مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

Course Syllabus

1	**Course title**	Weed Science
2	**Course number**	(0646231)
3	**Credit hours**	3
	Contact hours (theory, practical)	2,1
4	**Prerequisites/corequisites**	Biology 1
5	**Program title**	Bsc. In Plant protection
6	**Program code**	
7	**Awarding institution**	
8	**School**	School of Agriculture
9	**Department**	Department of Plant Protection
10	**Level of course**	Fourth
11	**Year of study and semester (s)**	2024/2025 1st semester
12	**Other department (s) involved in teaching the course**	
13	**Main teaching language**	English
14	**Delivery method**	X Face to face learning ☐Blended ☐Fully online
15	**Online platforms(s)**	☐Moodle ☐Microsoft Teams ☐Skype ☐Zoom ☐Others……
16	**Issuing/Revision Date**	Oct 10th 2024

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17. Course Coordinator

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18. Other instructors:

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19 Course Description:

This course deals with common weeds of cultivated fields, characteristics, biology, ecological and physiological relationships with crops, methods of reproduction, dispersal and their various effects in agroecosystems Principles of chemical, mechanical, and biological control will be outlined. Principles of chemical, mechanical, and biological control will be outlined. Laboratories will include weed identification, weed control methods, and demonstrations of the effects of various herbicides. Laboratories will include weed identification, weed control methods, and demonstrations of the effects of various herbicides.

20 Course aims and outcomes:

A- Aims:

Students will learn basic nematode morphology and anatomy, disease cycle, and management of plant-parasitic nematodes.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

PLOs / SLOs of the course	1	2	3	4	5	6	7	8	9
1. Gain knowledge on weed biology and ecology, weed species, interference with crop plants and their impacts on both agro and ecosystems.	√								
2. Weed competition on crop plants and losses weeds cause in yield will be fully understood.	√	√							
3. Students will learn on allelopathic problems of certain weed species on crops growth and development.	√	√	√		√				
4. Gain information on parasitic weeds spread in the country and region in general and their methods of control.	√	√	√	√	√		√	√	√
5. Understanding herbicides formulation and herbicides application and persistence with all required how to used them in different crops in the field and learn how to overcome any problem may emerge in using these chemicals. Get familiarized with method of weed control in different crops and different habitats				√	√	√	√		√
6. Initialize and participate in small projects utilizing knowledge about weed management				√	√	√	√		√

B- **Program Learning Outcomes (PLOs):**

Upon successful completion of this course, students will be able to:

1. Demonstrate a depth in understanding of the fundamental knowledge and skills required in the field of Plant Protection sciences, which include weeds, insects, mites, fungi, bacteria, viruses and nematodes.
2. Identify and distinguish harmful and beneficial weeds, insects, mites, fungi, bacteria, and nematodes.
3. Predict the outbreaks of pests and determine the level of infection based on skills gained in the field of Plant Protection Sciences.
4. Recognize different techniques (biological, chemical, cultural, and physical) in pest control.
5. Design and develop appropriate management strategies of pests in an environmentally friendly manner.
6. Participate efficiently in agricultural projects in the field of pest management in various public and private sectors in Jordan and worldwide.
7. Communicate effectively in written, oral, and graphical forms.
8. Employ the gained skills in communication and serving different communities.

Commit to ethics and compliance responsibilities for being an agricultural engineer, especially with regard to the agricultural sector, environment and society

9. Commit to ethics and compliance responsibilities for being an agricultural engineer, especially with regard to the agricultural sector, environment and society.

20. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods Face to Face (FF) Blended (B) Fully Online (FO)	Platform MS teams (MS) Moodle (M))	Lecturing Synchronous (S) Asynchronous (AS)	Evaluation Methods Assignment (A) Exam (E) Presentation (P) Quiz (Q) Report (R)	Resources
Module 1: Understanding Weeds								
1	1.1	Introduction to course contents and requirements		FF	MS	S	E	1,2,3,4,40,41
	1.2	Weed definition, importance, and characteristics		FF	MS	S	E	1,2,3,4,40,41
2	2.1	Weed classification		FF	MS	S	E	1,2,3,4,40,41
	2.2	Weed classification		FF	MS	S	E	1,2,3,4,40,41
3	3.1	Weed classification		FF	MS	S	E	1,2,3,4,40,41
	3.2	Weed classification		FF	MS	S	E	1,2,3,4,40,41
4	4.1	Weed biology & ecology		FF	MS	S	E	1,2,3,4,40,41
	4.2	Weed biology & ecology		FF	MS	S	E	1,2,3,4,40,41

5	5.1	Germination and Dormancy of Seeds		FF	MS	S	E	1,2,3,4,40,41
	5.2	Germination and Dormancy of Seeds		FF	MS	S	E	1,2,3,4,40,41
6	6.1	Competition		FF	MS	S	E	1,2,3,4,40,41
	6.2	Allelopathy		FF	MS	S	E	1,2,3,4,40,41
7	7.1	Parasitic weeds		FF	MS	S	E	1,2,3,4,40,41
	7.1	Parasitic weeds		FF	MS	S	E	1,2,3,4,40,41
8	8.1	**Midterm Exam– Module 1 (5/12/2024)**						
Module 2: Tools for Weed Management								
	8.2	Methods of weed control: prevention, mechanical, physical, cultural, biological		FF	MS	S	E	1,2,3,4,40,41
9	9.2	Methods of weed control: prevention, mechanical, physical, cultural, biological		FF	MS	S	E	1,2,3,4,40,41
	9.2	Methods of weed control: prevention, mechanical, physical, cultural, biological		FF	MS	S	E	1,2,3,4,40,41
10	10.1	Chemical methods and herbicides		FF	MS	S	E	1,2,3,4,40,41

	10.2	Chemical methods and herbicides		FF	MS	S	E	1,2,3,4,40,41
11	11.1	Herbicides Selectivity		FF	MS	S	E	2
	11.2	Herbicides: Formulations, surfactants		FF	MS	S	E	2
12	12.1	Herbicides: Formulations, surfactants		FF	MS	S	E	2
	12.2	Herbicide behaviour in soil and plants		FF	MS	S	E	2
13	13.1	Herbicide behaviour in soil and plants		FF	MS	S	E	2
	13.2	Herbicides: Chemical groups		FF	MS	S	E	2
14	14.1	Herbicides: Chemical groups		FF	MS	S	E	2
	14.2	Herbicide Resistance and its Management		FF	MS	S	E	2
Final Exam based on university schedule								

21. LABORATORY OUTLINE

Week	Topic	Intended Learning Outcome	Learning Methods Face to Face (FF) Blended (B) Fully Online (FO)	Platform MS teams (MS) Moodle (M))	Lecturing Synchronous (S) Asynchronous (AS)	Evaluation Methods Assignment (A) Exam (E) Presentation (P) Quiz (Q) Report (R)	Resources
1	Identification of the most common weeds in Jordan and drying and mounting weed specimen technique		FF	MS	S	E	1
2	Weed Identification and classification		FF	MS	S	E	1
3	Weed Identification and classification		FF	MS	S	E	1
4	Seed modifications		FF	MS	S	E	1
5	Seed dormancy		FF	MS	S	E	1
6	Weed/crop competition		FF	MS	S	E	1
7	Allelopathic effects of weed species		FF	MS	S	E	1
8	Parasitic weeds		FF	MS	S	E	1
9	Determination of the critical period of weed competition		FF	MS	S	E	1
10	Herbicides samples and labels		FF	MS	S	E	1
11	Determination of the critical period of weed competition		FF	MS	S	E	1
12	Herbicide application equipment, spryer parts, and calibration of different sprayers		FF	MS	S	E	1
	Lab Midterm Exam 10/12/2024						

22. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Learning through lectures, field trips, practical part of this course and laboratory work, weed samples collection, slides on weed species in farm land and natural habitats, literature review, all weed species samples and information on each species are displayed in the laboratory.

23. Evaluation Methods and Course Requirements:

Homework, Quiz, Exam, pre-lab quiz…etc
Each student is required to collect and process certain number of common weed species in agricultural land. Complete information is required on each species. Most recent literature on these species should be consulted. Students are asked to submit a lab reports on each exercise practiced during the laboratory session. Weed collection should be submitted by the end of the semester and before the final exam.

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Mid. Term Exam (end of modules 1)	20		6-7th week	
Lab Mid Exam	10		(**7 samples**)	
Assignment	2			
Lab. Reports	5			
Quizzes or other suggested alternative activity	4		Weakly expected, up to 3 quizzes but the highest 2 are considered	
Students' seminar	4			
Samples	5		15 samples and 10 seeds	
Lab Final Exam	15			
Final Exam (theoretical and practical)	35		As scheduled by the university	

24. Course Policies:

A- Attendance policies:
<15% , <20% with a permission ; medical report

B- Absences from exams and submitting assignments on time:

- **Assignments will not be accepted after deadline**
- **Absence of exams with a medical report must be submitted following regulations and a makeup exam will be scheduled within one week**

C- Health and safety procedures:

- **Mask must be worn all the time in class and lab**
- **Social distancing**

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

F- Available university services that support achievement in the course:

25. Required equipment: (**Facilities**, Tools, Labs, Training….)

Class room equipped with Smart board and computer, Teaching Lab with fresh and dry samples of weeds, sprayers and calibration tools.

26. References:

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27. Additional information:

Name of Course Coordinator: Dr. Wisam Obeidat- Signature: ----------
Date: October 08, 2024

Head of Curriculum Committee/Department: ---------- Signature: ----------

Head of Department: Prof. Nida' Salem---------- Signature: ----------

Head of curriculum committee/Faculty: ---------- Signature: ----------