



جامعة المجمعة
Majmaah University

وكالة الجامعة للشؤون التعليمية
البرامج الدراسية والتطوير

(5)

مختصر توصيف

Ecology

علم البيئة	:
BIOL-241	:
لا يوجد	:
لا يوجد	:
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2	:
Module Title:	Ecology
Module ID:	BIOL-241
Prerequisite (Co-requisite):	N/A
Co-requisite :	N/A
Course Level:	3 rd level
Credit Hours:	2 Hours

:(Course Information) *

Module 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, as well as humanity's effect on natural systems.

Module Aims

أهداف المقرر:

1	To acquire an "ecological learning" about how the natural world works.	1
2	To develop an understanding of how scientific methods are used to construct ecological knowledge.	2
3	To explore the multiple levels at which ecological interactions take place.	3
4	To become familiar with some of the major ecological challenges facing the Earth today, and the important research being done to address these concerns.	4
5	To develop a deeper understanding of how human development impacts ecological communities and systems.	5
6	To use our understanding of ecology to answer new questions.	6

Learning Outcomes:

مخرجات التعليم:

1	Explain the various levels at which ecology functions.	1
2	Describe the services that ecosystems provide to human societies.	2
3	Explain the role that evolutionary processes play in ecological systems.	3
4	Describe and categorize interactions between organisms and their environment.	4
5	Record and explain the various threats to current-day ecosystems.	5
6	Assess the need for changes in human behaviors that threaten ecosystem services.	6

Course Contents:

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ريس (Hours)	الأسابيع (Weeks)	(Subjects)
2	1	Introduction: What is Ecology? • Similar Climates Lead to Similar Life Forms
4	2	The Biosphere: • Terrestrial Biomes • Aquatic Biomes

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4	2	<p>Physiological Ecology:</p> <ul style="list-style-type: none"> • Temperature Variation • Water Variation • Energy and Nutrient Relations
4	2	<p>Population:</p> <ul style="list-style-type: none"> • Population Distribution and Abundance • Population Growth and Regulation • Population Dynamics
4	2	<p>Population Interactions:</p> <ul style="list-style-type: none"> • Competition • Predation • Herbivory • Parasitism & Disease • Mutualism & Commensalism
4	2	<p>Communities:</p> <ul style="list-style-type: none"> • Species Assemblies • Community Dynamics and Alternative States • Biogeography • Species Diversity in Communities
4	2	<p>Ecosystems:</p> <ul style="list-style-type: none"> • Primary Production • Food Webs and Energy Flow • Nutrient Supply and Cycling
4	2	<p>Applied Ecology:</p> <ul style="list-style-type: none"> • Conservation Biology • Landscape Ecology • Ecology and Global Change

Textbook and References:

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ISBN	Publishing Year	Publisher	اسم المؤلف (رئيسي) Author's Name	Textbook title
978-0077837280	2015	McGraw-Hill	Manuel Molles	Ecology: Concepts

		Education.		and Applications
	Publishing Year	Publisher	اسم المؤلف (رئيسي) Author's Name	Reference
978-0321934185	2014	Pearson	Thomas M. Smith	Elements of Ecology
978-0878939084	2013	Sinauer Associates, Inc.	Michael L. Cain	Ecology
978-0691161761	2014	Princeton University Press	Richard Karban	How to Do Ecology
978-0890517017	2013	Master Books	Tom Hennigan	The Ecology Book

