Course Description Form

1. Course Name:

Weeds Control

2. Course Code:

WECO463

3. Semester / Year:

Second Semester (Spring) / 2023-2024

4. Description Preparation Date:

1/2/2024

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: Lecturer dr. Dheyaa Fathi Aljuburi
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8. Course Objectives

- **Theoretical**
- - Enable the student to understand and understand how the benefits and harms of weeds and means of regionalization.
- - Enable the student to understand the concept of competition and spread to the weed.
- - Enable the student to understand the methods of combating weeds of all kinds.
- - Enable the student to determine the correct control methods according to the conditions of the field and the types of weeds present.
- - Enable the student to diagnose the weed groups and their mechanisms of work.
- - The student can judge and evaluate the appropriate herbicide and the effect of the residual and the appropriate doses of herbicides..

- **Practical**
- - Enable the student to identify and the possibility of diagnosing weeds.
- - Enable the student to identify the use of the appropriate sprayer and methods of calibration and determine the optimal concentration.
- - Enable the student to identify how to: methods of carrying out agricultural experiments, collecting samples and making measurements on them.

9. Teaching and Learning Strategies

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Theoretical:	Practical:
- Interactive Lecture - Brainstorming - Dialogue and discussion - Assignment and report - - Application of field experiments to combat germination and dormancy - - Tasks the preparation of a report on one of the topics of weed biology, reproduction and propagation and discussed therein. - - Scientific visits.	- Commissioning teamwork to reveal leadership skills. - Assigning tasks and a report for each experiment.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	b1, a1 Theoretical: Defines, enumerates and explains weeds, their benefits and harms b7 Practical: Enumerates the division and classification of jungle plants	Theoretical: Weeds and their definitions. Practical: naming, classifying, and subdividing weed plants	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
2	2Theoretical 3Practical	A2 Theoretical: Defines regionalization and enumerates the characteristics related to regionalization and the means of spreading the weed. B8 practical: Explains the adaptive characteristics of weed plants	Theoretical: acclimatization of weed plants and methods of their spread. Practical: Characteristics of adapted weed plants	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
3	2Theoretical 3Practical	b2, a3 Theoretical: Know the antibiotics (define the antibiotics, number of places where the antibiotic materials are located). B9 Practical: Enumerates the different methods of reproduction of weed plants	My theory: competition. Practical: Methods of reproduction in weed plants	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
4	2Theoretical 3Practical	a4, b3 Theoretical: Describe the methods of entry of antagonistic substances (explain the methods of entry of antagonistic substances into the environment, explain the methods of	My theory: the contradiction of life. Practical: The effect of dormancy on weed plants	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and	Quizzes, assignments, discussions

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		washing and volatilization). c5 practical: Explains the effect of dormancy on weed plants		report, scientific visit	
5	2Theoretical 3Practical	A5, B4, C1 Theoretical: Uses resistance methods (identify the best methods used to limit the spread of the weed). C6 Practical: Explains preventive methods to reduce the spread of the weed	Theoretical: Ways to control weeds. Practical: Characteristics of the weed and preventive means to limit its spread	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
6	2Theoretical 3Practical	C2 Theoretical: Employ means to limit the spread of weeds (employ mechanical and agricultural methods to eliminate weeds spreading in agricultural fields). B10 Practical: Explains the quantitative characteristics of the weed	Theoretical: methods of resistance. Practical: quantitative characteristics and sampling methods	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
7	2Theoretical 3Practical	b5 Theoretical: Writes about the history of chemical control and the benefits of control (write a report on chemical control explaining how pesticides were used for the first time, explain the benefits of chemical control). b11. D4 Practical: Explains weed pesticides	Theoretical: Chemical control. Practical: Identifying herbicides and evaluating herbicides	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
8	2Theoretical 3Practical	C3 Theoretical: shows the factors determining the lethal effect (among the factors determining the lethal effect of any chemical compound). b12 Practical: Explains the physical and chemical properties of pesticides	Theoretical: chemical groups. Practical: physical and chemical properties and improved materials	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report, scientific visit	Quizzes, assignments, discussions
9	2Theoretical 3Practical	C4 Theoretical: Test the penetration of pesticides into the leaves (test the locations of pesticide penetration during the chemical control department). d5 Practical: Determines the volume of spray solution	Theoretical: absorption and transport of pesticides. Practical: components and volume of spray solutions and pesticide spraying machines	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
10	2Theoretical 3Practical	b6, c5 Theoretical: Schedule the transport of pesticides (schedule the	Theoretical: Absorption and transfer of pesticides.	**Theoretical:** auditory styles, blackboard writing	Quizzes, assignments, discussions

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		transport of pesticides from the drop of the pesticide to its arrival in the killing areas). b13 Practical: Explains the types of nozzles and their uses	Practical: Calibration of sprayers and types of nozzles	style, direct dialogue style **Practical:** assignment and report	
11	2Theoretical 3Practical	D1 Theoretical: Determines the types of selectivity (specify the type of selectivity when spraying pesticides on wheat plants and they are not affected, determine the type of selectivity when observing broad-leaved weed plants being affected, and serve as the effect of thin-leaved plants). b14 Practical: Distinguish the optional types of pesticides	Theoretical: Optional Practical: Types of electives	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
12	2Theoretical 3Practical	D2 Theoretical: Explain morphological selectivity and physiological selectivity (explain how the pesticide is transformed inside the plant, explain the mechanism of morphological selectivity in plants). b15 Practical: Measures aerobic and anaerobic respiration	Theoretical: Optional Practical: Sustainability of pesticides in soil	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
13	2Theoretical 3Practical	D3 Theoretical: Explains the relationship of pesticides and the environment (explain the relationship of pesticides and the environment in terms of the time of addition and the concentration of the pesticide). c7 Practical: tests the methods of pesticide transport within the soil	Theoretical: Weed pesticides and the environment Practical: Methods of transport of pesticides into the soil	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
14	2Theoretical 3Practical	e1 Theoretical: Verify the existence of sustainability (investigate why pesticides persist in the soil or on plant parts). Practical: Documenting various weed observations	Theoretical: Sustainability Practical: watching weed plants	**Theoretical:** auditory styles, blackboard writing style, direct dialogue style **Practical:** assignment and report	Quizzes, assignments, discussions
15	2Theoretical 3Practical	e2 Theoretical: Measures the retention of pesticides in the soil	Theoretical: Sustainability	**Theoretical:** auditory styles, blackboard writing	Quizzes, assignments, discussions

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		(measure the retention period of the pesticide in the soil and do you think there are factors related to its remaining effective in the soil). Practical: Measures the amount of pésticide needed for control	Practical: measuring the amount of pesticide for control	style, direct dialogue style **Practical:** assignr and report	

11. Course Evaluation

	Sequence	Calendar methods	Calendar date (week)	Class
	1	Report 1	fourth week	2.5
	2	Report 2	fifth week	2.5
	3	Short test (1) Quiz	sixth week	2
	4	Short test (2) Quiz	fourteenth week	2
	5	Short test (3) Quiz	fifteenth week	1
	6	Semester test (1)	sixth week	7.5
	7	Semester test (2)	eleventh week	7.5
	8	Final theoretical test	Final semester exams	40
	9	Practical field project	fifteenth week	5
	10	Field evaluation	third and fifth week	2
	11	Practical short test (1) Quiz	first week	1
	12	Short practical test (2) Quiz	fourth week	0.5
	13	Short practical test (3) Quiz	fourteenth week	1
	14	Live drawings and homework	Weeks 6, 8, 9, 10, 11, 12 and 13	5.5
	15	Final practical test	Final semester exams	20
		The total	100	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the subject teacher
Main references (sources)	– **Barbara D. Booth & Clarence J. Swanton AND Stephen D. Murphy.2003.Weed Ecology in Natural and Agricultural Systems -** – **Robert L. Zimdahl / 2007.Fundamentals of Weed Science .** – **THOMAS J. MONACO & STEPHEN C. WELLER AND FLOYD M. ASHTOM. 2002.WEED SCIENCE**
Recommended books and references (scientific journals, reports...)	– https://magrj.mosuljournals.com/ – https://www.tjas.org/index.php/tjas – https://journals.sagepub.com/
Electronic References, Websites	*Journal of Plant Physiology* https://www.sciencedirect.com/journal/journal-of-plant-physiology Plant Physiology Reports https://www.springer.com/journal/40502 Google Scholar https://scholar.google.com/

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