



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Ecology
2	Course number	0334471
3	Credit hours	3 credit hours (2 Theory + 1 Practical)
	Contact hours (theory, practical)	2 hrs weekly Theoretical + 3 practical
4	Prerequisites/corequisites	0303102
5	Program title	B.Sc. in Biological Sciences
6	Program code	04
7	Awarding institution	University of Jordan
8	School	Faculty of Science
9	Department	Department of Biological Sciences
10	Level of course	Fourth year
11	Year of study and semester (s)	2022/ 2023, Second semester
12	Other department (s) involved in teaching the course	None
13	Language of Instruction	English
14	Teaching methodology	On Campus Lectures
15	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input checked="" type="checkbox"/> Others: emails
16	Date of production/revision	26/ 02/ 2023

17. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.
 Prof Dr Said Damhoureyeh; 105 Biology ; ext. 22213; saidd@ju.edu.jo

18. Other instructors:

--

19. Course Description:

As stated in the approved study plan.

This course focuses on the basic concepts in ecology; organization, structure and function of ecosystem and ecosystem properties; cycling of matter and flow of energy in ecosystems and their equilibrium; factors involved in the regulation, growth, and general dynamics of populations; data needed to describe populations, population growth, population models, and regulatory mechanisms; spatial and temporal variation and properties of populations; community structure and interactions; succession patterns in aquatic and terrestrial communities.

20. Course aims and outcomes:**A. Aims**

1- Introduce the term Ecology and Environment, understand the principals of Ecology as they relate to the interactions of organisms and the surroundings focusing on the concept of ecosystem. Introduce the students to the key concept and major issues surrounding organismal ecology at the three levels of ecological hierarchy (individual, population, and community).

B. Students Learning Outcomes (SLOs):

By the completion of this course, students will be able to (**SLOs**):

SLOs CLOs	SLO (1) An ability to identify, formulate, and solve broadly-defined technical or Scientific problems by applying knowledge of mathematics and science and /or technical topics to areas relevant to discipline.	SLO (2) An ability to formulate or design a system, process, procedure or program to meet desired needs.	SLO (3) An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgement to draw conclusions.	SLO (4) An ability to communicate effectively with a range of audiences.	SLO (5) An ability to understand ethical and professional responsibilities and the impact of technical and /or scientific solutions in global , economic, environmental, and societal contexts.	SLO (6) An ability to function effectively on teams that establish goals plan tasks , meet deadlines and analyze risk and uncertainty
1. Identify the concepts surrounding the ecosystem, community and population dynamics and the	x					

emergent patterns in population, community and ecosystem structure..						
2.Understand the ecological succession, types and dynamics.	x					
3.Evaluate the importance of environment and how we may preserve its component, and focus on the importance of preserving diversity.	x					
4. Summarize mechanisms of being a researcher and learn different sampling techniques, work in the field of ecology and vegetation survey.					x	x
5. Apply knowledge to appreciate the environment and get to know the ecology of Jordan.Recognize embryonic tissue of human systems and organs				x	x	x

21. Topic Outline and Schedule:

Ecology (0334471) Syllabus
3 Credit Hours
Second Semester 2020/2021



Week/ Lecture	Topic	SLO Teaching Methods*/platform	Evaluation Methods	References
Theoretical				
1.1	Introduction	1 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
1.2	Overview of the course and review of the structure and function of ecosystems	1, 2 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
2.1	Overview of the term Ecology and the biological Hierarchy	1, 2 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
2.2	Definition of Ecosystem, An Overview	1, 2 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
3.1	Biotic Structure of Ecosystems ... I	1, 2 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
3.2	Biotic Structure of Ecosystems ... II	1, 2 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
4.1	Abiotic Structure of Ecosystems.... I	1, 2 Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual

4.2	Abiotic Structure of Ecosystems II	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
5.1	Functions of the Ecosystems	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
5.2	Biogeochemical Cycles	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
6.1	Stability of Ecosystems	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
6.2	Human Impacts	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
7.1	Populations Overview;	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
7.2	Structure of populations	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
8.1	Dynamics of populations	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
8.2	Properties of populations .. I	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
9.1	Properties of populations .. II	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
9.2	Properties of populations .. III	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
10.1	Communities,	1, 2	Lecture	Midterm	Ecology and Field

	definition and overview			and final Exam	Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
10.2	Community Structure ... I	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
11.1	Community StructureII	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
11.2	Community Structure III	1, 2	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
12.1	Succession; Introduction	1, 3	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
12.2	Types of Succession	1, 3	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
13.1	Succession and Disturbances	1, 3	Lecture	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
13.2	Ecology of Jordan	4,5	Lab	Midterm and final Exam	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual
14.1	Presentations	4,5	Lab	Final Lab grade	Power point presentations using of Practical part
Practical Part					
Introduction	Lab. No 1	4,5	Lab	Reports	Lab Manual, Supplied to the students
Soil Physical Analysis I	Lab. No 2	4,5	Lab	Reports	Lab Manual, Supplied to the students
Soil Physical Analysis II	Lab. No 3	4,5	Lab	Reports	Lab Manual, Supplied to the students
Soil Chemical Analysis ... I	Lab. No 4	4,5	Lab	Reports	Lab Manual, Supplied to the students
Soil Chemical Analysis	Lab. No 5	4,5	Lab	Reports	Lab Manual, Supplied to the

.... II				students
Ecological survey, Reporting	Lab. No 6	4,5 Lab	Reports	Lab Manual, Supplied to the students
Methods of vegetation Sampling; Line – transect method	Lab. No 7	4,5 Lab	Reports	Lab Manual, Supplied to the students
Methods of vegetation Sampling; Quadrat method	Lab. No 8	4,5 Lab	Reports	Lab Manual, Supplied to the students
Know the ecology of Jordan and field trips	Labs 7 – 14.	Reporting about different ecological parts of Jordan as groups	Reports and final presentation on the practical part	Ecology and Field Biology, 6th ed., By Smith and Smith, 2001 and the Field manual

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

The grade is distributed over Midterm exam and lab reports, Final Exam (Theory 40, and Practical 10) as detailed in the table below.

Description	Mark	Topic(s)	SLOs	Date
<i>Mid-term exam</i>	<i>30</i>	<i>Ecosystems and Populations, Structure and Functions</i>	<i>1, 2, 3</i>	<i>TBA</i>
<i>Practical Lab reports</i>	<i>20</i>	<i>Field trips and reports</i>	<i>1, 3, 4, 5</i>	<i>TBA</i>
<i>Final lab exam</i>	<i>10</i>	<i>Presentation</i>	<i>1, 2, 3, 4, 5</i>	<i>TBA</i>
<i>Final Exam</i>	<i>40</i>		<i>1, 2, 3, 4, 5</i>	<i>TBA</i>

23. Course Requirements

(e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

24. Course Policies:

A- Attendance policies:

Enrolled students are expected to attend the lectures in line with the university of Jordan policy as outlined in your student handbook.

B- Absences from exams:

You should talk to your instructor as soon as possible if you miss an exam. All such cases will be dealt with according to the rules outlined in your student handbook.

C- Health and safety procedures:

NA

D- Honesty policy regarding cheating, plagiarism, misbehavior:

All violations pertaining to cheating, plagiarism, misbehavior will be dealt with in accordance to the rules outlined in your student handbook.

E- Grading policy:

All exams are made up of MCQ's, fill in the blanks and subjective.

F- Available university services that support achievement in the course:

The class Moodle page curated by UJ Elearning.

25. References:

A- Required book (s), assigned reading and audio-visuals:
Ecology and Field Biology, 6th ed., By Smith and Smith, 2001

B- Recommended books, materials, and media:

Theory

1) Essential of Ecology, Townsend, Harper and Begon, 2000.

2) Ecology, Dodson et al., 1998.

3) Basic Ecology, By Odum, 1983.

Practical Part

1) Vegetation of Jordan, by Dr. D. Al-Eisawi. The paper will be supplied with the lab manual

2) Jordan country study on biological diversity, by General Corporation for the Environment Protection (GCEP). 1998..... (at MoE)

26. Additional information:

None

Name of Course Coordinator: **Prof Dr Said Damhoureyeh** Signature: ----- Date: **26/ 02/ 2023**

Head of curriculum committee/Department: Signature: -----

Head of Department: Signature: -----

Head of curriculum committee/Faculty: Signature: -----

Dean: Signature: -----

Copy to:Head of Department
Assistant Dean for Quality Assurance
Course File