

## Course Description Form

1. Course Name:	
Legume crops	
2. Course Code:	
LECR362	
3. Semester / Year:	
2023/2024	
4. Description Preparation Date:	
1/2/2024	
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)	
Name: Muthanna Abdulbaset Ali Email: <a href="mailto:drmothanaalameri86@uomosul.edu.iq">drmothanaalameri86@uomosul.edu.iq</a> Name: Saddam Ibrahim alobaidi Email: <a href="mailto:saddam.alobaidi@uomosul.edu.iq">saddam.alobaidi@uomosul.edu.iq</a>	
8. Course Objectives	
<b>Course Objectives</b> 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	<ul style="list-style-type: none"><li>• .....</li><li>• .....</li><li>• .....</li></ul>

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

### 9. Teaching and Learning Strategies

<b>Strategy</b>	theoretical: - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning tasks and reporting - Presentations of models of nitrogen fixation and different leguminous crops
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### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3 practical	Theoretical: Explains the concept of crop plant development and how the introduction process is carried out practical : Examines various samples of leguminous crops and seed legumes their importance in growth conditions leguminous crops examines and detects formation of bacterial nodules and fixation 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 , dialog style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
2	2 Theoretical 3 practical	Theoretical: Explains the most important climatic and soil needs of legumes practical : Determine which samples of bacterial nodules and symbiotic nitrogen fixation are best	Theoretical: Climatic and needs of legumes. practical : Mutually pollinated plant groups	Theoretical: Audio methods, writing style on the blackboard , dialog style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions
3	2 Theoretical 3 practical	Theoretical: It is clear of the most important factors affecting the formation of bacterial nodules and nitrogen fixation symbiotically practical : Discover how seed legumes	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 , dialog style Direct practical : Assigning tasks and reporting	Short exams, assignments, discussions

		spread and the causes nutritional and agricultural problems		reporting	
4	2 Theoretical 3 practical	Theoretical: It judges the extent of consumers' exposure to agricultural problems and some nutritional problems of leguminous crops practical : Measures with types of rhizobia that infect the roots of legumes promotes their spread their most appropriate for food preservation	Theoretical: Agricultural problems and nutritional problems leguminous crops. practical : Types of rhizobia that infect the roots of legumes enhancing their spread use	Theoretical: Audio methods writing style on the blackboard , dialogue style Direct practical : Assigning tasks a reporting	Short exams assignments discussions
5	2 Theoretical 3 practical	Theoretical: Mastering methods of protecting and preserving legumes using various materials and methods practical : It distinguishes the 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 a reporting	Short exams, assignments, discussions
6	2 Theoretical 3 practical	Theoretical: Learn about economic importance chickpeas - appropriate environmental conditions operations to service the and prepare the land planting - date of planting quantity of seeds / methods of cultivation operations to service crop after planting - diseases and pests that affect the crop and ways to combat the harvesting the crop practical : It distinguishes the 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 a reporting	Short exams, assignments, discussions
7	2 Theoretical 3 practical	A2: Theoretical: Learn about the economic importance lentils - appropriate environmental conditions soil service operations and preparing the land for	Theoretical: Lentil crop practical : Lentil crop	Theoretical: Audio methods writing style on the blackboard , dialogue style Direct practical : practical :	Short exams, assignments, discussions

		<p>cultivation - planting date seed quantity/d - cultivat methods - crop service operations after planting diseases and pests that affect the crop and ways combat them - harvesting the crop B9: practical : It distinguishes the p parts of the lentil crop fr other plants</p>		<p>Assigning tasks a reporting</p>	
8	<p>2 Theoretical 3 practical</p>	<p>A2: Theoretical: Explains the most important microorganism (bacteria) and their relations to beans and their products B10: practical : Testing types of canned bea</p>	<p>Theoretical: Bean yield practical : Phaseolus crop</p>	<p>Theoretical: Audio methods writing style on t blackboard , dialog style Direct practical : Assigning tasks a reporting</p>	<p>Short exams, assignments, discussions</p>
9	<p>2 Theoretical 3 practical</p>	<p>A3: Theoretical: knowledge the economic importance soybeans - appropri environmental conditions - service operations preparing the land cultivation - planting date - quantity/d - cultiva methods - crop ser operations after plantin diseases and pests that a the crop and ways to cor them - harvesting the crop B11: practical : He experiments with diffe types of media specific to soybean crop practical : He experiments different types of media spe to the soybean crop</p>	<p>Theoretical: soybean crop practical : Soybean crop</p>	<p>Theoretical: Audio methods writing style on t blackboard , dialog style Direct practical : Assigning tasks a reporting</p>	<p>Short exams, assignments, discussions</p>
10	<p>2 Theoretical 3 practical</p>	<p>A4: heoretical: Learn about economic importance of mung b appropriate environm conditions - soil service opera and preparing the land cultivation - planting date - quantity/d - cultivation metho crop service operations planting - diseases and pests affect the crop and ways to co them - harvesting the crop He examines various samples o field's pistachio crop to deter their suitability for cultivation</p>	<p>Theoretical: Mung bean cr Practical: Field pista crop</p>	<p>Theoretical: Audio methods writing style on t blackboard , dialog style Direct practical : Assigning tasks a reporting</p>	<p>Short exams, assignments, discussions</p>

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 E2: practical : Shows the plant parts of the mung crop	Theoretical: pea crop practical : Mung crop	Theoretical: Audio methods writing style on the blackboard , dialog style Direct practical : Assigning tasks a reporting	Short exams, assignments, discussions
12	2 Theoretical 3 practical	B5: Theoretical: Runs discussion panels on leguminous crops and ways to improve production B5:practical : Shows plant parts of the cowpea crop	Theoretical: report and discussion practical : Cowpea crop	Theoretical: Audio methods writing style on the blackboard , dialog style Direct practical : Assigning tasks a 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 validity of different samples from the jar	Theoretical:: Solving a problem practical : Harthman crop	Theoretical: Audio methods writing style on the blackboard , dialog style Direct practical : Assigning tasks a reporting	Short exams, assignments, discussions
14	2 Theoretical 3 practical	E1: Theoretical: It proposes suitable method for growing beans and foods that can be produced and applied in food production institutions E1: practical : Explains plant parts of the pea crop	Theoretical: solving a problem practical : Pea crop	Theoretical: Audio methods writing style on the blackboard , dialog style Direct practical : Assigning tasks a reporting	Short exams, assignments, discussions
15	2 Theoretical 3 practical	C3: Theoretical: It proposes suitable method for growing beans and foods that can be produced and applied in food production institutions C2: practical : Aware of the main problem facing the cultivation and production of leguminous crops	Theoretical: solving a problem practical : Solve the problem	Theoretical: Audio methods writing style on the blackboard , dialog style Direct practical : Assigning tasks a reporting	Short exams, assignments, discussions

## 11. 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 (week)	date	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

## 12. Learning and Teaching Resources

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



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Chairman of the Scientific Committee: Prof. Dr. Weam Yahya Rasheed,

  
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