Course Syllabus

1	**Course title**	**Plant Pathology**	
2	**Course number**	**0636221**	
3	**Credit hours**	**3**	**3**
	Contact hours (theory, practical)	**Theory: 2, Practical: 3**	
4	**Prerequisites/corequisites**	**General Biology (0304101)**	
5	**Program title**	**Plant Protection**	
6	**Program code**		
7	**Awarding institution**	**The University of Jordan**	
8	**School**	**School of Agriculture**	
9	**Department**	**Department of Plant Protection**	
10	**Course level**	**Second year**	
11	**Year of study and semester (s)**	**2024-2025/ First Semester**	
12	**Other department (s) involved in teaching the course**		
13	**Main teaching language**	**English**	
14	**Delivery method**	■Face to face learning ☐Blended ☐Fully online	
15	**Online platforms(s)**	■Moodle ■Microsoft Teams ☐Skype ☐Zoom ☐Others……	
16	**Issuing/Revision Date**	06/10/2024	

17 Course Coordinator:

Name: Dr. Nida' Salem

Contact hours: 11:30 – 12:30 pm Monday

11:30 – 12:30 pm Wednesday

Office number: 188

Phone number: 22358

Email: n.salem@ju.edu.jo; nmsalem72@gmail.com

18 Other instructors:

Name: Eng. Dina Al-Hattab/Lab supervisor/Practical part Office number: 145 Phone number: 22513 (Department phone) Email: dinashattab@yahoo.com Contact hours:11:00 – 12:00 pm Mon.

19 Course Description:

As stated in the approved study plan. This course provides basic information about concepts of diseases in plants, symptoms caused by plant pathogens, plant disease epidemiology, how pathogens attack plants, how plants defend themselves against pathogens, and examples of plant diseases caused by fungi, bacteria, nematodes, viruses and parasitic higher plants. Special attention will be given to the plant disease management.

20 Course aims and outcomes:

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A- Aims:

At the end of the course, students will become familiar with the most important plant diseases that occur in different parts of the world, and in particular in Jordan, their general characteristics, diagnosis and control. Student will be able to distinguish between plant diseases caused by biotic factors (fungi, bacteria, virus, nematode, mycoplasma-like organism (MLO), parasitic higher plants) and abiotic factors such as temperature, moisture, light, pesticides injury and improper agricultural practices.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course student will be able to

A. Knowledge and Understanding: Student is expected to:

A1- Know what are plant diseases and their importance.

A2- Know what symptoms and signs do plant diseases cause.

A3- Recognize the losses caused by plant diseases.

A4- Understand the control measures that used to manage plant diseases.

B. Intellectual Analytical and Cognitive Skills: Student is expected to:

B1- Diagnose the infectious and non-infectious plant diseases and distinguish between them.

B2- Be able to manage plant diseases.

C. Subject- Specific Skills: Student is expected to:

C1- Apply the basic knowledge of Plant Pathology for identification of plant diseases in the field.

C2- Integrate different approaches for plant disease management in the field.

D. Transferable Key Skills: Student is expected to:

D1- Distinguish plant disease symptoms in the plants and their associated economic impact.

D2- Know the different techniques that used for plant pathogens detection and identification in the field as well as in the laboratory.

After the successful completion of this program student should 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.
9. Commit to ethics and compliance responsibilities for being an agricultural engineer, especially with regard to agricultural sector, environment and society.

PLOs / SLOs of the course	1	2	3	4	5	6	7	8	9
A. Knowledge and Understanding									
A1- Know what are plant diseases and their importance.	X								
A2- Know what symptoms and signs do viruses cause.	X								
A3- Recognize the losses caused by plant diseases.	X	X							
A4- Understand the control measures that used to manage plant diseases.	X	X	X						
B. Intellectual Analytical and Cognitive Skills									
B1- Diagnose the infectious and non-infectious plant diseases and distinguish between them.		X	X						
B2- Be able to manage plant diseases.				X	X	X	X		
C. Subject- Specific Skills									
C1- Apply the basic knowledge of Plant Pathology for identification of plant diseases in the field.		X	X	X	X	X	X	X	X
C2- Integrate different approaches for plant disease management in the field.		X	X	X	X	X	X	X	X

D. Transferable Key Skills									
D1- Distinguish plant disease symptoms in the plants and their associated economic impact.		X	X	X	X	X	X	X	X
D2- Know the different techniques that used for plant pathogens detection and identification in the field as well as in the laboratory.		X	X			X	X	X	X

21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources	
1	1.1	Introduction to the course/Course outline		Face to Face	Microsoft Teams	Synchronous Lecturing			
	1.2	How do we diagnose plant diseases?	A1-4	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 1	
2	2.1	What is the plant disease triangle?	A1-4	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 1	
	2.2	What are biotrophs and necrotrophs?	A1-4 B1-4 C1-4	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab reports	Chp. 1	
3	3.1	What are disease cycles?	A1-4 B1-4 C1-4	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab reports	Chp. 1	
	3.2	What are the causes of plant diseases? Fungi	A1-4 B1-4 C1-4	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 2	
4	4.1	What are the causes of plant diseases? Fungi	A1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 2	
	4.2	What are the causes of plant diseases? Fungi	A1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 2	

5	5.1	What are the causes of plant diseases? Fungi	A1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 2	
	5.2	What are the causes of plant diseases? Bacteria	A1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 3	
6	6.1	What are the causes of plant diseases? Bacteria	A1-4 B1-2 C1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report	Chp. 3	
	6.2	What are the causes of plant diseases? Nematodes	A1-4 B1-2 C1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report	Chp. 4	
7	7.1	What are the causes of plant diseases? Nematodes	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report, presentation	Chp. 4	
	7.2	What are the causes of plant diseases? Viruses	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report	Chp. 5	
8	8.1	What are the causes of plant diseases? Parasitic Flowering Plants	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report	Chp. 6	
	8.2	What are the causes of plant diseases? Abiotic factors	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report	Chp. 7	
9	9.1	What are the causes of plant diseases? Abiotic factors	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, lab report	Chp. 7	
	9.2	**Midterm Exam: Wednesday December 4rth, 2024**							

10	10.1	What type of plant diseases are there?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 8	
	10.2	What type of plant diseases are there?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 8	
11	11.1	How do plants interact with pathogens?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz	Chp. 9	
	11.2	How do people influence plant disease epidemics?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, presentation	Chp. 10	
12	12.1	How do people influence plant disease epidemics?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, presentation	Chp. 10	
	12.2	**Holiday: December 25, 2024**							
13	13.1	How can we prevent or manage plant disease epidemics?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, presentation	Chp. 11	
	13.2	**Holiday: January 1, 2025**							
14	14.1	How can we prevent or manage plant disease epidemics?	A1-4 B1-2 C1-2 D1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, presentation	Chp. 11	
	14.2	How can we prevent or manage	A1-4 B1-2	Face to Face	Microsoft Teams	Synchronous Lecturing	Exam, quiz, presentation	Chp. 11	

		plant disease epidemics?	C1-2 D1-2						

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
Class Midterm Exam	20	From wk1-wk8 (mentioned above)	A1-4 B1-2 C1-2 D1-2	December 04, 2024	At the University
Lab. Midterm Exam	10	From wk1-wk7	A1-4 B1-2 C1-2 D1-2	November 26, 2024	At the University
Quizzes - Presentations	10	All topics	A1-4 B1-2 C1-2 D1-2	Weekly	At the University
Lab. reports	10	All topics	A1-4 B1-2 C1-2 D1-2	Weekly	At the University
Lab. Final Exam	15	All topics	A1-4 B1-2 C1-2 D1-2	January 14, 2025	At the University

Class Final Exam	35	All topics	A1-4 B1-2 C1-2 D1-2	Will be announced from register	At the University

23 Course Requirements

(e.g: students should have a computer, internet connection, webcam, account on a specific software/platform…etc):

Students should be familiar with the Microsoft Teams, Zoom and Moodle.

24 Course Policies:

Concerns or complaints should be expressed in the first instance to the module lecturer; if no resolution is forthcoming, then the issue should be brought to the attention of the module coordinator (for multiple sections) who will take the concerns to the module representative meeting. Thereafter, problems are dealt with by the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For final complaints, there will be a committee to review grading the final exam.
For more details about the below issues, please read the University regulations and visit: http://units.ju.edu.jo/ar/LegalAffairs/Regulations.aspx
A- Attendance policies:

B- Absences from exams and submitting assignments on time

C- Health and safety procedures

D- Honesty policy regarding cheating, plagiarism, misbehavior

E- Grading policy

F- Available university services that support achievement in the course

25 References:

Text Book/Main Reference:

Schumann, G. L. and D'Arcy, C. J. (2010). Essential Plant Pathology. Second edition. The American Phytopathological Society, St. Paul, Minnesota, U.S.A. For theoretical (lecture) part.

Mansour, A., Salem, N. and Badwan, H. (2023) Plant Pathology Laboratory Manual. Amman-Dar Zuhdi for Publishing and Distribution. For practical (laboratory) part.

References:

1. Agrios, N. (2005). Plant Pathology. Fifth edition. Elsevier Academic Press, New York, U.S.A.

2. Bennett, W. F. (1993) Nutrient deficiencies & toxicities in crop plants. The American Phytopathological Society, St. Paul, Minnesota, U.S.A.
3. Roberts, D. and Boothroyed, C. (1983). Fundamentals of Plant Pathology. Second edition. W.H. Freeman and Company, New York, U.S.A.

Relevant articles on the internet

26 Additional information:

Intended grading scale (example)

Mark	To	From
A	100	86
A-	85	83
B+	82	80
B	79	74
B-	73	71
C+	70	68
C	67	62
C-	61	59
D+	58	56
D	55	50
D-	49	47
H	46	0

Laboratory schedule is attached.

Name of Course Coordinator: ----------Signature: ---------- Date: ----------

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

Head of Department: ---------- Signature: ----------

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

Dean: ---------- Signature: ----------