



Mutah University

Detailed Syllabus Form



First : Course Information:

• Course Title: Plant physiology lab	• Course Number: 0305425
• College: Science	• Credit Hours: 1h
• Department: Biological Sciences	• Pre-requisite: 0305422
• Semester & Academic Year: 2st 2017/2018	• Instructor: Dr. Khalid Y. Alsharafa
• Office Hours: 12-1 Sunday Tuesday, Thursday	• The time of the lecture: 2-5 Sunday.

Second : General Course Description

The laboratory exercises to familiarize students with main concepts and techniques in plant physiology

Third : Course Objectives

- 1- Learn some methods and techniques used in plant physiology
- 2- Learn how to write research proposal in plant physiology
- 3- Increase student understanding of how plants grow, develop and sense their environment.
- 4- Explain many aspects of stress physiology including the effects of water, high and low temperature and soil salinity on plant growth and survival using lab techniques.

Fourth: Expected Learning Outcomes

Students will have:

- Understand basic principles and concepts of plant physiology.
- Realize the effects of the environment on plant physiology.
- An understanding of transport in plants as it relates to the movement of solutes and water.

Fifth : Course Plan Distribution & Learning Resources

Week No.	Topics to be Covered	Learning Resources
1.	Calculation of water potential	
2.	Plant nutrition	Figures presentation and draw samples
3.	Extraction and estimation of pigments	Network advisemen
4.	Plants and light (Detection of the Hill Reaction in isolated thylakoids)	Models
5.	Assimilation of Mineral Nutrients (Leaf nitrate reductase induction and assay)	Open discussion
6.	Secondary metabolites and plant defense (Phytochemical study)	Lab Notebooks
7.	Influence of phytohormones on plant physiology	
8.	Environmental factors affecting plant growth and yield (light quantity)	
9.	Plant lipid metabolism	
10.	Plant 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.	25/3/2018	Midterm exam	25%
2.		Reports	25%
3.	22/4/2018	Final exam	50%
4.			
Total			(100%)

Eighth : Required Textbooks

- Primary Textbook:

- Khalid Y.Alsharafa. A laboratory manual of Plant Physiology

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- 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 attendance at lectures time and gave notes about the prevention of inability to attendance the lectures, and may be dropped from the course for excessive absences.
٢	Preparing Reports dealing with specific cases in plant physiology and course contents
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