



<b>Form: Course Syllabus</b>	<b>Form Number</b>	EXC-01-02-02A
	<b>Issue Number and Date</b>	2963/2022/24/3/2 5/12/2022
	<b>Number and Date of Revision or Modification</b>	2/(10/12/2023)
	<b>Deans Council Approval Decision Number</b>	50/2023
	<b>The Date of the Deans Council Approval Decision</b>	26/12/2023
	<b>Number of Pages</b>	06

## Epidemiology of Plant Diseases

1.	<b>Course title</b>	Epidemiology of Plant Diseases
2.	<b>Course number</b>	0606428
3.	<b>Credit hours</b>	2
	<b>Contact hours (theory, practical)</b>	2 Credit hours
4.	<b>Prerequisites/corequisites</b>	-
5.	<b>Program title</b>	X BSc <input type="checkbox"/> MSc <input type="checkbox"/> PhD in Plant Protection
6.	<b>Program code</b>	
7.	<b>Awarding institution</b>	The University of Jordan
8.	<b>School</b>	School of Agriculture
9.	<b>Department</b>	Plant Protection
10.	<b>Course level</b>	BSc
11.	<b>Year of study and semester (s)</b>	First semester -2023/2024
12.	<b>Other department (s) involved in teaching the course</b>	-
13.	<b>Main teaching language</b>	English
14.	<b>Delivery method</b>	<input type="checkbox"/> Face to face learning <input checked="" type="checkbox"/> Blended <input type="checkbox"/> Fully online
15.	<b>Online platforms(s)</b>	X Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
16.	<b>Issuing/Revision Date</b>	25.02.2024

## 17. Course Coordinator:

Name: Dr. Luma Al Banna	Contact hours: <b>Mond ay and</b>
<b>Wednesday 8-9 OR by appointment</b>	
Office number: 176	Phone number: 22530
Email: lalbanna@ju.edu.jo	



### 18. Other Instructors:

Name:	Office number:
Phone number:	Email:
Contact hours:	

### 19. Course Description:

The course covers the factors affecting the epidemics of diseases, as well as methods and techniques in management of diseases control
--

### 20. Program Intended Learning Outcomes: (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

#### A- Aims:

derive principles of plant disease management from knowledge of plant disease epidemiology.

### 21. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

#### A. Knowledge and Understanding: Student is expected to

- A1. Understand the disease cycle.
- A2. Recognize how do parasites survive and spread.
- A3. Understand the host- parasite interactions.
- A4. Understand how environmental factors affect amount and rate of diseases.
- A5. Understand how, where and when to manage a disease

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

- B1. Gain an increased self-confidence in one's personal ability regarding epidemiology.
- B2. Gain an ability to critically analyze a problem or issues from an epidemiological and ecological perspectives.
- B3. Solve problems.

#### C. Subject- Specific Skills: Students is expected to

- C1. Derive principles of plant disease management from knowledge of plant disease epidemiology.
- C2. Evaluate different techniques in disease management.

#### D. Transferable Key Skills: Students is expected to

- D1. Plan and manage time



## 22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:

PLOs SLOs of the course	1	2	3	4	5	6	7	8	9
A1. Understand the disease cycle	√								
A2. Recognize how do parasites survive and spread.	√								
A3. Understand the host- parasite interactions.	√								
A4. Understand how environmental factors affect amount and rate of diseases	√		√						
A5. Understand how, where and when to manage a disease				√	√				√
B1. Gain an increased self-confidence in one's personal ability regarding epidemiology							√	√	
B2. Gain an ability to critically analyze a problem or issues from an epidemiological and ecological perspectives							√	√	
B3. Solve problem					√	√	√	√	√
C1. Derive principles of plant disease management from knowledge of plant disease epidemiology					√				√
C2. Evaluate different techniques in disease management				√	√				
D1. Plan and manage time						√	√	√	

## 23. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Introduction	A1-A3	Face to Face		Synchronous	Mid & final	1
	1.2	Terminology , Elements of an epidemic	A1-A3	Face to Face		Synchronous	Mid & final	1
2	2.1	Disease cycle	A1-A3, B1-B2, D1	Online	Moodle, Microsoft teams	Asynchronous	Mid & final	1
	2.2	Disease cycle	A1-A3, B1-B2, D1	Online	Moodle, Microsoft teams	Asynchronous	Mid & final	1
3	3.1	Disease cycle	A1-A3, B1-B2, D1	Face to Face		Synchronous	Mid & final	1



	3.2	Pattern of epidemics	A1-A3	Face to Face		Synchronous	Mid & final	1
4	4.1	Pattern of epidemics	A1-A3	Face to Face		Synchronous	Mid & final	1
	4.2	Inoculum potential	A1-A3	Face to Face		Synchronous	Mid & final	1,4
5	5.1	Dispersal	A1-A3	Face to Face		Synchronous	Mid & final	1 ,4-6
	5.2	Dispersal	A1-A3	Online	Moodle, Microsoft teams	ASynchronous	Mid & final	1 ,4
6	6.1	Dispersal	A1-A3, B1-B2, D1	Face to Face		Synchronous	Mid & final	1 ,4
	6.2	Influence of physical factors on Epidemics	A1-A3	Face to Face		Synchronous	Mid & final	1-6
7	7.1	Influence of physical factors on Epidemics	A4	Online	Moodle, Microsoft teams	Asynchronous	Mid & final, Presentation	1-6
	7.2	Influence of physical factors on Epidemics	A4	Online	Moodle, Microsoft teams	Asynchronous	Mid & final, Presentation	1-6
8	8.1	Influence of physical factors on Epidemics	A4	Face to Face		Synchronous	Mid & final, Presentation	1-6
	8.2	First Exam	A1-A3, B1-B2, D1					
9	9.1	Influence of chemical factors on Epidemics	A4	Face to Face		Synchronous	Final	1,2 ,8
	9.2	Influence of chemical factors on Epidemics	A4	Online	Moodle, Microsoft teams	Asynchronous	Final	1,2 ,8
10	10.1	Influence of biological factors on Epidemics	A4	Face to Face		Synchronous	Final	1,2 ,8
	10.2	Influence of biological factors on Epidemics	A1-A3, B1-B2, D1	Online	Moodle, Microsoft teams	Asynchronous	Final	1,2, 7
11	11.1	Influence of biological factors on Epidemics, Instrumentation	A4	Face to Face		Synchronous	Final	1,2 ,7
	11.2	Instrumentation for epidemiology	A5-B1-B2, D1	Face to Face		Synchronous	Final	1,2
12	12.1	Forecasting of Epidemics	A5-B1-B2, D1	Face to Face		Synchronous	Final	1,2,4
	12.2	Forecasting of Epidemics	A5-B1-B2	Online	Moodle, Microsoft teams	Asynchronous	Final	1,2,4
13	13.1	Methods and techniques in management of diseases	A2-A5, B1-B3, C1-C2, D1	Face to Face		Synchronous	Final	1,2,4,8
	13.2	Methods and techniques in management of diseases	A2-A5, B1-B3, C1-C2, D1	Online	Moodle, Microsoft teams	Asynchronous	Final	1,2,4,8



14	14.1	Methods and techniques in management of diseases	A2-A5, B1-B3, C1-C2, D1	Face to Face		Synchronous	Final	1,2,4,8
	14.2	Methods and techniques in management of diseases	A2-A5, B1-B3, C1-C2, D1	Face to Face		Synchronous	Final	1,2,4,8

## 25. Course Requirements:

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

Students should have a computer, internet connection, and account on Microsoft teams to have access to course materials and some course activities.

## 26. 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:

From (%)	To (%)	Scale	Mark	Result
0	35	0	H	Fail
40	43	0.75	D-	Fail
44	50	1	D	Accepted
51	54	1.5	D+	Accepted
55	58	1.75	C-	Good
59	65	2	C	Good
66	69	2.5	C+	Good
70	73	2.75	B-	Very Good
74	80	3	B	Very Good
81	84	3.5	B+	Very Good
85	88	3.75	A <sup>-</sup>	Excellent
89	100	4	A	Excellent



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

## 27. References:

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

### Text Book :

1. Cooke and B. Kaye. 2006. The Epidemiology of Plant Diseases. Second Edition University College Dublin, Ireland University College Dublin, Ireland D. GARETH JONES.
2. Fry, W. 1982. Principles of Plant Disease Management. Academic press, Inc. New York. 378 pp.

### References updated each semester

3. Ciliberti, N., Fermaud, M., Languasco, L. and Rossi, V. 2015. Influence of Fungal Strain, Temperature, and Wetness Duration on Infection of Grapevine Inflorescences and Young Berry Clusters by *Botrytis cinerea* Phytopathology, 105, 325-333.
4. Van der Heyden, H., Dutilleul, P., Charron, JB. et al. 2021. Monitoring airborne inoculum for improved plant disease management. A review. Agron. Sustain. Dev. 41, 40 .  
<https://doi.org/10.1007/s13593-021-00694-z>
5. Michailides, T. J., and Morgan, D. P. 1993. Spore release by *Botryosphaeria dothidae* in Pistachio orchards and disease control by altering the trajectory angle of sprinklers. Phytopathology, 83: 145-152.
6. Brodie, B. B. 1993. Probability of *Globodera rostochiensis* spread on equipment and potato tubers. Journal of Nematology, 25: 291-296.
7. Dagher, F., Olishevskaya, S., Vincent Philion, V., Zheng, J., and Déziel, E. 2020. Development of a novel biological control agent targeting the phytopathogen *Erwinia amylovora* 6, 10, October 2020, e05222
8. Van Tran, Q., Ha, C. V., Vvedensky, V. V., & Han, V.-C. (2023). Current status and characterization of *Phytophthora* species associated with gummosis of citrus in Northern Vietnam. *Journal of Phytopathology*, 171, 478–488. <https://doi.org/10.1111/jph.13204>

### B- Recommended books, materials, and media:

Videos In class and will be deposited on elearning

## 28. Additional information:

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.




---

Name of the Instructor or the Course Coordinator:	Signature:	Date:
.....	.....	.....
Name of the Head of Quality Assurance Committee/ Department	Signature:	Date:
.....	.....	.....
Name of the Head of Department	Signature:	Date:
.....	.....	.....
Name of the Head of Quality Assurance Committee/ School or Center	Signature:	Date:
.....	.....	.....
Name of the Dean or the Director	Signature:	Date:
.....	.....	.....