Course Description Form

1. Course Name:
Industrial crops
2. Course Code:
INCR230
3. Semester / Year:
First Semester (Autumn) / 2024–2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
(2 theoretical + 3 practical = 5 hours) ×15 weeks = 75 hours / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Lect Rayan Fadhel Ahmed Email: rayanobady79@uomosul.edu.iq Name: Lect . Omar Gayath Al Dean Abd Al Gafoor

8. Course Objectives	
Theoretical: • Learn about sugar crops, become aware of the economic importance of the sunflower crop, and determine the process of soil service, crop production, and harvesting. • Identify the most important devices used in extracting oils from oil crops, as w as extracting sugars from sugar crops	**Practical:** • **Distinguish between industrial crops (oily, fibrous, and sugar) in terms of their externa appearance (root – stem – leaves – flowers fruits – seeds).** • **Identifying the most important successful varieties grown in Iraq**

9. Teaching and Learning Strategies	
Strategy	- Interactive lecture - Brainstorming - Dialogue and discussion - Assigning tasks and reporting - He is assigned to prepare a report on one of the topics of plant physiology and it will be discussed therein.

	- Scientific visits. - Assigning group work to reveal leadership skills

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	Theoretical: a1:Explains the importance of oil crops and their division, and the chemical and natural properties of oils practical : b2: Explains the importance of oil crops and the purpose of cultivating them	theoretical: Oil crops practical: The importance of oil crops and their division	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
2	2Theoretical 3Practical	Theoretical: a2: Explains the importance of oil crops and their division, and the chemical and natural properties of oils practical : b3: Explains the importance of oil crops and the purpose of cultivating them	theoretical: sunflower Practical: oil extraction	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
3	2Theoretical 3Practical	Theoretical: a3: He is familiar with the economic importance of sesame and identifies the soil service, crop and harvesting processes practical : c1: Explains the parts of the sunflower plant	My theory: sesame practical: Botanical description of the sunflower crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
4	2Theoretical 3Practical	Theoretical: a4: He is familiar with the economic importance of safflower and identifies the processes of soil service, yield, and harvest practical : a2: Explains the parts of the sesame plant	theoretical: safflower practical: Botanical description of sesame crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
5	2Theoretical 3Practical	Theoretical: e1: Aware of the correct and appropriate methods for extracting and separating oil from	theoretical: A scientific visit to the fields of the Agricultural Technical College to view the	(theoretical) Auditory methods. Style of writing on the	Quizzes, assignments, discussions

		seeds practical : b4: It expresses the shape of the safflower leaf	cultivated oil crops, as well as learn about the most important equipment used in the laboratory. practical: Botanical description of the safflower crop	blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	
6	2Theoretical 3Practical	Theoretical: a5: Understands the economic importance of soybeans and identifies soil service, yield, and harvesting processes practical : b5: Researches the nature of soybean growth	theoretical: soybeans practical: Botanical description of soybean crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
7	2Theoretical 3Practical	Theoretical: a6: He is familiar with the economic importance of field pistachios and identifies the soil service, crop and harvesting processes practical : C3: Draws the parts of a field pistachio plant	theoretical: field pistachios practical Botanical description of the field pistachio crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
8	2Theoretical 3Practical	Theoretical: a7: He is familiar with the economic importance of rape and identifies the soil service, crop and harvesting processes practical : b6: The shape of the rape plant leaves is correct	theoretical: rape practical: Botanical description of rape crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
9	2Theoretical 3Practical	Theoretical: a8: He is familiar with the economic importance of castor oil and its service operations practical : b7: Shows the components of castor seed	theoretical: castor practical: Botanical description of castor crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
10	2Theoretical 3Practical	Theoretical: a9: He is familiar with the economic importance of cotton and its service processes practical :	theoretical: Fibrous crops (cotton) practical: Botanical description of the cotton crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style	Quizzes, assignments, discussions

		C4: Examines cotton seeds and the method of extracting oil from them		Direct. (practical) Assigning tasks and reporting.	
11	2Theoretical 3Practical	Theoretical: e2: He learns about sugar crops, learns about the economic importance of the sunflower crop, and identifies the processes of soil service, crop production, and harvesting practical : c5: Distinguishes flax seed from flax fiber	theoretical: A scientific visit to the Nineveh Agriculture Directorate to find out the most important reasons for the decrease in areas planted with oil crops and the reluctance of farmers to cultivate them practical: Botanical description of a flax crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
12	2Theoretical 3Practical	Theoretical: a10: He is familiar with the economic importance of linen and its service processes practical : b8: Explains the factors for increasing global sugar production	theoretical: Linen practical: The economics of sugar globally and the development of its production in Iraq	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
13	2Theoretical 3Practical	Theoretical: a11:He is familiar with the economic importance of sugarcane and its service operations practical : b9: List the parts of the sugarcane plant	theoretical: Sugar crops (sugar cane) practical: Botanical description of sugarcane crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
14	2Theoretical 3Practical	Theoretical: a12: He is familiar with the economic importance of sugar beets and its service operations practical : b9: Extracts the principles on which sugar beet varieties are most often tested	theoretical: sugar beets practical: Botanical description of sugar beet crop	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks and reporting.	Quizzes, assignments, discussions
15	2Theoretical 3Practical	Theoretical: b1: Shows the steps for manufacturing sugar in the factory practical : d2: A report on oil crops and sugar crops and training on how to extract oil from seeds of oil crops and	theoretical: Sugar manufacturing steps in the factory Practical: report and discussion on Oil and sugar crops	(theoretical) Auditory methods. Style of writing on the blackboard. Dialogue style Direct. (practical) Assigning tasks	Quizzes, assignments, discussions

		distinguishing seeds of oil crops from the rest of the seeds of other crops.		and reporting.	

11. Course Evaluation

No.	Evaluation methods	Calendar (week)	Grade	Relative weight %
1	Theoretical final report + practical experience reports	Theoretical Week 15 Practical Week 1-15	7 Theoretical + 6 practical	%13
2	Quiz (1)	Weeks (3)	4 Theoretical + 2 practical	%6
3	Midterm Exam (theoretical and practical)	Weeks (9)	10 Theoretical + 5 practical	%15
4	Quiz (2)	Weeks (12)	4 Theoretical + 2 practical	%6
5	Final Practical Test	Practical exam week	20	%20
6	Final theoretical test	Theoretical exam week	40	40%
	Total		100	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Cultivation of industrial crops in Iraq (Dr. Abdul Hamid Ahmed Al-Younis, Mr. Abdul Sattar Abdullah Al-Kuraimi)
Main references (sources)	Oil crops (Dr. Rizgar Rasheed) Oil and sugar crops (Dr. Tawakkol Younis Rizk, Dr. Hikmat Abdel Ali)
Recommended books and references (scientific journals, reports...)	Reports on the summary of seminars and conferences
Electronic References, Websites	Iraqi academic scientific journals as well as magazines agricultural in general

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