



Mutah University

Detailed Syllabus Form



First : Course Information:

• Course Title: Plant physiology for master	• Course Number: 0305720
• College: Science	• Credit Hours: 3h
• Department: Biological Sciences	• Pre-requisite: -
• Semester & Academic Year: 2st 2017/2018	• Instructor: Dr. Khalid Y. Alsharafa
• Office Hours: 12-1 Sunday Tuesday, Thursday	• The time of the lecture: 3.30-6.30 Tuesday

Second : General Course Description

The course concerned with the internal processes within plants that are responsible for their growth and development and for their responses to the external environment in advance details.

Third : Course Objectives

- 1- Describe the water relations of plants, including processes associated with the uptake, transport, and transpiration of water.
- 2- Describe the mineral nutrients of plants, including the specific roles of various elements, how they are acquired by plants and chemical roles in metabolism.

3- Explain the role of transport processes at the cell membrane to whole organism level in distributing water, nutrients and organic compounds.

4- Provide a detailed description of important metabolic pathways including photosynthesis, respiration, and nitrogen metabolism.

5- Discuss in detail the growth and development of plants and how these processes are controlled by plant hormones.

6- Explain many aspects of stress physiology including the effects of water, high and low temperature and soil salinity on plant growth and survival.

Fourth: Expected Learning Outcomes

- Understand basic principles and concepts of plant physiology.
- Think and solve problems in a scientific way.
- Explore questions and engage in active learning.
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Fifth : Course Plan Distribution & Learning Resources

Week No.	Topics to be Covered	Learning Resources
1.	Water and Plant Cell	Preparing summarized notes
2.	Mineral nutrition and transport	Figures presentation and draw samples
3.	Transport processes	Network advisement
4.	Photosynthesis	Models
5.	Nutrient metabolism	Open discussion
6.	Plant hormones	Text books
7.	The control of flowering	
8.	Growth and Development	
9.	Stress physiology	
10.	Plant biotechnology application (tissue culture)	

Sixth : Teaching Strategies and Methods

No	Teaching Strategies and Methods
१	Lectures
२	Multimedia presentations
३	Demonstrations
४	Collaborative group and independent projects
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Seventh : Methods of Assessment

No.	Week & Date	Methods of Evaluation	Proportion of Final Evaluation
1.	13/3/2018	First exam	25%
2.	17/4/2018	Second exam	25%
3.	5-17/5/2018	Final exam	50%
4.			
Total			(100%)

Eighth : Required Textbooks

- Primary Textbook:

- Taiz L and Zeiger E. 2006. Plant physiology (4th edition). Sinaure Associate, Inc., Sunderland MA, USA
- Buchanan BB, Gruissem W, Jones RL. 2000. Biochemistry and Molecular Biology of Plants. I.K. International Pvt. Ltd. New Delhi.

- Heldt H-W. 2005. Plant Biochemistry. Elsevier Academic Press, USA.
- Salisbury FB, Ross CW. 1992. Plant Physiology (4th edition). Wadsworth publishing company, USA.

- Secondary References

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Ninth : General Instructions

No	Additional Notes, Office hours, Incomplete Exams, Reports, Papers, ...etc
١	Accuracy and attention in policy of student presence at lectures time and gave notes about the prevention of inability to take the lectures
٢	Preparing Reports dealing with specific cases in plant physiology and course contents
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