هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TPG-153

Course Specification
(Postgraduate)

Course Title:	Population and Community Ecology
Course Code:	BIOD504
Program:	Master's in Biodiversity
Department:	Department of Biology
College:	Faculty of Science
Institution:	University of Tabuk
Version:	2
Last Revision Date:	18/11/1444 H

Table of Contents

A. General information about the course:

1. Course Identificationn:

1. Credit hours: 3 Credit Hours (2 Theoretical + 1 Practical)				
2. Course type				
A.	☐University	☐College	☒ Department	☐Track
B.	☒ Required		☐Elective	
3. Level/year at which this course is offered: (Level 1/First Semester)				
4. Course General Description:				
This course describes the population ecology and the characteristics of a population, population size, density, dispersion, age structure, Natality (birth rate), Mortality (death rate), life table, population dynamics, the theory of population growth, and regulation of population density. The course also describes community ecology, characteristics, and structure of the community, methods of study of community, and community dynamics.				
5. Pre-requirements for this course (if any)**:**				
None.				
6. Pre-requirements for this course (if any)**:**				
None.				
7. Course Main Objective(s):				
- Describe the population ecology. - Identify the main characteristics of a population. - Define population size, density, dispersion, and age structure. - Distinguish Natality (birth rate) and Mortality (death rate). - Identify life tables and population dynamics. - Explain the theory of population growth and regulation of population density. - Identify community ecology, characteristics, structure, and methods to study a community.				

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours: (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	
3.	**Field**	30
4.	**Tutorial**	
5.	**Others (specify)……**	
	Total	60

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	Illustrate knowledge of population size, density, and population dynamics.	**K1**	- Lectures. - Seminars - Class discussions. - Problem-solving classes. - Self-learning	- Written exams (Midterm and Final exams). - Quizzes. - Class discussions.
1.2	Describe the community structure and dynamics.	**K2**	- Lectures. - Seminars - Class discussions. - Problem-solving classes. - Self-learning.	- Written exams (Midterm and Final exams). - Quizzes. - Class discussions.
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2.0	**Skills**			

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.1	Apply principles of modern techniques to manage population and community structures.		- Lectures. - Seminars - Field works. - Class discussions. - Problem-solving classes. - Self-learning. - Individual and group presentations. - Assignments.	- Written exams (Midterm and Final exams). - Quizzes. - Field reports. - Class discussions. - Individual and group presentations. - Assignments.
2.2	Evaluate the impacts of dispersion, age structure, Natality (birth rate), Mortality (death rate), and life table.	**S2**	- Lectures. - Field works. - Seminars - Class discussions. - Problem-solving classes. - Self-learning. - Individual and group presentations. - Assignments.	- Written exams (Midterm and Final exams). - Quizzes. - Field reports. - Class discussions. - Individual and group presentations. - Assignments.
2.3	Communicate the findings and information on the Populations and Community by different means.	**S5**	- Lectures. - Field works. - Seminars. - Class discussions. - Problem-solving classes. - Self-learning. - Individual and group presentations. - Assignments.	- Written exams (Midterm and Final exams). - Quizzes. - Field reports. - Class discussions. - Individual and group presentations. - Assignments.
2....				
3.0	**Values, autonomy, and responsibility**			
3.1	Collaborate in a team to conduct group research and prepare reports.	**V2**	- Class discussions. - Field works. - Individual and group presentations. - Assignments.	- Class discussions. - Presentations. - Individual and group presentations. - Assignments.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
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C. Course Content:

No	List of Topics	Contact Hours
1.	Population Ecology: An introduction and basic concepts.	2
2.	Describing a population and population characteristics.	2
3.	Population size and density.	2
4.	Dispersion, Age structure.	2
5.	Natality (birth rate), Mortality (death rate).	2
6.	Life tables.	2
7.	Population dynamics– Stability and disturbance.	2
8.	Population Interaction, Predation Model. Competition Model, Parasitism Model, and Mutualism.	2
9.	Theory of population growth.	2
10.	Regulation of population density.	2
11.	Community Ecology.	2
12.	Characteristics of a community structure.	2
13.	Methods of study of communities.	2
14.	Community dynamics.	2
15.	Evolution and biodiversity.	2
Total		30

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes, Class discussion, Assignments	Distributed over 14 weeks	10
2.	Individual or group presentation	Distributed over 14 weeks	10
3.	Field Reports	Distributed over 14 weeks	20
4.	Midterm Exam	9	20
5.	Final Exam	18	40

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
6.			
	Total		**100**

*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	- Luis Botsford, Wilson White and Alan Hastings (2019). Population dynamics for conservation. ISBN: 978-0-19-875836-5 pp. 337, Oxford University Press. - Gary G. Mittelbach; Brian J. McGill (2019). Community Ecology. Brill Publishers. ISBN: 9780192572868. OUP Oxford.
Supportive References	- *Community Ecology.* - *Population Ecology.* - *Conservation Biology.*
Electronic Materials	- Saudi Digital Library. - UNSEDOC Digital Library. - www.sciencedirect.com.
Other Learning Materials	- None.

2. Educational and Research Facilities and Equipment Required:

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	- A sufficient number of classrooms and well-equipped laboratories are available to accommodate up to 25 students. - Library.
Technology equipment (Projector, smart board, software)	- Data show projectors and a wireless internet connection are available for students and faculties. - Smart blackboard. - Computer Portable PowerPoint presentations.
Other equipment (Depending on the nature of the specialty)	- None.

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	- Students.	- Direct & Indirect.
Effectiveness of student's assessment	- Course instructors & Course coordinator (Teachers).	- Direct.
Quality of learning resources	- Students	- Indirect.
The extent to which CLOs have been achieved	- Course instructors. - Course coordinator. - Quality Committee.	- Direct & Indirect.
Other		

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

Assessment *Methods* (Direct, Indirect)

G. Specification Approval Data:

COUNCIL /COMMITTEE	**Department of Biology Council**
REFERENCE NO.	**Department Council NO (26)**
DATE	**26/11/1444 H**