

BIO 104 - ENVIRONMENTAL BIOLOGY (3 credits)

Course and Lab Description

An introduction to basic ecological issues where concepts, including Ecosystem Ecology, Behavioral Ecology, Community Ecology and Population Ecology, serve as a reference to the understanding of Life Support Systems. Major ecosystems of the world are also studied, with the aid of audiovisual sessions, that visually help enhance the diverse characteristics of each system, including a final overall view of the main environmental aspects of Spain. Field trips to the Biological Park “Faunia”, the National Educational Environmental Center, the Royal Botanical Garden of Madrid, along with the study of microorganisms in a laboratory session, reinforce *in situ* the main **aspects studied in the classroom**.

Outline of Course Syllabus

1. Introduction to life support system
2. Ecosystem ecology
3. Energetics
4. Behavioral ecology
5. Community ecology
Case study: why we need sharks (miller additional text book)
6. Population ecology and dynamics
7. Matter cycling and human influence
8. Ecological succession
9. Major ecosystems of the world
10. Major ecosystems of the world
11. Discussion topics
12. The environment in Spain

Required Text

“Elements of Ecology” Smith & Smith Ed. Longman 5th edition

Additional reference textbooks

- “Sustaining the Earth” by G. Miller Jr. 4th edition
- “Ecology: A bridge Between Science and Society “ by Odeum
- “Environmental Science” by Enger & Smith

Term Papers

First Midterm Research Paper: “*Trophic Pyramids*”

Final Reserch Paper: “*Ecosystems*”

Note: Specific information will be handed out in due time for each paper.

Course Format (Lecture course)

If you miss class it is expected for students to make up lost work. It is also *expected for students to read Chapters indicated in syllabus as constant homework and to include relevant aspects in notes.* A maximum of 2 justified absences are allowed during this course. **Students must be punctual for classes.**

If any student arrives late (5 minutes or more), the professor may refuse entry. **Attendance is mandatory.** Any unavoidable absences must be suitably justified in writing (e.g. a doctor's note) and the document handed in to the Academic Coordinator. After two unjustified absence your final grade will be lowered by one half point for each unjustified absence (i.e., from "B" to "B-"). **All worked missed** due to absence **must be made up.**

Evaluation

Final grade will consist of the following:

Class examinations (midterm, final and quizzes): 75%

Class participation, papers and/or exercises: 25%