Jordan University of Science and Technology

Faculty of Agriculture

Plant Production Department

PP711 Advanced Plant Physiology
First Semester 2019-2020

Course Catalog
3 Credit Hours. The course will cover the following topics: Growth and productivity of major vegetable and agronomic crops as related to plant physiological processes and environmental parameters, through manipulation of crop growth for enhanced production. Physiological responses of plants to environmental stresses (water, temperature, nutrient, salt). Critical reviews of related literature.

Text Book	
Title	Plant physiology and Development.
Author(s)	Taiz, L, Zeiger E, Moller, I.M and Murphy A.
Edition	2nd Edition
Short Name	REF#1
Other Information	2015. Sinauer Associates, Inc.

Course References

Short name	Book name	Author(s)	Edition	Other Information
REF#2	Plant Physiological Ecology.	Lambers, H., Chapin III, F.S, and Pons, T.L.	2nd Edition	2008, Springer-Verlag New York, p605
REF#4	Plant physiology	Taiz L, Zeiger E	5th Edition	Sinauer Associates publisher. MA, USA.
REF#5	Advances in Selected Plant Physiology Aspects	Montanaro. G and Dichio B	1st Edition	Published by InTech Janeza Trdine 9, 51000 Rijeka, Croatia
REF#3	The Physiology of Flowering Plants	Pik, H. O. and Rolfe, S. A	4th Edition	Published in the United States of America by Cambridge University Press, New York

Instructor	
Name	**Prof. Maher Tadros**

Office Location	C4L2
Office Hours	Sun : 08:00 - 09:00 Mon : 09:00 - 11:00 Tue : 09:00 - 10:00 Wed : 09:00 - 11:00
Email	mtadros@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Mon, Wed : 11:30 - 13:00 Room: LAB

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Introduction to plant physiology and aspects related	
Week 2	Physiological Processes Review :1- Photosynthesis	From **REF#1**, From **REF#2**, From **REF#4**, From **REF#5**, From **REF#3**
Week 3	Physiological Processes Review : 2- Transpiration	From **REF#1**, From **REF#2**, From **REF#4**
Week 4	Physiological Aspects in Plant Water Relations 1- Absorption	From **REF#1**, From **REF#4**
Week 6	Physiological Aspects in Plant Water Relations 1- Drought	From **REF#1**, From **REF#2**, From **REF#4**, From **REF#5**
Week 7	Physiological Aspects in Plant Water Relations: 3- Salinity	
Week 8	Plant Soil Microorganisms Interactions 1- Fungi	From **REF#1**, From **REF#2**, From **REF#4**, From **REF#5**
Week 9	Plant Soil Microorganisms Interactions 2- 2- Rhizobium	From **REF#1**, From **REF#2**, From **REF#4**, From **REF#5**, From **REF#3**
Week 10	Growth Regulators (Hormones): Auxins, Gibberellins	From **REF#1**, From **REF#2**, From **REF#4**

Week 11	Growth Regulators (Hormones): cytokinin , ethylene	From **REF#1**, From **REF#4**, From **REF#5**, From **REF#3**
Week 12	Growth Regulators (Hormones): artificial and synthetic hormones	From **REF#1**, From **REF#2**, From **REF#4**, From **REF#5**, From **REF#3**
Week 13	Physiological Aspects in Seed Germination and Development	From **REF#1**, From **REF#5**, From **REF#3**
Week 15	Physiological Responses in Flowering plants	From **REF#5**, From **REF#3**
Weeks 15, 16	Seminars Presentations	

Relationship to Program Student Outcomes (Out of 100%)						
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7

Policy	
Exams	All exams are closed book and notes. The final exam is comprehensive (covering all teaching materials). Incomplete exams need approval from the department chair and the faculty dean.
Cheating	Prohibited; and in case of cheating the student will be subject to punishment in according with the university regulations
Attendance	Students are expected to attend all class meetings regularly. If the student is absent for more than 20% of the course, the student will be prevented from taking all subsequent exams and assigned an F (Failure) grade in the course (deprived by absence). This maximum includes both excused and unexcused absences.
Participation	Participation is highly encouraged
Withdraw	The student can withdraw from the course in accordance with the timeline defined by the university regulations

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