مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

Course Syllabus

1	**Course title**	Diagnoses of Plant Diseases
2	**Course number**	(0606722)
3	**Credit hours**	1 lectures and 2 labs
	Contact hours (theory, practical)	1 hour and 6 hrs. lab
4	**Program title**	MSc. In Plant protection
5	**Program code**	-
6	**School**	School of Agriculture
7	**Department**	Department of Plant Protection
9	**Course level**	MSc
10	**Year of study and semester (s)**	2023/2024 , second semester
11	**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
16	**Issuing/Revision Date**	Second semester 26/2/2024

17 Course Coordinator:

Name: Dr. Monther Tahat	Contact hours: Sunday: 11-12 Tuesday and11-12
Office number: 189	Phone number:22516 Email: m.tahat@ju.edu.jo

18 Other instructors:

19 Course Description:

As stated in the approved study plan.

Identification of plant diseases caused by various agents (fungi, bacteria, viruses and nematode's. etc.) in the field and laboratory. It's also includes diagnostic by symptoms of diseases and study of host pathogen-environment relationship.

20 Course aims and outcomes:

A- Aims:

- The major objective of this module is to provide students with identification of plant diseases found in different locations of Jordan and caused by various agents (Fungi, bacteria, viruses, nematodes …. etc.) in the field and the laboratory.
- It also includes diagnosis of symptoms of the disease through field trips and study of host pathogen-environment relationships with their use in disease identification

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
A1. Be able to differentiate between healthy and diseased plants, symptoms vs signs, and specimen preparation	√							
A2. - Be able to diagnose the symptoms of diseases under field conditions	√							
A3. Understand the fundamentals of integrated pathogens management.	√	√	√					
B1. Practice Koch's postulates and isolation techniques (Aseptic techniques, sterilization, disinfection, media preparation, isolation and inoculations).		√	√		√			
B2. Know the different techniques used to diagnose diseases in the laboratory.		√	√	√	√			√
C1. Use the microscope to test disease signs		√	√		√			√
C2. Draw the symptoms and causal agents in his notebook.	√							
D1. Collect specimens preserve or dry them and keep on drawing papers to submit at the end of the Semester.			√	√	√			√
D2. Sterilize small infected parts isolate and culture on media		√			√			
D3. Test isolated causal agents and mount them on slides through temporary or permanent media								

PLOS

After the successful completion of this program student should be able to:

1. Implement the advanced concepts and processes in various disciplines in Plant Protection.
2. Extract information and findings of science from literature in Plant Protection.
3. Plan, conduct and analyze the results of scientific research.
4. Communicate effectively with his supervisors and colleagues orally and in writing.
5. Employ expertise and skills gained in the development production, research, and extension on different levels in the public and private sectors in Jordan and worldwide.
6. Engage efficiently in a scientific team work.
7. Publish research in the field of Plant Protection in peer-reviewed scientific journals.
8. Commit to ethics and compliance responsibilities for being an agricultural engineer, especially with regard to agricultural sector, environment and society.

21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	**Introduction: Related disciplines, course concept**	A1	Face to Face		Synchronous	reports	1, 3
	1.2	Field trip to collect and diagnose diseases From the University Campus	A1,D1	Face to Face		Synchronous	reports	1, 2, 3, 4, 6
2	2.1	Field trip to collect samples of plant diseases from the South Jordan Valley area	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	
	2.2	Identification of diseases collected from South Jordan Valley	A2, D1	Face to Face		Synchronous	Quiz, reports	
3	3.1	Field trip to collect samples of plant diseases from Deir Alla area	A2, D1	Face to Face		Synchronous	Quiz, reports	1, 2, 3, 4, 6
	3.2	Identification of diseases collected from Deir Alla in the laboratory	A2, D1	Face to Face		Synchronous	Quiz, reports	1, 2, 3, 4, 6
4	4.1	Field trip to collect samples of plant diseases from the North Jordan Valley area	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1, 2, 3, 4, 6
	4.2	Identification of diseases collected from North Jordan Valley in the laboratory	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1, 7
5	5.1	Field trip to collect samples of plant diseases from Madaba area	A2, D1	Face to Face		Synchronous	Quiz, reports	1, 7
	5.2	Field trip to collect samples of plant diseases from Mafraq area	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1, 2, 4
6	6.1	Identification of diseases collected from Mafraq in the laboratory.	A1, D1	Face to Face		Synchronous	Quiz, reports	1, 2, 4
	6.2	Field trip to collect samples of plant diseases from Irbid area	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1, 7

7	7.1	Identification of diseases collected from Irbid in the laboratory		Face to Face		Synchronous	Quiz, reports	1, 7
	7.2	Midterm exam	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1, 2, 4
8	8.1	Field trip to collect samples of plant diseases from Jerash		Face to Face		Synchronous	Quiz, reports	1, 2, 4
	8.2	Identification of diseases collected from Jerash in the laboratory	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1, 2, 4
9	9.1	Field trip to collect samples of plant diseases from Ajloun		Face to Face		Synchronous	Quiz, reports	1, 2, 4
	9.2	Identification of diseases collected from Ajloun in the laboratory						
10	10.1	Field trip to collect samples of plant diseases from JU campus (North part)	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1,2.3.7
	10.2	Identification of diseases collected from JU campus (North part) in the laboratory	A2, D1	Face to Face		Synchronous	Quiz, reports	1,2.3.7
11	11.1	Field trip to collect samples of plant diseases from JU campus (South part)	A3, B1-B2, C1-C2, D1	Face to Face		Synchronous	Quiz, reports	1,2.3.7
	11.2	Identification of diseases collected from JU campus (South Part) in the laboratory	A2,D1	Face to Face		Synchronous	Quiz, reports	1,2,3,7
12	12.1			Face to Face		Synchronous	Quiz, reports	1,2,3,7
	12.2	Methods of pathogens control through integration of biological, cultural, chemical and regulate	A3, B1-B2, C1-C2, D1	Face to Face		Synchronous	Quiz, reports	1,2,3
13	13.1	Students Projects	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous	Quiz, reports	1,2,3
	13.2	Students Projects	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous		
14	14.1	Students Projects	B1, B2, C1, C2,	Face to Face		Synchronous		

			D2, D3					
	14.2	Students Projects	B1, B2, C1, C2, D2, D3	Face to Face		Synchronous		

22 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
First Mid-Term Exam	30%	W1-W7	B1, B2, C1, C2, D2, D3	**7th week**	
Activities: 1. In-class work 2. Presentation 3-Reports (5 reports)	10% 10% 20%	W1-W12	B1, B2, C1, C2, D2, D3	At the end of each topic	
Final Exam	30%	W1-W15 all topics	A1,-A3, B1-B2, C1-C2, D1-D2	JU calendar	

23 Course Requirements

students should have a computer, internet connection,

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 the 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, and misbehavior:

E- Grading policy:

From (%)	To (%)	Scale	Mark	Result
0	54	0	C	Fail
55	59	2.5	C+	Good
60	64	2.75	B-	Very Good
65	74	3	B	Very Good
75	79	3.5	B+	Very Good
80	85	3.75	A⁻	Excellent
86	100	4	A	Excellent

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

25 References:

A Required book (s), assigned reading and audio-visuals:

Text Book:

1. Streets, R.B. (1982). The Diagnosis of Plant Diseases. 6thedition.University of Arizona Press. Tucson, USA, 581 pages

References:

1.Agrios, G.N. (2005) Plant Pathology. 5th Edition, Academic Press, London, 922 pages.

2. Abu-Blan, H.A. (1995) Diseases of Protected Plants and their control. Al-Dostoor 4. Press, Amman, 216 Pages.

3.Dixon, G.R. (1984) Vegetable Crop Diseases. Macmillen-publisher Ltd., London. 404 pages.

4.Jones, A.L. and Sutton, T.B. (1996) Diseases of Tree Fruits in the East. North Carolina State University, USA. 95 pages.

5.Lelliotte, R.A. (1987) Methods for the diagnosis of Bacterial Diseases of Plants. Black well Scientific Publication.

6.Martens, J.W., Seaman, W. I. and Atkinson, T.G. (1984) Diseases of Field Crops: An illustrated compendium. The Canadian Psychopathological Society. Ontario, Canada.

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B- Recommended books, materials, and media: Videos In class and will be deposited on learning

- YouTube videos
- APS website

26 **Additional information:**

Name of Course Coordinator: ----------Signature: ---------- Date: ----------
Head of Curriculum Committee/Department: ---------- Signature: ----------
Head of Department: ---------- Signature: ----------
Head of Curriculum Committee/Faculty: ---------- Signature: ----------
Dean: ---------- Signature: ----------