هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title	Plant Ecology
Course Code:	**BOTN 443**
Program:	**Bachelor of science in Biology**
Department:	**Biology Department**
College:	**College of Science**
Institution:	**Jazan University**
Version:	**T-104**
Last Revision Date:	**28 February 2023**

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	2				
2. Course type					
a.	University ☒	College ☐	Department☐	Track☐	Others☐
b.	Required ☐	Elective☒			
3. Level/year at which this course is offered: **Level 11 – 4rd Year**					
4. Course general Description The course describes the plant habitats in different environmental conditions. It deals with biotic and abiotic factors which influence on plant habitats. It discusses the different plant adaptations in relation to environmental properties. The course is designed to provide students with variety of concepts; plant populations, plant communities, plant cover. It illustrates plant succession and desertification. The students are able to undergo to measure qualitative and quantitative plant ecological parameters					
5. Pre-requirements for this course (if any): Fundamentals of Ecology BIOL 301					
6. Co- requirements for this course (if any): None					
7. Course Main Objective(s): **At the end of the course students will be able to:** This course is designed to provide students with the following concepts: 1. Plant ecology definition and types. 2. Climatic factors and different plant metabolic pathways. 3. Light effect on photosynthesis and anthocyanin pigments. 4. Temperature and rainfall effects on plant distribution. 5. Plant adaptations (water and heat stresses) 6. Grazing (physical and chemical defenses). 7. Soil factors effect on plant habitats. 8. Halophytes and coastal environments. 9. Xerophytes and sand dune environments 10. Plant Succession: definition of succession, Xerosere, hydrosere.					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	10	76.9%
2.	E-learning	1	7.7%
3.	Hybrid • Traditional classroom • E-learning	1	7.7%
4.	Distance learning	1	7.7%

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	11
2.	Laboratory/Studio	22
3.	Field	-
4.	Tutorial	-
5.	Others (Self-study)	2
	Total	35

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Define all principals, concepts, theories and aspects concerning with Plant Ecology	K1.1	Lectures, lab work	Define, complete
1.2	List all characteristics, importance, features, steps of plant ecology aspects.	K1.3	Lectures, lab work	Define, write short notes, enumerate
1.3	Explain all processes, mechanisms, definitions, theories, mode of actions of all plant ecology aspects.	K2.2	Lectures, lab work	Write short notes, define, interpret
1.4	Interpret by using your knowledge and understanding some of biological phenomena	K3.2	Lectures	interpret
2.0	Skills			
2.1	Examine theoretically or practically the slides, photos, diagrams or statements of biological aspects	S1.3	Lectures, lab work	Analyze, deduce, examine, evaluate
2.2	Write a report about any practical or theoretical tasks related to biological science.	S3.3	Lectures, lab work	Solve the problems, explain
2.3	Prepare well-organized written scientific document, using appropriate media, with introduction, body, and conclusions	S4.3	Lab work	write practical report

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.0	Values, autonomy, and responsibility			
3.1	Access multiple sources of information, capture essential information, and distinguish it from extraneous	V1.3	Lab work	Group tasks

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Environmental Factors : overview of environmental factors	1
2.	Environmental Factors (Abiotic Factors): climatic factors, topographic factors, soil factors.	3
3.	Environmental Factors (Biotic Factors): plants – animal relationships against herbivores.	2
4.	Soil Factors: definition of soil, soil components, soil texture, soil texture and water.	1
5.	Plant Succession: definition of succession, Xerosere, hydrosere.	Self-Study
6.	Adaptations: definition of adaptation, adaptations against drought, adaptations against irradiance and heat, adaptations against grazing.	3
7.	Ecological chemistry of plants.	1
Total		11

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Theoretical assignment	3	5%
2.	Theoretical quiz	3	5%
3.	mid-term exam	6	10%
4.	Practical quiz	4	5%
5	Practical assignment	6	5%
6	Final practical exam	11	20%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	1مقدمة عن علم البيئة النباتية Introduction to Plant Ecology Author: مجاهد، أحمد محمد Publisher: دار جامعة الملك سعود للنشر Language: العربية ○ Co-author ○ العودات، محمد عبدو ○ باصهى ، عبدالله بن يحيى ○ عبدالله، عبدالسلام محمود الأنصارى، عبدالله بن محمد الشيخ
Supportive References	Plant Life under Changing Environment : Responses and Management Edited by Durgesh Kumar Tripathi , Edited by Vijay Pratap Singh , Edited by Devendra Kumar Chauhan , Edited by Shivesh Sharma , Edited by Sheo Mohan Prasad , Edited by Nawal Kishore Dubey , Edited by Naleeni Ramawat • Publication City/Country San Diego, United States • ISBN10 0128182040 • ISBN13 9780128182048
Electronic Materials	https://www.bbc.co.uk/bitesize/guides/zctymnb/revision/4
Other Learning Materials	-------

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Traditional classrooms and E-learning
Technology equipment (projector, smart board, software)	(projector, smart board, software)
Other equipment (depending on the nature of the specialty)	Light microscopes, glassware, chemicals, moisture balance, muffin, pH meter.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students Course Coordinator	Direct (Questionnaire)
Effectiveness of students assessment	Peer Reviewer	Direct (Cross Check marking)
Quality of learning resources	Students Course Coordinator Quality Committee	Indirect
The extent to which CLOs have been achieved	Course Coordinator Quality Committee	Indirect
Other	----	----

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	BIOLOGY DEPARTMENT BOARD
REFERENCE NO.	BIO2214
DATE	20/9/2022AD