

LEAD CITY UNIVERSITY, IBADAN
FACULTY OF SCIENCES
DEPARTMENT OF BASIC SCIENCES (BIOLOGY)
SECOND SEMESTER 2017/2018 ACADEMIC SESSION

COURSE PARTICULARS

Course code: **BIO 212**
Course Title: **INTRODUCTORY ECOLOGY**
No of Units: **3**
Status: **COMPULSORY**

LECTURER DETAILS

Name: **Dr. Omonike C. Bakare**
Qualifications: **B.Sc., M.Sc., Ph.D.**
Phone: **07060518491**
Email: omonikebakare@yahoo.com
Area of Specialization: **Zoology (Fisheries and Environmental Biology)**

Name: **Mr. A.O. OGUNLEYE**
Qualifications: **B.Sc., M.Sc., M.Phil.**
Phone: **08056240023**
Email: aklagok@yahoo.com
Area of Specialization: **Microbiology**

COURSE DESCRIPTION

- (i) Introduction;
- (ii) The ecosystem and the community structure;
- (iii) The ecological factors affecting plants and animals in terrestrial and aquatic habitats;
- (iv) Ecosystem stability and ecological succession
- (v) The major terrestrial biomass, productivity, energy flow, nutrient cycling.
- (vi) Pollution.

COURSE OBJECTIVES

At the end of the course, students should be able to:

- (i) define and explain the meaning of ecosystem and the community structure;
- (ii) highlight the ecological factors affecting plants and animals in terrestrial and aquatic habitats;
- (iii) Understand ecosystem stability and ecological succession
- (iv) explain and describe the major terrestrial biomass, productivity, energy flow, nutrient cycling and pollution.

ASSESSMENT

Class Attendance/Test(s) and Assignments	40%
Final Examination	60%
Total	100%

LECTURE PLAN

Week	Topic
Week 1	Introduction; The ecosystem and the community structure
Week 2 – 3	Factors affecting plants and animals in terrestrial and aquatic habitats
Week 4 – 5	The major terrestrial biomass, productivity, energy flow;
Week 6 - 7	Nutrient cycling; Pollution
Week 8 - 9	Ecosystem stability; Ecological succession
Week 10 – 11	Ecosystem management
Week 12 - 15	Continuous Assessment Tests, Term papers & Tutorials

READING LIST

Fatubarin, Ayo (2009): Modern Concepts of Ecology. Higher Education Handbook Series. Keynote Publishers Limited.

Agrawal, A.K. and Deo, P.P. (2013): Plant Ecology. Student Edition.

Pack, C. (1980). Ecology and Environmental Management.

Miller G.T. (1991) Environmental Science: Sustaining the Earth.

Lean, G. Hinrichbase, D., & Karkham, A. (1990). Atlas of Environment.

Jones, R. Robertson, A; Forbes, J; & Holler (1990). Collins Dictionary of Environmental Science).

TUTORIAL QUESTIONS (12 QUESTIONS)

1. (a) What are biogeochemical cycles? (b) With a labeled diagram, write short notes on the Nitrogen cycle and the Phosphorus cycle.
2. (a) What is ecology?
(b) Enumerate the different branches of ecology.
(c) Write short note on the significance of ecology to man.
3. With the aid of illustration, write an essay on the: (a) Food chain and (b) Food web.
4. Define the following types of species interaction: (a) competition (b) Exploitative (c) mutualism (d) engineering
5. (a) What is pollution? (b) Write extensively on air pollution using specific examples.
6. Write short notes on the following: (i) Community; (ii) Population; (iii) Competition.
7. (a) What is meant by global warming? Explain. (b) Highlight various ways to prevent global warming.
8. Write short notes on the following: (i) Ecosystem; (ii) Ecological niche (iii) Allochthonous organisms (iv) Habitat.
9. Define with respect to ecology the following:
a. Biomass b. Productivity c. Energy flow d. Nutrients cycling.
10. What are the ecological factors that affect plant and animal in both aquatic and terrestrial habitat?

11. a. Describe: (i) Ecological stability (ii) succession
b. Differentiate between primary and secondary succession.
12. a. What is Ecosystem Management?
b. List and discuss the THREE exploitation and consequences for Ecosystem.

MARKING GUIDE

1. (a) What are biogeochemical cycles? [5 marks] (b) With a labeled diagram, write short notes on the Nitrogen cycle and the Phosphorus cycle [10 marks].
2. (a) What is ecology? [5 marks]
(b) Enumerate the different branches of ecology. [5 marks]
(c) Write short note on the significance of ecology to man. [5 marks]
3. With the aid of illustration, write an essay on the: (a) Food chain [7.5 marks] and (b) Food web. [7.5 marks]
4. Define the following types of species interaction: (a) competition (b) Exploitative (c) mutualism (d) engineering [3.75 marks each = 15 marks]
5. (a) What is pollution? [5 marks] (b) Write extensively on air pollution using specific examples. [10 marks]
6. Write short notes on the following: (i) Community (ii) Population (iii) Competition. [5 marks each = 15 marks]
7. (a) What is meant by global warming? [7 marks]. Explain. (b) Highlight various ways to prevent global warming. [8 marks]
8. Write short notes on the following: (i) Ecosystem; (ii) Ecological niche (iii) Allochthonous organisms (iv) Habitat [3.75 marks each = 15 marks]
9. Define with respect to ecology the following:
a. Biomass b. Productivity c. Energy flow d. Nutrients cycling.
[3.75 marks each = 15 marks]
10. What are the ecological factors that affect plant and animal in both aquatic and terrestrial habitat? [15 marks].
11. a. Describe: (i) Ecological stability [5 marks] (ii) succession [4 marks]
b. Differentiate between primary and secondary succession. [6 marks]
12. a. What is Ecosystem Management? [6 marks]
b. List and discuss the THREE exploitation and consequences for Ecosystem [9 marks].