Course Specification
(Bachelor)

Course Title:	Ecology
Course Code:	BIOL 241
Program:	Biology
Department:	Biology
College:	College of Science
Institution:	Majmaah University
Version:	4
Last Revision Date:	22/12/2023

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: 2 (2+0)					
Equivalent to ECTS Credit Point: 3					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (Third level / Second year)					
4. Course General Description:					
The course of Ecology is an introduction to basic principles of ecology, and the use of these principles to predict possible consequences and uncertainties associated with human-caused changes in the environment. We will examine both biotic (living) and abiotic (non-living) elements of the environment that influence the distribution and abundance of organisms. The course covers topics in the areas of individual, population, community, and ecosystem ecology, environmental pollution as well as humanity's effect on natural systems.					
5. Pre-requirements for this course (if any)**: N/A**					
General Biology BIOL101					
6. Co-requisites for this course (if any)**: N/A**					
7. Course Main Objective(s):					
1- To acquire an "ecological learning" about how the natural world works and an understanding of how scientific methods are used to construct ecological knowledge. **2- To explore the multiple levels at which ecological interactions take place. Also, become familiar with some of the major ecological challenges facing the Earth today, and the important research being done to address these concerns. Finally, develop a deeper understanding of how human development impacts ecological communities and systems.**					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	75%
2	E-learning	10	25%
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**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		**60**

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	**Illustrate the biotic (plants, Animals … ect) and abiotic (water,air, soil .ect factors in the environment**	**K1**	**- Lectures, individual and group discussion and videos**	**Quizzes, Midterm and final exams**
…				
2.0	**Skills**			
2.1	**Idntify the effects of environmental pollutions (air, water, soil and control measures**	**S1**	**-Lectures, individual and group discussion and videos**	**Quizzes, Midterm and final exams**
2.2				

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.3	Use the biological and environmental tools and devices that used in environmental science.	S3	Lectures, videos	Practical exams Lab report
3.0	**Values, autonomy, and responsibility**			
3.3	Prepare the scientific research and presentation.	V3	Lectures, videos, Homework, Research	-Research work -Oral question

C. Course Content

No	List of Topics (Theory)	Contact Hours
1.	Introduction to ecology, its concept, and its relationship to other sciences.	4
2.	Basics of the ecosystem and Biomes (definition - examples – factors -)	6
3.	Biogeochemical cycles (water cycle - carbon cycle - nitrogen cycle - phosphorus cycle)	6
4.	Environmental of vital communities.	4
5.	Ecology and Ecological roles	2
6.	Segments of environment	2
7.	Biodiversity and Evolution	2
8.	Ecological succession	2
9.	Environmental pollution	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz's, Assignments, Homework	Once every 2 weeks	10%
2.	Mid-term Exam-1	5th week	10%
3.	Mid-term Exam-2	9th week	10%
4.	Black Board, E-Exam	12th week	10%
5.	Practical Exam and Viva-voce	15th week	20%
6.	Finall exam	17th week 17th week	40%
...			

*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	**-CHAPIN III F.S., MATSON P. & VITOUSEK P.M. 2012. Principles of terrestrial ecosystem ecology. 2nd edit io n. Springer.** **-BARBAULT R. 2008. General Ecology. Structure efonctionnement de la Biosphère. 6eme édition DUNOD.** **-Chapman JL and Reiss MJ (1995): Biomes (P 214 – 227) In:- ECOLOGY, principles and applications Cambridge University Press, UK** **• Raven PH and Johnson GB (1996): Biological Communities (Pp 585-610): In BIOLOGY. WCB/McGraw-Hill, Boston.**
Supportive References	**Friday, A. and Ingram, DS (Eds) (1995). The Cambridge Encyclopedia of Life Sciences, Cambridge University Press, Cambridge.**
Electronic Materials	**Wikipedia, the free encyclopedia Biome (Pp 1 – 9).** **https://www.google.com/search?q=Wikipedia%2C+the+free+encyclopedia+Biome+(Pp+1+%E2%80%93+9).&rlz=1C1CHBD_arSA1124SA1130&oq=Wikipedia%2C+the+free+encyclopedia+Biome+(Pp+1+%E2%80%93+9).&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigAdIBCDEzNTJqMGo3qAIIsAIB&sourceid=chrome&ie=UTF-8**
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Existing facilities are satisfactory**
Technology equipment (projector, smart board, software)	**Existing facilities are satisfactory**
Other equipment (depending on the nature of the specialty)	Nil

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	**Students**	**Direct assessment**
Effectiveness of Students assessment	**Program Leader**	**Direct assessment**
Quality of learning resources	**Students**	**Indirect assessment**
The extent to which CLOs have been achieved	**Faculty**	**Direct supervision**
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**Department of Biology**
REFERENCE NO.	**7**
DATE	**4/4/1446 H (07/10/2024)**