Course Specification
(Bachelor)

Course Title:	**Graduation Project**
Course Code:	**BIO-1499**
Program:	**Bachelor of Science in Biology.**
Department:	**Biology**
College:	**Science**
Institution:	**Imam Mohammad Ibn Saud Islamic University (IMSIU)**
Version:	*Course Specification Version Number*
Last Revision Date:	*Pick Revision Date.*

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3 (1 Lecture + 2 Laboratory + 0 Tutorials))					
2. Course type					
A.	☐ University	☐ College	☒ Department	☐ Track	☐ Others
B.	☒ Required		☐ Elective		
3. Level/year at which this course is offered: (Level 3 / Second Year)					
4. Course general Description:					
• To investigate through an experimental approach several aspects of biology and ecology in the animal and plant domains • To use and expand this knowledge in laboratory classes by observing and describing specimens and doing experiments with a variety of organisms or cell cultures.					
5. Pre-requirements for this course (if any)**:**					
6. Co-requisites for this course (if any)**:**					
7. Course Main Objective(s):					
On completing this course, students will be expected: • To investigate the nature and diversity of life, from microorganisms and fungi to plants and animals. • To explore the mechanism of biodiversity, physiology, microbiology, and immunology. • To learn how different groups of organisms interact and are dependent on their habitats and each other. • To use and expand this knowledge in laboratory classes by observing and describing specimens and doing experiments with a variety of organisms or cell cultures.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	40	100
2	E-learning		
3	Hybrid • Traditional classroom		

No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	
2.	**Laboratory/Studio**	23
3.	**Field**	17
4.	**Tutorial**	
5.	**Others (specify)**	
Total		40

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	**To define the processes that lead to biological matrices and biodiversity.**	**1.1**	**Collective analyses and discussion about scientific articles- on several topics.**	**Laboratory reports**
1.2	**To describe the molecular and structural unity of life.**	**1.2**	**Collective analyses and discussion about scientific articles- on several topics.**	**Laboratory reports**
2.0	**Skills**			
2.1	**To predict whether populations of interacting organisms persist over time or become extinct.**	**2.1-2.3**	**Collective analyses and discussion about scientific articles- on invasion and extinction**	**Laboratory reports**

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.2	To explain how the diversity and homeostasis of living things are generated and perpetuated.	2.1-2.2	- Field survey	-Field and laboratory attitudes of students -Laboratory reports
2.3	To explain how interactions with the physical environment and with other organisms are involved in ecological and biological changes of communities and biological matrices.	2.1-2.2	-Writing, statistical analyses, and use of Artificial Intelligence tools.	-Reports -Manuscript writing
3.0	**Values, autonomy, and responsibility**			
3.1	To use quantitative models and data to solve problems in biology and ecology.	2.2-1.3	-Use of softwares on Biodiversity (Primer 5.0, Biodiversity Pro, Past, BioEdit, etc.)	-Lab. Reports
3.2	To operate laboratory instruments and computers.	3.3	-Sampling -Collection of biological matrices	Lab. Reports
3.3	To Perform biological experiments and handle various analyses during laboratory classes.	3.3	-Taxonomic study, laboratory experiments, Field measurements, etc.	Lab. Reports

C. Course Content

No	List of Topics	Contact Hours
1.	Literature review	5
2.	Field survey, sampling, and/or bioassay	4

3	Data collection	4
4	Data analysis	4
5	Data analysis and drawing figures	4
6	Writing of the first draft	4
7	Writing and editing	4
8	Writing and editing	4
9	Presentation	4
10	Oral training to the defense	3
Total		40

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.			
2.			
3.			
4.			
5.			
6.			
7.			

*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	Depending on the specialty and the topic treated
Supportive References	Depending on the specialty and the topic treated
Electronic Materials	PaperPal, Zerogpt, Grammarly, Zotero, etc.
Other Learning Materials	Depending on the specialty and the topic treated

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Each classroom is equipped with PC and retro projector.**
Technology equipment (projector, smart board, software)	**The computers are equipped with different software's.**

Items	Resources
Other equipment (depending on the nature of the specialty)	**Specific laboratory equipment for this course including posters, models of different experimental animals , dissection instruments, light microscopes , fluorescent microscopes, dissection microscopes ,microtome instrument, slide preparations, instruments special for measurement of ecological parameters , mixer, , for centrifuges , incubators , ovens and other glass wares.**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct
Effectiveness of Students assessment	Course coordinator	Direct
Quality of learning resources	Peer Reviewer	Indirect
The extent to which CLOs have been achieved	Specialized committees	Indirect
Other	Faculty	Indirect

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	HEAD OF BIOLOGY DEPARTMENT
REFERENCE NO.	
DATE	