اعتماد
NCAAA
T15

Course Specifications
(Postgraduate Degree)

Course Title:	Population and Community Ecology
Course Code:	BIOD 504
Program:	M. Sc. Biodiversity
Department:	Biology
College:	Science
Institution:	University of Tabuk

Table of Contents

A. Course Identification

1. Credit hours:	**3 Credit Hours (2 Theoretical + 1 Practical)**

2. Course type

    ☒ Required   ☐ Elective

3. Level/year at which this course is offered: **Level 1/First year**

4. Pre-requisites for this course (if any)**: None**

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**	4	100
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
1	**Lecture**	26
2	**Laboratory/Studio**	26
3	**Seminars**	
4	**Others** (specify)	
Total		52

B. Course Objectives and Learning Outcomes

1. Course 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.

2. Course Main Objective

By the end of this course, the students should be able to:

- Describe the population ecology.
- Identify the main characteristics of a population.
- Define population size, density, dispersion, 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

3. Course Learning Outcomes

	Course Learning Outcomes (CLOs)	Aligned PLOs*
1	**Knowledge and Understanding**	
1.1	Recognize the population ecology and the characteristics of a population.	K1
1.2	Describe population size, density, and population dynamics.	K1
1.3	Outline the community structure and dynamics.	K2
2	**Skills :**	
2.1	Evaluate the impacts of dispersion, age structure, Natality (birth rate), Mortality (death rate) and life table.	S3
2.2	Apply the modern techniques of population and community structure management.	S2
2.3	Demonstrate the methods of study of populations and community.	S1
2….		
3	**Values:**	
3.1	Perform research on population and community structure.	V1
3.2	Manipulate data and information on population and community dynamics.	V1
3.3	Operate in a team to conduct group research and prepare reports.	V3
3…..		

* Program Learning Outcomes

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	2
8	Theory of population growth	2
9	Regulation of population density	2
10	Community Ecology	2
11	Characteristics of a community structure	2
12	Methods of study of communities	2
13	Community dynamics	2
Total		26

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**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Recognize the population ecology and the characteristics of a population.	- Lectures. - Group discussions. - Brainstorming. - The use of educational techniques (Videos). - Student's seminars. - Individual presentation. - Lab. demonstrations. - Field surveys.	- Oral discussions. - Long and short essays. - Exams (Mid and Final) - Homework. - Quizzes. - Demonstrations. - Lab. reports. - Field reports.
1.2	Describe population size, density, and population dynamics.		
1.3	Outline the community structure and dynamics.		
1…			
2.0	**Skills**		
2.1	Evaluate the impacts of dispersion, age structure, Natality (birth rate), Mortality (death rate), and life table.	- Lectures. - Group discussions. - Brainstorming. - Simulation. - Research paper-based learning. - The use of interactive video. - Lab. demonstrations. - Individual presentation. Field surveys.	- Peer assessment. - Self-evaluation. - Oral discussion. - Exams (Mid and Final) - Quizzes. - Individual and group presentations. - Lab. reports. - Field reports.
2.2	Apply the modern techniques of population and community structure management.		
2.3	Demonstrate the methods of study of populations and community.		
2…			
3.0	**Values**		
3.1	Perform research on population and community structure and dynamics.	- Research activities. - Oral presentations. - An internet search, assignments, and essays. - Group discussion. - Case studies. - Individual, and group presentations.	- Student's essays and assignments. - Group reports. - Group presentations. - Discussion in lectures. - Student's written participation. - Analytical reports. - Lab. reports. - Case studies. - Posters.
3.2	Manipulate data and information on population and community dynamics.		
3.3.	Operate in a team to conduct group research and prepare reports.		
3….			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Activities and Short Quizzes	Distributed over 8 weeks	10
2	Pre-Final Practical Exam	8	10
3	Pre-Final Theoretical Exam	8	25
4	Final Practical Exam	15	15
5	Final Theory Exam	16	40
6			
7			
8			
9			
	Total		100

***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:
- Eight office hours per week per faculty member.
- Academic advising sessions 1hr/ week per faculty member.

F. Learning Resources and Facilities
1. Learning Resources

Required Textbooks	- 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.
Essential Reference Materials	- *Community Ecology.* - *Population Ecology.* - *Conservation Biology.*
Electronic Materials	- Saudi Digital Library. - UNSEDOC Digital Library. - www.sciencedirect.com
Other Learning Materials	- Multimedia that is associated with the textbook and the relevant websites.

2. Educational and Research Facilities and Equipment Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	- A sufficient number of classrooms, well equipped practical laboratories are available to accommodate 30-40 students.
Technology Resources (AV, data show, Smart Board, software, etc.)	- Data show projectors and wireless internet connection available for students and faculties. - Smart blackboard.

Item	Resources
	- Computer Portable PowerPoint presentations.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	- Lecture slides. - Reference Book. - A Note Book for writing notes. - Well-equipped laboratories.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
- Effectiveness of teaching and assessment.	- Students.	• Indirect - Questionnaires.

- Quality of learning resources.	- Program committee.
	- Staff members.
	- Students.
		• Direct
		  - Questionnaires.
		  - Reports.
		  - Meetings.

- The extent of achieving the course learning outcomes.	- Program leaders.
	- Peer Reviewer.
		• Direct & Indirect
		  - Questionnaires.
		  - Reports.
		  - Meetings,

Evaluation Areas/Issues (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	Biology Department Members who constructed the program
Reference No.	Committee members – The academic year 1441/1442
Date	