Course Description Form

1. Course Name:
Legume crops
2. Course Code:
LECR362
3. Semester / Year:
2024/2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
presence
6. Number of Credit Hours (Total) / Number of Units (Total)
(75 hours) (3.5 units)
7. Course administrator's name (mention all, if more than one name)
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Course Objectives	
Course Objectives theoretical: - Enabling the student to understand and understand what is related to leguminous crops and their relationship to the formation of bacterial nodules and nitrogen fixation symbiotically and how they grow. - Enabling the student to know the most important ways to distinguish between different legume crops. - Enabling the student to become familiar with the most important sources of improving these crops in order to increase productivity and improve quality. - Enabling the student to discover the mechanisms of fixing atmospheric nitrogen and reducing the use of chemical fertilizers.	• ..... • ..... • .....

- The student can judge the most important problems and obstacles facing increasing the productivity of leguminous crops.	

8. Teaching and Learning Strategies

Strategy	theoretical: - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning tasks and reporting - Presentations of models of nitrogen fixation and different legume crops

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3 practical	b1:Theoretical: Explains the concept of crop plant development and how the introduction process is carried out b6:practical : Examines various samples of leguminous crops and seed legumes and their importance in the growth conditions of leguminous crops and examines and detects the formation of bacterial nodules and fixation of nitrogen symbiotically.	Theoretical: learning about the development of crop plants and how to perform the introduction process. Practical	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
2	2 Theoretical 3 practical	c1:Theoretical: Explains the most important climatic and soil needs of legumes c4:practical : Determines which samples of bacterial nodules and symbiotic nitrogen fixation are best	Theoretical: Climatic and soil needs of legumes. practical : Mutually pollinated plant groups	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
3	2 Theoretical 3 practical	b2:Theoretical: It is clear of the most important factors affecting the formation of bacterial nodules and nitrogen fixation symbiotically b7:practical : Discover how seed legumes spread and the causes of nutritional and agricultural problems	Theoretical: Factors affecting the formation of bacterial nodules and nitrogen fixation symbiotically. practical : Spread of seed legumes	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions

4	2 Theoretical 3 practical	b3:Theoretical: It judges the extent of consumers' exposure to agricultural problems and some nutritional problems of leguminous crops b8:practical : Measures which types of rhizobia infect the roots of legumes and promotes their spread and their most appropriate use for food preservation	Theoretical: Agricultural problems and some nutritional problems of leguminous crops. practical : Types of rhizobia that infect the roots of legumes and enhancing their spread and use	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
5	2 Theoretical 3 practical	b4:Theoretical: Mastering methods of protecting and preserving legumes using various materials and methods c5:practical : It distinguishes the plant parts of the bean crop from other plants	Theoretical: Bean crop Practical Bean crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
6	2 Theoretical 3 practical	a1:Theoretical: Learn about the economic importance of chickpeas - appropriate environmental conditions - operations to service the soil and prepare the land for planting - date of planting - quantity of seeds / D - methods of cultivation - operations to service the crop after planting - diseases and pests that affect the crop and ways to combat them - harvesting the crop c6:practical : It distinguishes the plant parts of the chickpea crop from other plants	Theoretical: chickpea crop practical : Chickpea crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
7	2 Theoretical 3 practical	a2: Theoretical: Learn about the economic importance of lentils - appropriate environmental conditions - soil service operations and preparing the land for cultivation - planting date - seed quantity/d - cultivation methods - crop service operations after planting - diseases and pests that affect the crop and ways to combat them - harvesting the crop b9: practical : It distinguishes the plant parts of the lentil crop from other plants	Theoretical: Lentil crop practical : Lentil crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
8	2 Theoretical 3 practical	c2: Theoretical: Explains the most important microorganisms	Theoretical: Bean yield practical : Phaseolus crop	Theoretical: Audio methods, writing style on	Short exams, assignments, discussions

		(bacteria) and their relationship to beans and their products b10: practical : Testing types of canned beans		the blackboard , dialogue style Direct practical : Assigning tasks and reporting	
9	2 Theoretical 3 practical	a3: Theoretical: knowledge of the economic importance of soybeans - appropriate environmental conditions - soil service operations and preparing the land for cultivation - planting date - seed quantity/d - cultivation methods - crop service operations after planting - diseases and pests that affect the crop and ways to combat them - harvesting the crop b11: practical : He experiments with different types of media specific to the soybean crop practical : He experiments with different types of media specific to the soybean crop	Theoretical: soybean crop practical : Soybean crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
10	2 Theoretical 3 practical	a4: Theoretical: Learn about the economic importance of mung beans - appropriate environmental conditions - soil service operations and preparing the land for cultivation - planting date - seed quantity/d - cultivation methods - crop service operations after planting - diseases and pests that affect the crop and ways to combat them - harvesting the crop b12:practical: He examines various samples of the field's pistachio crop to determine their suitability for cultivation	Theoretical: Mung bean crop Practical: Field pistachio crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
11	2 Theoretical 3 practical	a5: Theoretical: It determines the appropriate environmental conditions for growing peas - soil service operations and preparing the land for planting - planting date - seed quantity/d - cultivation methods - crop service operations after planting - diseases and pests that affect the crop and ways to combat them - harvesting the crop	Theoretical: pea crop practical : Mung crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions

		e2: practical : Shows the plant parts of the mung crop			
12	2 Theoretical 3 practical	b5: Theoretical: Runs discussion panels on leguminous crops and ways to improve production b5:practical : Shows the plant parts of the cowpea crop	Theoretical: report and discussion practical : Cowpea crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
13	2 Theoretical 3 practical	d1: Theoretical: Identifying health risks from the use of chemicals, their impact on human health, and the impact of negligence on public health b5: practical : Determines the validity of different samples from the jar	Theoretical:: Solving a problem practical : Harthman crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
14	2 Theoretical 3 practical	e1: Theoretical: It proposes a suitable method for growing beans and foods that can be produced and applied in food production institutions e1: practical : Explains the plant parts of the pea crop	Theoretical: solving a problem practical : Pea crop	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
15	2 Theoretical 3 practical	c3: Theoretical: It proposes a suitable method for growing beans and foods that can be produced and applied in food production institutions c2: practical : Aware of the main problems facing the cultivation and production of leguminous crops	Theoretical: solving a problem practical : Solve the problem	Theoretical: Audio methods, writing style on the blackboard , dialogue style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions

10. Course Evaluation

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

	Calendar methods	Calendar date (week)	Degree	Relative weight %
1	Report 1	4 week	25	25
2	report 2	5 Weeks	25	25
3	Short test (1) Quiz	6 Weeks	2	2
4	Short test (2) Quiz	14 Weeks	2	2
5	Short test (3) Quiz	15 Weeks	1	1
6	Midterm Exam 1	6 Weeks	7.5	7.5
7	Midterm Exam 2	11 Weeks	7.5	7.5
8	Theoretical final	Final exams test	40	40

9	practical experience	15 Weeks	5	5
10	practical test	3 and 5 Weeks	2	2
11	Short test (1) Quiz	1 Weeks	1	1
12	Short test (2) Quiz	4 Weeks	0.5	0.5
13	Short test (3) Quiz	14 Weeks	1	1
14	Live drawings and homework	6,9,10,11,12,13 Weeks	5.5	5.5
15	Final practical test	Final exams test	20	20
	the total	100	100	100

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Legume crops (theoretical and practical parts) Dr. Majeed Mohsen Al Ansari
Main references (sources)	Field crop production d. Mohsen Al-Janabi and Dr. Younis Abdel Qader Ali 1997.
Recommended books and references (scientific journals, reports...)	Lectures compiled from recent books posted on the Internet
Electronic References, Websites	Wikipedia encyclopedia (online)

Theoretical subject teacher: Assaint. prof. Dr.. Muthanna Abdul baseit Ali,

practical subject teacher: M.M. Saddam Ibrahim alobaidi

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كلية الزراعة والغابات

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