



Course Specifications

Course Title:	Plant Water and Soil Relationships
Course Code:	341BOT
Program:	Biology
Department:	Biology
College:	Science
Institution:	Jazan University

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A. Course Identification

1. Credit hours:			
2. Course type			
a.	University <input type="checkbox"/>	College <input type="checkbox"/>	Department <input checked="" type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	Others <input type="checkbox"/>
3. Level/year at which this course is offered: Level 5 / Year 3			
4. Pre-requisites for this course (if any): Plant Morphology and Anatomy 241BOT			
5. Co-requisites for this course (if any): None			

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	14h	100%
2	Blended	-	-
3	E-learning	-	-
4	Distance learning	-	-
5	Other	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	15
2	Laboratory/Studio	30
3	Tutorial	-
4	Others (specify)	-
	Total	45

B. Course Objectives and Learning Outcomes

1. Course Description

Study of Plant Water and soil Relationships

2. Course Main Objective

- Plant water relationships.
- Diffusion, imbibition, and osmosis.
- Transpiration and water stress.
- Plant soil relationships.
- Plant Mineral nutrition and salt stress

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Define all principals, concepts, theories and aspects concerning with Plant Water and Soil Relationships.	K1.1
1.2	Differentiate (Compare) between different mechanisms, functions, practices and aspects related to Plant Water and Soil Relationships.	K2.1



CLOs		Aligned PLOs
1.3	Interpret by using your knowledge and understanding some of Plant Water and Soil Relationships.	K3.2
2	Skills :	
2.1	Apply the theoretical knowledge and understanding in laboratory experiments and techniques	S1.2
2.2	Examine theoretically or practically the slides, photos, diagrams or statements of biological aspects.	S1.3
2.3	Write a report about any practical or theoretical tasks related to Plant Water and Soil Relationships.	S3.3
3	Values:	
3.1	Apply practices of life-long learning in various biological and scientific disciplines for their professional career.	V1.1

C. Course Content

No	List of Topics	Contact Hours
1	Plant Water Relations. Absorption of Water. Ascent of Sap.	3
2	Plant Water Relations. Transpiration. Water Stress.	2
3	Soil: Origin, Formation, Physical and Chemical Properties	2
4	Plant Mineral Nutrition. Mineral Elements. Mineral Uptake	2
5	Role of Mineral Elements. Mineral Deficiency Symptoms.	3
6	Water and Salt Stress	2
Total		14

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Define all principals, concepts, theories and aspects concerning with Plant Water and Soil Relationships.	Lectures	Quizzes, MCQs
1.2	Differentiate (Compare) between different mechanisms, functions, practices and aspects related to Plant Water and Soil Relationships.	Lectures	Quizzes, MCQs
1.3	Interpret by using your knowledge and understanding some of Plant Water and Soil Relationships.	Lectures	Quizzes, MCQs, Essay Questions
2.0	Skills		
2.1	Apply the theoretical knowledge and understanding in laboratory experiments and techniques	Lectures, Lab work	Quizzes, MCQs
2.2	Examine theoretically or practically the slides, photos, diagrams or statements of biological aspects.	Lectures, Lab work	Quizzes, MCQs



Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.3	Write a report about any practical or theoretical tasks related to Plant Water and Soil Relationships.	Lectures, Lab work	Lab work assessment, Essay Questions
3.0	Values		
3.1	Apply practices of life-long learning in Plant Water and Soil Relationships and scientific disciplines for their professional career.	Lectures, Lab work	Quizzes, MCQs, Lab work assessment

2. Assessment Tasks for Students

#	*Assessment task	Week Due	Percentage of Total Assessment Score
1	Written Assignment		
2	Written Test		
3	Written Assignment		
4	Written Assignment		
5	Group Assignment		
6	Final Practical Exam		
7	Final Written Exam		

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice: 10 Office hours/faculty/week

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Hopkins W.G. (2012) Introduction to Plant Physiology. Wiley, London
Essential References Materials	Kirkham M.B. (2005) Principals of Soil and Water relations. Elsevier, Amsterdam.
Electronic Materials	www.botanygard.ucla , www.batany.suit101.com
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation Classrooms, laboratories, demonstration) (rooms/labs, etc	1 Lecture room(s) for groups of 50 students. 1 Plant ,Water, and Soil Relationships Laboratory / 25 students
Technology Resources	AV, data show, Smart Board



Item	Resources
AV, data show, Smart Board, software,) (etc	
Other Resources Specify, e.g. if specific laboratory) equipment is required, list requirements or (attach a list	Light microscopes, glassware, chemicals, consumables

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	Students, Faculty	Direct (Questionnaire)
Effectiveness of assessment	Peer Reviewer	Direct (Cross Check marking)
Extent of achievement of course learning outcomes	Program Leader	Indirect (QA Committee)
Quality of learning resources	QA. Committee	Indirect (Benchmarking)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

