

## Course E-Syllabus

1	<b>Course title</b>	Plant Physiology
2	<b>Course number</b>	0334352
3	<b>Credit hours</b>	3
	<b>Contact hours (theory, practical)</b>	2 + 1
4	<b>Prerequisites/corequisites</b>	General Biology 101
5	<b>Program title</b>	BSc (Biological Sciences)
6	<b>Program code</b>	
7	<b>Awarding institution</b>	The University of Jordan
8	<b>School</b>	Science
9	<b>Department</b>	Biological Sciences
10	<b>Level of course</b>	3 <sup>rd</sup> Year
11	<b>Year of study and semester (s)</b>	2022/2023 second semester
12	<b>Final Qualification</b>	
13	<b>Other department (s) involved in teaching the course</b>	
14	<b>Language of Instruction</b>	English
15	<b>Teaching methodology</b>	<input type="checkbox"/> Blended <input type="checkbox"/> Online
16	<b>Electronic platform(s)</b>	<input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others ju e.learning and Personal website (www.plantphysiology352a.blogspot.com).....
17	<b>Date of production/revision</b>	April 2023

### 18 Course Coordinator:

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Phone number: 22227  
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### 19 Other instructors:

Name:  
Office number:  
Phone number:  
Email:

Name:  
Office number:  
Phone number:  
Email:

## 20 Course Description:

As stated in the approved study plan.

**The course will examines various aspects of plant physiology including water relations, mineral nutrition, photosynthesis, phloem translocation, plant hormones, photomorphogenesis, responses of plants to environmental stress, and seed physiology**

## 21 Course aims and outcomes:

**A- Aims:**

A- Aims: To build up student knowledge on the biochemical and physiological functions of plants including plant water relations, nutrient uptake and transport, photosynthesis, growth, hormones and their functions in plants and plant responses to the environment. The lab association with the lecture provides an opportunity to test these plant physiological principles

**B- Students Learning Outcomes (SLOs)**

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

*After completing this course, students will be able :*

1. To understand, know and discuss the concept of physiological processes of plants.
2. To understand and describe the distribution of metabolic processes in the cell.
3. To understand the importance of mineral nutrition, transpiration, photosynthesis and translocation of organic nutrients in plants.
4. To understand and explain the processes of growth and development of plants.
5. To demonstrate understanding of plant photoreceptors with special emphasis on phytochrome and its role in plant development.
6. To understand the working of plant hormones and to demonstrate knowledge of plant response to selected environmental stresses
7. The Lab part will enable students to conduct experiments, analyze results, derive conclusions and write up reports on topics that emphasize the theoretical concepts given in lectures.

<b>SLOs of the course</b>	<b>SO (1)</b>	<b>SO (2)</b>	<b>SO (3)</b>	<b>SO (4)</b>	<b>SO (5)</b>	<b>SO (6)</b>
1	x		x			
2	x		x			
3	x		x			
4	x		x			
5	x		x			
6	x		x			
7	x		x			x

**22 . Topic Outline and Schedule:**

<b>Week</b>	<b>Lecture</b>	<b>Topic</b>	<b>Teaching Methods*/platform</b>	<b>Evaluation Methods**</b>	<b>References</b>
1	1.1	<b>Plant water relations</b>	Lectures / Lab on campus	Exams and quizzes	Hopkins, W. and Norman P.A. Huner. 2009. Introduction to plant physiology. 4 <sup>th</sup> edition. John Wiley and Sons, Inc. New York. U.S.A.
	1.2	Plant water relations			
	1.3	Plant water relations			
2	2.1	Plant water relations			
	2.2	Plant water relations			
	2.3	Plant water relations			

3	3.1	Plant water relations			
	3.2	Plant water relations			
	3.3	Mineral nutrition	Lectures / Lab on campus		
4	4.1	Mineral nutrition			
	4.2	Plant water relations			
	4.3	Photosynthesis	Lectures / Lab on campus		
5	5.1	Photosynthesis			
	5.2	Photosynthesis			
	5.3	Photosynthesis			
6	6.1	Photosynthesis			
	6.2	Photosynthesis			
	6.3	Photosynthesis			
7	7.1	Photosynthesis			
	7.2	Phloem translocation	Lectures / Lab on campus		
	7.3	Phloem translocation			
8	8.1	Phloem translocation			

	8.2	Plant Growth and seed germination	Lectures / Lab on campus		
	8.3	Plant Growth and seed germination			
9	9.1	Plant Growth and seed germination			
	9.2	Plant Growth and seed germination			
	9.3	Phytohormones	Lectures / Lab on campus		
10	10.1	Phytohormones			
	10.2	Phytohormones			
	10.3	Phytohormones			
11	11.1	Phytohormones			
	11.2	Phytohormones			
	11.3	Phytohormones			
12	12.1	Phytohormones			
	12.2	Phytohormones			
	12.3	Phytochrome and photomorphogenesis	Lectures on campus		
13	13.1	Phytochrome and photomorphogenesis			
	13.2	Phytochrome and photomorphogenesis			
	13.3	Phytochrome and photomorphogenesis			
14	14.1	Stress physiology			
	14.2	Stress physiology			

	14.3	Stress physiology			
15	15.1	Stress physiology			
	15.2	Stress physiology			
	15.3	Stress physiology			

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

### 23 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
Theory midterm exam	30	1-6	1,2,3	1-7	
Lab Midterm exam	10	1-6	7	1-7	
Lab reports	5	all	7	1-14	
Lab conduct and group participation	5		7	1-14	
Lab final Exam	15	all	1,3,7		
Final theory exam	35	all	1, 3		

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

Computer, internet connection

### 25 Course Policies:

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:

**26 References:**

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

1.Hopkins, W. and Norman P.A. Huner. 2009. Introduction to plant physiology. 4<sup>th</sup> edition. John Wiley and Sons, Inc. New York. U.S.A.

B- Recommended books, materials and media:

2.Plant Physiology by F.Salisbury and C. Ross. 4<sup>th</sup> edition 1992. Wads-Worth publishing Company

3. Plant Physiology by Taiz & Zeiger. 5th edition, 2010. The Benjamin/Cummings Publ. Co. Inc

**27 Additional information:**

Name of Course Coordinator:Prof. Dr. Samih Tamimi-----Signature: SMT----- Date: 05/4.2023----  
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Head of Curriculum Committee/Department: ----- Signature: -----

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

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

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