for the extraction and estimation of active substances	medicinal plants	Explanation and presentation of the model and lecture	Exam:

CourseDescription Form Molecular Inheritance

name:
Molecular Genetics Technician
Course Code
HERM403
Semester/year
Autumn -2026
Date this description was prepared
1-6-2026
Available attendance forms
In-Person
Credit Hours (total) / Number of Units (Total)
Number of hours = 5 (2 theoretical + 3 practical) , number of units = 3.5
Name of the course administrator (if more than one name is mentioned)
Dr. Nizar Suleiman Ali nazaralzUhairy@uodiyala.edu.iq Ghufran Ali Hussein

Course objective
1- Molecular genetics investigates how to provide genetic technology and laboratory technical use the protection of genetic sources, as well as the adoption of this technology and its exploitation in the provision of animal products as a tool for selecting distinguished animals productively
2. Includes the study of gene structure, expression and design
3- Reducing the duration of animal breeding down to the product, which reduces the cost of breeding the animal from birth until obtaining the product represented by milk or meat and eggs, which are included in the production costs
Teaching and learning strategies
In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports
Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Molecular genetics	DNA synthesis	Lecture, explanation and presentation	Daily Exam
2	2	Molecular genetics	DNA replication process	Lecture, explanation and presentation	Daily Exam
3	2	Molecular genetics	Mutations Genetic	Lecture, explanation and presentation	Daily Exam
4	2	Molecular genetics	DNA repair systems	Lecture, explanation and presentation	Daily Exam
5	2	Molecular genetics	Board	Lecture, explanation and presentation	Daily Exam
6	2	Molecular genetics	Regulation of gene expression	Lecture, explanation and presentation	Daily Exam
7	2	Molecular genetics	Genetic engineering	Lecture, explanation and presentation	Daily Exam
8	2	Molecular genetics	Cutting and binding enzymes for DNA molecules	Lecture, explanation and presentation	Daily Exam
9	2	Molecular genetics	Types of DNA molecule vectors	Lecture, explanation and presentation	Daily Exam
10	2	Molecular genetics	PCR technology	Lecture, explanation and presentation	Daily Exam
11	2	Molecular genetics	Polymerization reactions outside living systems	Lecture, explanation and presentation	Daily Exam
12	2	Molecular genetics	Types of polymerization reactions	Lecture, explanation and presentation	Daily Exam
13	2	Molecular genetics	Basics of Polymerization Interactions	Lecture, explanation and presentation	Daily Exam
14	2	Molecular genetics	How to migrate a replicated DNA sample	Lecture, explanation and presentation	Daily Exam
15		Molecular genetics	Analyze gel images and read results	Lecture, explanation and presentation	Daily Exam
Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Molecular genetics	Identify materials used in genetic studies and laboratory devices used in genetic experiments.	Lecture, explanation and application in the laboratory	Practical Examination and Report
2	3	Molecular genetics	Presentation on the Structure of Genetic Material	Lecture, explanation and application in the laboratory	Practical Examination and Report

3	3	Molecular genetics	Mechanism for the development of industrial mutations	Lecture, explanation and application in the laboratory	Practical Examination and Report
4	3	Molecular genetics	Presentation on Genetic Repair Systems	Lecture, explanation and application in the laboratory	Practical Examination and Report
5	3	Molecular genetics	Board	Lecture, explanation and application in the laboratory	Practical Examination and Report
6	3	Molecular genetics	Board	Lecture, explanation and application in the laboratory	Practical Examination and Report
7	3	Molecular genetics	Genetic engineering	Lecture, explanation and application in the laboratory	Practical Examination and Report
8	3	Molecular genetics	Types of enzymes used in genetic engineering	Lecture, explanation and application in the laboratory	
9	3	Molecular genetics	Studying the most important vectors used in genetic studies	Lecture, explanation and application in the laboratory	Practical Examination and Report
10	3	Molecular genetics	Identify PCR bug	Lecture, explanation and application in the laboratory	Practical Examination and Report
11	3	Molecular genetics	Mechanism and components of the PCR reaction	Lecture, explanation and application in the laboratory	Practical Examination and Report
12	3	Molecular genetics	Types of PCR and its applications in the laboratory Foundations of PCR Reaction	Lecture, explanation and application in the laboratory	Practical Examination and Report
13	3	Molecular genetics		Lecture, explanation and application in the laboratory	Practical Examination and Report
14	3	Molecular genetics	Electric relay and its types	Lecture, explanation and application in the laboratory	Practical Examination and

					Report
15	3	Molecular genetics	The mechanism of imaging and reading the results of the electric relay	Lecture, explanation and application in the laboratory	
Course Evaluation					
EXAMINATIONS					
Monthly and daily exams with discussion questions within the lecture					
Degree of participation in questions related to the subject					
learning and teaching resources;					
Required textbooks (methodology if any)			Bektash, Fadel 2006. Plant Breeding and Improvement. Faculty of Agriculture - University of Baghdad.		
Key References (Sources)					
Recommended supporting books and references (scientific journals, reports)			Iraqi academic scientific journals		
E-References , Websites			Soil Science Society of America Library Genesis		

Course Description Form Field Crops Management

Course Name
Field Crop Management
CourseCode
CROM404
semester/ year
Autumn-2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Credit Hours (total) / Number of Units (Total)
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units

Name of the course administrator (if more than one name is mentioned)					
Dr. Nader Fleih Ali Al-Mubarak			Email: nadirmubarak@uodiyala.edu.iq		
Inas Abdul Rahim Khalaf					
Course Objectives					
Objectives of the course :			Teaching the crop student to be familiar with the applied scientific dimensions of crop and field management		
TEACHING AND LEARNING STRATEGIES					
Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Human and food: food production, population increase, food gap, productivity factors.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Land service: Tilling is important, its depth, its relationship to the growth of different crops, its role in combating	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

		the bush, the equipment of elements and increasing water conservation in the soil . Smoothing: The depth of smoothing and the machinery used for this in the growth of the crop.			
3	2	Division of the field: levelling the land and its relationship to the division of the field and the area of the cultivation plates.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Irrigation canals: Irrigation systems and the nature of irrigation water pipes and water loss during irrigation according to the method used and the method appropriate to the nature of the land and the crop.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Crop service: The dates of cultivation and its impact on the calculation of the thermal units necessary for the growth of the crop and the energy of light and its relationship to the date of	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

		cultivation, and temperature. The difference in the impact of planting dates for winter and summer crops on the change in the date of harvest and the amount of harvest.			
6	2	Plant density and quantities of seeds according to the crop, the role of plant density in intercepting light and increasing the yield, the optimal densities of the main crops, the optimal cultivation distances of crops grown in lines, and how to calculate plant densities and their relationship to the paper area index.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
8	2	Fertilization - The role of primary, secondary and rare fertilizers in the growth and increase of the yield and the symptoms of the lack of elements on the plant, the relationship of the types of elements to the metabolic processes in the plant and the synthesis of	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

		various plant compounds, some elements are named for the plant, and the optimal quantities for the use of the elements.			
9	2	Seeds - seed quality, seed quantities and plant densities and their calculations.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Soil improvers - the use of animal fat and green manure, the addition of gypsum and agricultural sulfur to repair saline and alkali saline soils and their relationship to the electrical conductivity, the pH of the soil solution, the readiness of the elements for the plant, and the equations for estimating the quantities of gypsum and sulfur according to the specifications of the soil analysis.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Weed control - The most common bush plant pesticides in	Field Crop Management	Explanation and model presentation and lecture	Examinations Daily and Monthly Final and

		major crops. Thin Weed plant pesticides. Broadleaf Weed Pesticides. Pesticides recommended in Iraq to control the bush of major crop plants. Election of the Weed.		Brainstorming Debating and discussing Brainstorming	Reports day
12	2	Crop irrigation - The role of water in dissolving elements, absorption and plant growth. The number of irrigation for the crop and determine the depth of irrigation and how to calculate it. Water rationing for major crops. Calculate the amount of water needed for the field on the farm.	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
Second Quarter Examination					
14	2	Disease and insect control - the main insecticides that affect field crops and how to prevent them before they appear and control them when they appear and the recommended pesticides in Iraq	Field Crop Management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2	Plant organs and	Field Crop	Explanation and	Examinations

		their functions - the plant cell and its organelles, root, stem, leaves and leaf space. Maturity and harvesting - how and when to harvest the crop, and estimate the losses from the crop. Store the product - types of warehouses and storage, seed and grain stores and their specifications and storage conditions in them of heat, moisture and preventive pesticides, methods of drying the product in the field and in the warehouse and calibrating the moisture in the seeds before and at storage.	Management	model presentation and lecture Brainstorming Debating and discussing Brainstorming	Daily and Monthly Final and Reports day
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Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Conducting plowing, watching its specifications and judging it after	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Split the field and settle for planting in the following week. Students can	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

3	3	Planting one or more crops on the same date and with the same plant	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Cultivating a crop with several appointments and	Field Crop Management	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Planting a crop with several plant densities and	Field Crop Management	Case history Brainstorming Debating and	Examinations Daily and Monthly
6	3	Cultivate a crop with several doses of nitrogen and record the data to	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
First Exam					
8	3	Plant a crop with several doses of (NPK) to compare it with nitrogen	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Planting an irrigation crop with several different	Field Crop Management	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3	Planting two crops with two factors, one of which is	Field Crop Management	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	Extract leguminous plants to study bacterial symbiosis	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
12	3	Each group of students records the incidence of insect pest damage	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
Second Exam					
14	3	Choose a research topic on managing a specific crop for each student and	Field Crop Management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
15	3	Each student presents his report to the students, discusses it and	Field Crop Management	watching. Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	Scientific lectures and articles
Key References (Sources)	Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	Crop Science Society Of America Library Genesis The field crops _ principles and a practice Agronomy journal. Websites, Articles, FAO reports .

Course Description FormWeed Biology

Course Name
Weed Biology
CourseCode
WEEB405
semester/ year
Autumn School Year 2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly

Credit Hours (total) / Number of Units (Total)					
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units					
Name of the course administrator (if more than one name is mentioned)					
Dr. Adnan Hussein Ali Al-Wakaa		Email: adnanalwakaa@uodiyala.edu.iq			
Hisham Abdel Wahab Abdel Karim					
Course Objectives					
Objectives of the course :		29- Weed science and ways to combat it discusses the most important Weeds in Iraq and the world the extent of their damage to crop plants and the possibility of benefiting from them by adding methods to combat them 30- It includes knowing, surveying and diagnosing the widespread Weeds in Iraq and some countries of the world 31- Knowing the characteristics of the bush and the specifications of its seeds 32- The means of transport of the bush and the scientific methods used to limit their spread			
TEACHING AND LEARNING STRATEGIES					
Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Characteristics of bush plants and seeds	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

				Brainstorming	
2	2	Ways to combat the Weed .Mechanical method, manual extraction.Hoeing	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Use of tillage, tilling and immersion in water	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	The Biological Method in Combating the Weed	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Use of competition and agricultural cycle	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
6	2	Use of heat and coating method	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
7	2	Scientific terminology used in Weed control and Weed classification	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Pesticides and plants ..	Weed Biology	Explanation and model presentation	Examinations Daily and

		Absorption and transfer of pesticides		and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports day
9	2	Electoral Pesticides, Factors Affecting Electoral	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Pesticides and soil. Reactions to pesticides when pesticides come into contact with soil	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Combating Weeds in Iraq's main crop fields	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Fighting Weeds in nurseries and orchards	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Water Weed Control Methods	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		
14	2	Physics of absorption and transfer of pesticides in the soil and the	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and	Examinations Daily and Monthly Final and Reports

		factors affecting them .		discussing Brainstorming	day
15	2	Physics of absorption and transfer of pesticides added to vegetative parts and the factors affecting them	Weed Biology	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Visit to the fields of the Faculty of Agriculture	Weed Biology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Observations of field operations in field crop fields	Weed Biology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Crop Service Operations and Deforestation	Weed Biology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Weed Diagnosis	Weed Biology	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Collecting samples from the bush	Weed Biology	Case history Brainstorming Debating and	Examinations Daily and Monthly
6			First Exam		
7	3	Drying the bushes	Weed Biology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Collecting bush seeds	Weed Biology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

9	3	Watching the fields and blooming the bush	Weed Biology	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3	Experiences about the transfer of bush seeds	Weed Biology	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	Experiences about the transfer of bush seeds	Weed Biology	Case history Brainstorming Debating and	Examinations Daily and Monthly
12			Second Exam		
13	3	General Applications in Weed Management	Weed Biology	Case history Brainstorming Debating and	Examinations Daily and Monthly
14	3	Observations of field operations in field crop fields	Weed Biology	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	1- Weed science. Dr.Baqer Al-Jubouri. Weed in Iraq. 2- Dr. Ghanem and Tawfiq Chalabi . The bush and the basics of combat . 3- Abdul Razzaq Al-Jazal and methods of combating it. Dr.Salem Hammadi Antar, 2011 Ibn Al-Atheer PressUnivrsity of Mousel . UNTRANSLATED_CONTENT_END
Key References (Sources)	Recent articles from the Internet, specialized scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals, reports)	Iraqi academic scientific journals

E-References, Websites	Crop Science Society Of America Library Genesis The field crops _ principles and a practice Agronomy journal. weed science. Websites, Articles, FAO reports.
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Course Description Sample Land Farming

Course Name
Land Farming
CourseCode
LANF406
semester/ year
Autumn / Year 2026
Date of preparation of this description
1-6-2026
Available attendance forms
Full-time (theoretical lecture and practical lecture) weekly
Credit Hours (total) / Number of Units (Total)
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units
Name of the course administrator (if more than one name is mentioned)
Dr. Hassan Ali Majeed Hisham Abdel Wahab Abdel Karim
Course Objectives

Objectives of the course :	1- Studying the most important grain crops in the world 2- Includes knowledge of the spread of each crop in different regions of the world 3- Knowing the economic importance of grain crops and methods of cultivation 4- Identify the methods of cultivating each crop and the factors affecting the productivity of each crop 5- Studying the environmental conditions suitable for the cultivation of each crop
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TEACHING AND LEARNING STRATEGIES

Strategy	• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports
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Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Crop production	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Carbon representation in the production of crops	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Increase productivity	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

				Brainstorming	
4	2	Nitrogen fixation and productivity increase	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Relationship of energy disbursed to crop productivity	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
6	2	Loss of Post harvest	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
7	2	Scientific visit to agricultural fields	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Branching in crop plants and their relationship to productivity	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Disadvantages of sandy and clay lands	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Disadvantages of gypsum and	Land Farming	Explanation and model presentation	Examinations Daily and

		calcareous land		and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports day
11	2	Remedying land defects	Land Farming	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		

Practical Part					
Week	Credits	Intended Learning Outcomes	Land Farming	Learning Method	Evaluation Method
1	3	Conducting a survey of aquatic environment plants and diagnosing them	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Comparison of germination, growth and development of plant stages in	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Comparison of the impact of gypsum and calcareous soil with the usual (other	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Comparison of growth criteria in normal and gravel soils	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
5	3	Comparing the growth criteria of several crops grown in good soil to	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
6		Month 1			
7	3	Growing a crop and irrigating it with salt water measuring the pH of the soil after	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

8	3	A visit to the field and recording some data on a specific crop in boards with	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Visiting a local area and collecting and diagnosing its plants	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
10	3	Visiting the gypsum area and collecting and diagnosing its plants	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
11	3	Comparison of plant growth in sandy and intermediate soils	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
12		Compare the amount of irrigation water required for sandy and medium soil according to the	Land Farming	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
			Second Exam		

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	Production and improvement of field crops by Dr Abdul Hamid Al-Younis.
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	crop Science Society Of America Library Genesis

Course Description Form Plant Physiology

Course name:					
Plant physiology					
Course code					
PLAP407					
Term / Year: Annual					
Autumn / 2026					
The history of the preparation of this description:					
1-6-2026					
Available attendance forms					
Full-time (theoretical lecture and practical lecture) weekly					
Credit Hours / Number of Units (Total)					
2 theoretical hours and 3 working hours per week for 14 weeks					
Course administrator's name (if more than one name)					
Dr. Omar Ali Ahmed Othman Nassif Jassim					
Course Objective					
1-The student should know what is meant by the science of philosophy and the basic rules of this science 2-Identifying water relations and absorption of water and elements. 3-Studying photosynthesis and breathing and the factors affecting them.			4-Study of hormones and plant growth regulators. 5-Studying the physiology of crops under conditions of stress and the mechanisms of plants bearing them.		
Teaching and learning strategies					
5 - Explanation and clarification 6- Lecture Method			7. Student Groups 8- Self-learning method		
Course Structure					
theoretical.					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	2	Definition of plant physiology and grammar So the basic science	Plant physiology	Explanation and presentation of the model and lecture	Exam:
2	2	Colloidal solutions and systems	Plant physiology	Explanation and presentation of the model and lecture	Exam:

3	2	Water Relations and the Absorption and Transmission of Water and Nutrients	Plant physiology	Explanation and presentation of the model and lecture	Exam:
4	2	photosynthesis	Plant physiology	Explanation and presentation of the model and lecture	Exam:
5	2	Respiration	Plant physiology	Explanation and presentation of the model and lecture	Exam:
6		Month 1	Month 1		
7	2	Metabolism	Plant physiology	Explanation and presentation of the model and lecture	Exam:
8	2	Nitrogen Biostabilization	Plant physiology	Explanation and presentation of the model and lecture	Exam:
9	2	JOURNAL OF PLANT NUTRITION	Plant physiology	Explanation and presentation of the model and lecture	Exam:
10	2	Growth and Emergence	Plant physiology	Explanation and presentation of the model and lecture	Exam:
11	2	Physiology of crops under stress	Plant physiology	Explanation and presentation of the model and lecture	Exam:
12	2	Types of stress, their impact and mechanisms to withstand various types of stress	Plant physiology	Explanation and presentation of the model and lecture	Exam:
13	2	Second month	Second month		
14	2	Wrapping up	Plant physiology	Explanation and presentation of the model and lecture	Exam:
Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Method of Evaluation

1	3	Types of solutions and how to prepare them	Plant physiology	Explanation and presentation of the model and lecture	Exam:
2	3	Effect of different salt concentrations on seed germination	Plant physiology	Explanation and presentation of the model and lecture	Exam:
3	3	The effect of acidity and alkalinity on the germination and growth of some plants	Plant physiology	Explanation and presentation of the model and lecture	Exam:
4	3	Understanding how to measure growth	Plant physiology	Explanation and presentation of the model and lecture	Exam:
5	3	Effect of macronutrient and micronutrients on the growth of some plants	Plant physiology	Explanation and presentation of the model and lecture	Exam:
6			Month 1		
7		The relationship between light interception and Plant growth	Plant physiology	Explanation and presentation of the model and lecture	Exam:
8	3	Chlorophyll Measurement in Plant	Plant physiology	Explanation and presentation of the model and lecture	Exam:
9	3	Effect of plant hormones on the growth of some plants	Plant physiology	Explanation and presentation of the model and lecture	Exam:
10	3	Study of imbibition, osmosis and Diffusion and Plasma	Plant physiology	Explanation and presentation of the model and lecture	Exam:
11	3	A field visit to the field of the department to identify some physiological phenomena	Plant physiology	Explanation and presentation of the model and lecture	Exam:
12	3	Field visit 2 to the field of the department to identify some physiological phenomena	Plant physiology	Explanation and presentation of the model and lecture	Exam:
13			Second month		

14	3	Wrapping up	Plant physiology	Explanation and presentation of the model and lecture	Exam:
Course Evaluation					
Daily and monthly tests, reports and student effectiveness during the lecture.					
learning and teaching resources;					
Required textbooks (methodology if any)			Crop Plant Physiology - Ahmed Issa Student - University of Baghdad		
Key References (Sources)			Plant abiotic stress- Matthew A. Jenks		
Recommended supporting books and references (scientific journals, reports			C/N H. Roldos de la Sovera, Montevideo		
E-References, Websites					

Stage 4 /Spring Semester

Graduation Research Project	Research Project	RESP409
Plant Growth Regulators	Plant growth regulators	PLAG410
Environmental stress	Ecology Stress	ECOS411
Plant Breeding	Plant Breeding	PLAB412
Weed control	Weed Control	WEEC413
Seminars	Seminar 25	SEMN414
Specialized English 4	Specific English Language 4	ENGL401
Rangeland Management	Pasture management	PASM415

Course Description Form Plant Growth Organisations

Course Name	
Plant Growth Regulators	
CourseCode	
PLAG410	
semester/ year	
Spring / 2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms :	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total)/ Number of Units(total)	
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units	
Name of the course administrator (if more than one name is mentioned)	
Dr. Nader Ali Mubarak , Inas Abdul Rahim Khalaf	
Course Objectives	
Objectives of the course :	It has become established and certain that all the activities and functions of the plant fall under the control and guidance of plant growth hormones, which are naturally produced within the plant. Therefore, it is necessary to know and study these chemical compounds (their types, classification, effects, how they work within the plant). So your goal is to: . Providing students with theoretical and
TEACHING AND LEARNING STRATEGIES	

Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Types of Plant Growth Hormones	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Growth Hormones and Leg Elongation	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Growth Hormones and Apical Sovereignty	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Growth hormones	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Growth Hormones and Photosynthesis	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

				Brainstorming	
6	2	Growth hormones and the transfer and distribution of nutrients in the plant	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
		First Quarter Examination			
7	2	Effects of Growth Regulators in Seeds	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Effects of Growth Regulators at Roots	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	Effects of Growth Regulators on Grain Crops	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Effects of Growth Regulators on Seed Pulse Crops	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Effects of Growth Regulators on Fibre Crops	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Effects of Growth	Plant Growth	Explanation and model presentation	Examinations Daily and

		Regulators on Oil Crops	Regulators	and lecture Brainstorming Debating and discussing Brainstorming	Monthly Final and Reports day
13	2	Effects of Growth Regulators on Sugary Crops	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		
14	2	The Future and Uses of Growth Organisers	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2	Reviewed by	Plant Growth Regulators	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Plant Growth Regulators	Learning Method	Evaluation Method
1	3	Identify plant growth regulators and hormones.	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	How to Prepare Different Concentrations of Plant Hormones	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	The most important commonly used plant growth regulators and	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

4	3	The effect of different concentrations of	Plant Growth Regulators	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	The effect of different concentrations of	Plant Growth Regulators	Case history Brainstorming Debating and	Examinations Daily and Monthly
6		The effect of different concentrations of plant hormones in	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
7	3	The effect of different concentrations of plant hormones on the germination of	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
8	3	The effect of different concentrations of plant hormones in	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Presentation of films and slides on the impact of	Plant Growth Regulators	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3	Recording the observations and the percentage of impact that was	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
11	3	Take measurements of germination, its velocity, ratio, and length of root and vegetative	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
12			Second Exam		
13	3	Follow up on planting and addition experiments with plant growth	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
14	3	Follow up on planting and addition experiments with	Plant Growth Regulators	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation

Daily and monthly exams, reports and student effectiveness during the lecture.

learning and teaching resources;

Required textbooks (methodology if any)	Plant Growth Regulators: Theory and Practice. Written by: Prof. Dr. Hatem Jabbar Attia and Prof. Dr.Khudair Abbas Jadoua, printed by the Ministry of Higher Education and Scientific Research in 1999.
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Iraqi Journal of Science, and the Virtual Library.
Recommended supporting books and references (scientific journals, reports	Iraqi academic scientific journals
E-References, Websites	Crop Science Society Of America Library Genesis The field crops _ principles and a practice Agronomy journal.

Course Description Form Environmental stress

Course Name
Environmental stress
CourseCode
ECOS411
semester/ year
Spring School Year 2026
Date of preparation of this description
1-6-2026
Available attendance forms :

Full-time (theoretical lecture and practical lecture) weekly					
Number of Credit Hours (Total)/ Number of Units (total)					
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units					
Name of the course administrator (if more than one name is mentioned)					
Dr. Omar Ali Ahmed					
M. Ghufuran Ali Hussein					
ghuffranali@uodiyala.edu.iq					
Course Objectives					
Objectives of the course :		• Environmental stress of biological and abiotic factors and its impact on the germination, growth, development and occurrence of plants • The effect of stress on biological and metabolic activities that take place within			
TEACHING AND LEARNING STRATEGIES					
Strategy		• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports			
Course Structure					
theoretical.					
Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Vital and Abiotic Tensioners	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

2	2	Thermal Tensile	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Water Tension C1	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Water Tension C2	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Salt	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
6	2	High salinity damages	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
First Quarter Examination					
7	2	Salinity tolerance gauges	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Light Stress	Environmental stress	Explanation and model presentation and lecture	Examinations Daily and Monthly

				Brainstorming Debating and discussing Brainstorming	Final and Reports day
9	2	Stress Lack of Lighting	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Lighting Over Stress	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	SOIL pH	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Environmental pollution	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Free radicals and the role of oxidants	Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
			Second Quarter Examination		
14	2		Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

				Brainstorming	
15	2		Environmental stress	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Environmental stress and its damage to plants	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
2	3	Thermal stress and a scientific experiment showing the effect of thermal stress on plants	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
3	3	Water stress and a scientific experiment Calculating the rate of germination of different seeds in different water coefficients	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
4	3	Water stress and experience the impact of water stress on seedling growth	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
5	3	Saline stress and a scientific experiment showing its impact on plant growth	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

6			First Exam		
7	3	A scientific experiment shows estimating the effect of salt stress on seed germination	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
8	3	Light stress and its impact on plants	Environmental stress	Case history Brainstorming Debating and	Examinations Daily and Monthly
9	3	Difference Between High Lighting Stress and Low Lighting Stress	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
10	3	A scientific experiment demonstrates the effect of light stress on the growth of seedlings	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
11	3	A scientific experiment proves the impact of pollution with sea?	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
12			Second Exam		
13	3	A scientific experiment demonstrates the effect of soil acidity on the plant	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day
14	3	A scientific experiment demonstrates the impact of	Environmental stress	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports day

Course Evaluation

Daily and monthly exams, reports and student effectiveness during the lecture .

learning and teaching resources;

Required textbooks (methodology if any)	1- Environmental stress and its impact on the plant
Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	For journal articles Websites, Articles, FAO reports .

Course Description Form Plant Breeding

Course name

Plant Breeding

Course code

PLAB412

Semester/year

Spring / 2026

Date this description was prepared

1-6-2026

Available attendance forms

In-Person

Number of Credit Hours (Total) / Number of Units (Total)

Number of hours = 5 (2 theoretical + 3 practical) , number of units = 3.5

Course administrator's name (if more than one name is mentioned

Dr. Nizar Suleiman Ali nazaralzUhairy@uodiyala.edu.iq

Othman Nassif Jassim

Course objective

- 1- Teaching students basic concepts in plant breeding.**
- 2- Studying methods of plant reproduction.**
- 3- Studying the phenomenon of infertility and incompatibility.**
- 4- Identify the importance and genesis of genetic variations in plants.**
- 5- Studying the most important methods of plant breeding.**
- 6- Studying methods of breeding and improving the most important field crops such as (wh**

barley, yellow corn and Forage crops).

Teaching and learning strategies

In-person lectures for 15 weeks with two monthly exams, daily exams and scientific reports

Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
First	2	Introduction to the history of the development of plant breeding science and its associated sciences and the specifications of a successful plant breeder.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Level 2	2	Reproduction systems in plants .	Plant Breeding	Lecture, explanation and examples	Daily Exam
third	2	Male infertility and its types.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Fourth	2	Intrinsic sexual incompatibility and its conditions and means of overcoming them.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Fifth	2	Genetic variations and their relationship to plant breeding and improvement.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Six	2	Inheritance of qualitative and quantitative traits and genetic equivalent and estimation of some genetic parameters.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Seven	2	Genetic Repeatability, Hybrid Power and Inbreeding	Plant Breeding	Lecture, explanation and examples	Daily Exam
Eighth	2	Genetic improvement of self-pollinated plants.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Nine	2	Genetic enhancement supplement for self-pollinated plants.	Plant Breeding	Lecture, explanation and examples	Daily Exam
10th Grade	2	Genetic improvement of blending plants Pollination.	Plant Breeding	Lecture, explanation and examples	Daily Exam
11th Grade	2	Genetic enhancement supplement for blending plants Pollination.	Plant Breeding	Lecture, explanation and examples	Daily Exam
12th Grade	2	Methods of breeding cropsfor.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Thirteenth	2	Genetic improvement of plants by means of genetic engineering.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Fourteenth	2	Parenting and genetic improvement using	Plant Breeding	Lecture, explanation and examples	Daily Exam

		mutations			
Fifteen th		Education and genetic improvement to withstand environmental stress and pests.	Plant Breeding	Lecture, explanation and examples	Daily Exam
Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	Identify the tools used in plant breeding experiments	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
2	3	Floral Biology of the plant	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
3	3	Modalities of Controlling Self-Pollination	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
4	3	Methods of isolation between plants during breeding programs	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
5	3	Methods of castration in plants are autologous and mixed pollination	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
6	3	Self-Sexual Incompatibility and the Means to Overcome	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
7	3	Dividing plants according to the nature of pollination and estimating its percentage.	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
8	3	Mutations and their role in crop breeding	Plant Breeding	Lecture, explanation and examples	
9	3	The most important uses of multiplication in improving crops	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
10	3	Objectives and methods of raising and improving wheat plants	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
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11	3	Objectives and methods of raising and improving barley	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
12	3	Objectives and methods of dusting and improving yellow corn	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
13	3	Objectives and methods of soil and improvement of feed collectors	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
14	3	Laboratory Training on Genetic Engineering Applications	Plant Breeding	Lecture, explanation and examples	Practical Examination and Report
15	3	Laboratory training on mutagenesis	Plant Breeding	Lecture, explanation and examples	

Course Evaluation

EXAMINATIONS

Monthly and daily exams with discussion questions within the lecture

Degree of participation in questions related to the subject

learning and teaching resources;

Required textbooks (methodology if any)	Bektash, Fadel 2006. Plant Breeding and Improvement. Faculty of Agriculture - University of Baghdad.
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports	Iraqi academic scientific journals
E-References, Websites	Soil Science Society of America Library Genesis

Course Description Form Weed control

Course Name	
Weed Control	
CourseCode	
WEEC413	
semester/ year	
Spring /Academic Year 2026	
Date of preparation of this description	
1-6-2026	
Available Forms of Attendance:	
Full-time (theoretical lecture and practical lecture) weekly	
Number of Credit Hours (Total) / Number of Units (total)	
2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units	
Name of the course administrator (if more than one name is mentioned)	
Prof. Dr. Adnan Hussein Ali Al-Wakaa Eng. Hisham Abdel Wahab Abdel Karim Email: adnanalwakaa@uodiyala.edu.iq	
Course Objectives	
Objectives of the course :	34- Weed science and ways to combat it discusses the most important Weeds in Iraq and the world and the extent of their damage to crop plants and the possibility of benefiting from them by adding methods to combat them 35- It includes knowing, surveying and diagnosing the widespread Weeds in Iraq and some countries of the world 36- Knowing the characteristics of the bush and the specifications of its seeds

TEACHING AND LEARNING STRATEGIES	
Strategy	• In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports
Course Structure	
theoretical.	

Course Structure					
Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
1	2	Characteristics of bush plants and seeds	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
2	2	Ways to combat the Weed .Mechanical method, manual extraction.Hoeing	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
3	2	Use of tillage, tilling and immersion in water	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
4	2	The Biological Method in Combating the Weed	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
5	2	Use of competition and agricultural cycle	Weed control	Explanation and presentation of the model and lecture	Daily and Monthly
6	2	Use of heat and	Weed	Explanation and	Final and

		coating method	control	presentation of the model and lecture	Reports
7	2	Scientific terminology used in Weed control and Weed classification	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
8	2	Pesticides and plants .. Absorption and transfer of pesticides	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
9	2	Electoral Pesticides, Factors Affecting Electoral	Weed control	Explanation and presentation of the model and lecture	Daily and Monthly
10	2	Pesticides and soil.Reactions to pesticides when pesticides come into contact with soil	Weed control	Explanation and presentation of the model and lecture	Final and Reports
11	2	Combating Weeds in Iraq's main crop fields	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
12	2	Fighting Weeds in nurseries and orchards	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
13	2	Water Weed Control Methods	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day
14	2	Physics of absorption and transfer of pesticides in the soil	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and

		and the factors affecting them .			Reports day
15	2	Physics of absorption and transfer of pesticides added to vegetable parts and the factors affecting them .	Weed control	Explanation and presentation of the model and lecture	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Weed control	Learning Method	Evaluation Method
1	3	Visit to the fields of the Faculty of Agriculture	Weed control	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Scientific, agricultural and physiological methods in	Weed control	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Grooming the most important agricultural equipment used in	Weed control	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Conducting mechanical control, hoeing and weeding	Weed control	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Grooming on the most important common pesticides	Weed control	Case history Brainstorming Debating and	Examinations Daily and Monthly
6		Calculate the amount of pesticide recommended	Weed control		Examinations Daily and Monthly
7	3	Standardization of sprinklers used in combat	Weed control	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Control of arid Weeds with systemic pesticides	Weed control	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

E-References, Websites	Crop Science Society Of America Library Genesis The field crops _ principles and a practice Agronomy journal. weed science. Websites, Articles, FAO reports.
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Course Description of English Language 4

Course name	
English language	
CourseCode	
ENGL403	
Semester/year	
Spring / 2026	
Date of preparation of this description	
1-6-2026	
Available attendance forms	
Full-time (theoretical lecture) weekly	
Number of study hours (total) / number of units (total)	
Number of Hours = 2 , Number of Units = 2	
Name of the course administrator (if more than one name is mentioned)	
Name: M.M. Suhaib Saeed Hameed Email: sohaibsaeedhameed@gmail.com	
Course Objectives	
Objectives of the course :	• Students acquire knowledge, concepts and trends in the smooth pronunciation of the English language. • Facilitate understanding of concepts. • Showing the different talents of students. • English is essential.

Teaching and Learning Strategies

Strategy	In-person lectures for 15 weeks with two monthly exams, daily exams and monthly reports
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Course Structure

Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Teaching*method	Evaluation Method
1	2	Unit 1 /The tense system	English	Explanation and presentation of the lecture	Exam
2	2	Informal language / Compound words	English	Explanation and presentation of the lecture	Exam
3	2	Unit 2 / Present tenses / Hot verbs	English	Explanation and presentation of the lecture	Exam
4	2	Present Perfect	English	Explanation and presentation of the lecture	Exam
5	2	Unit 3 / Narrative tenses	English	Explanation and presentation of the lecture	Exam
6	2	Giving news and responding	English	Explanation and presentation of the lecture	Exam
7	2	Discussion.	English	Explanation and presentation of the lecture	Exam
8	2	Unit 4 /Questions and negatives	English	Explanation and presentation of the lecture	Exam
9	2	Prefixes and antonyms	English	Explanation and presentation of the lecture	Exam
10	2	Unit 5 / Future forms	English	Explanation and presentation of the lecture	Exam
11	2	Unit 6 /Expressions of quantity	English	Explanation and presentation of the lecture	Exam

12	2	Model verbs / probability	English	Explanation and presentation of the lecture	Exam
13	2	Unite 7 / Making suggestions	English	Explanation and presentation of the lecture	Exam
14	2	Base and strong adjectives	English	Explanation and presentation of the lecture	Exam
15	2	Grammar revision	English	Explanation and presentation of the lecture	Exam

Evaluation of the course

Distributing the grade out of 100 according to the tasks assigned to the student such as preparation and daily written, oral and monthly exams

Learning and teaching resources

Required textbooks (methodology if any)	New Headway Plus " Upper-Intermediate "
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports)	
E-References, Websites	

Course Description Sample Natural Rangeland Management

Course Name
Natural rangeland management
CourseCode
PASM402
semester/ year
Spring/-2026
Date of preparation of this description

1-6-2026

Available attendance forms :

Full-time (theoretical lecture and practical lecture) weekly

Number of credit hours (total)/ Number of units (total)

2 theoretical hours and 3 working hours per week for 14 weeks, the number of units is 3.5 units

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

Dr. Marwan Sami Saeed

Email: marwansami@uodiyala.edu.iq

Inas Abdul Rahim Khalaf

Course Objectives

Objectives of the course :

- 1- The student should learn about the importance of natural pastures.
- 2- The student should classify the growing plants in the pasture according to their Biology cycle or the nature of their reproduction and places of growth.
- 3- The student should separate between the types of plants suitable for animal consumption and between toxic and harmful plants.
- 4- To know the scientific means used to reduce the harm of toxic plants growing in the pasture.

TEACHING AND LEARNING STRATEGIES

Strategy

- In-person lectures for 14 weeks, interspersed with two monthly exams, daily exams and scientific reports

Course Structure

theoretical.

Course Structure

Week	Credits	Intended Learning Outcomes	Module / Course Name or	Teaching*method	Evaluation Method
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1	2	The importance of natural rangelands and their spread and their relationship with other sciences	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
2	2	Types of Rangelands and Good Rangelands Recipes	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
3	2	Natural Factors Affecting Rangelands – Environmental Factors Continued Soil	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
4	2	Biology factors, pyrotechnic factors and locational factors	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
5	2	Organization of grazing work	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
6	2	Ingredients for vegetation on rangelands	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
First Quarter Examination					

7	2	The impact of grazing on the productivity of the grazing plant – the impact of grazing on the soil	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
8	2	Grazing intensity – the effect of grazing on the reproduction of grazing plants	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
9	2	The Effect of Grazing on the Vegetation of Cladding	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
10	2	Relationship of rangeland plants to soil and water conservation	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
11	2	Grazing Systems – Continuous Grazing Protection	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
12	2	Natural Rangeland Condition – Rangeland Condition Judgment	Natural rangeland management	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
13	2	Classification of the conditions of	Natural rangeland management	Explanation and model presentation and lecture	Examinations Daily and Monthly

		my pastures – the course of the situation	t	Brainstorming Debating and discussing Brainstorming	Final and Reports day
			Second Quarter Examination		
14	2	Harmful and toxic plants in the pasture land	Natural rangeland managemen t	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day
15	2	Nature Reserves	Natural rangeland managemen t	Explanation and model presentation and lecture Brainstorming Debating and discussing Brainstorming	Examinations Daily and Monthly Final and Reports day

Practical Part					
Week	Credits	Intended Learning Outcomes	Unit or Topic Name	Learning Method	Evaluation Method
1	3	A visit to the college's fields and pastures to identify naturally growing	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
2	3	Artistic Methods in the Study of Rangeland Plants	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
3	3	Qualitative assessment	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
4	3	Methods for estimating the productivity of	Natural rangeland management	Case history Brainstorming Debating and	Examinations Daily and Monthly
5	3	Animal Load and How to Measure It	Natural rangeland management	Case history Brainstorming Debating and	Examinations Daily and Monthly

6			First Exam		
7	3	Natural pastures:	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
8	3	Exploitation Standard and How to Measure It	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and
9	3	Caring for Pasture Animals	Natural rangeland management	Case history Brainstorming Debating and	Examinations Daily and Monthly
10	3	Complement to the theme of pasture animal care	Natural rangeland management	Case history Brainstorming Debating and	Examinations Daily and Monthly
11	3	Field visit to livestock fields to see the behavior of sheep and cows and goats	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and Reports
12			Second Exam		
13	3	How to re-seed degraded rangelands	Natural rangeland management	Case history Brainstorming Debating and	Examinations Daily and Monthly
14	3	Treatment of poisoning and bloating of animals in rangelands	Natural rangeland management	Case history Brainstorming Debating and discussing	Examinations Daily and Monthly Final and

Course Evaluation	
Daily and monthly exams, reports and student effectiveness during the lecture .	
learning and teaching resources;	
Required textbooks (methodology if any)	1- Natural Rangeland Management/ Dr. Ramadan Ahmed Al-Tikriti et al., 1982. 2- pasture handbook, 2021

Key References (Sources)	Recent articles from the Internet, specialised scientific journals, the Journal of Agricultural Sciences - Iraq and the Virtual Library.
Recommended supporting books and references (scientific journals,	Iraqi academic scientific journals
E-References, Websites	Crop Science Society Of America Forage and grasses The field crops _ principles and a practice forage science.