

BIOL-UA 12 Principles of Biology II

Instructors:

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Course Description:

Primarily for science majors and pre-health students. Acquaints students with the fundamental principles and processes of biological systems. This 4 credit course includes lecture and recitation components; there is no laboratory component. A separate 1 credit laboratory course (BIOL-UA 123) is offered during the Spring semester and Summer session II.

Pre-requisite:

Principles of Biology I (BIOL-UA 11).

Co-requisite:

General Chemistry II and Laboratory (CHEM-UA 126) or Advanced General Chemistry II and Laboratory (CHEM-UA 128).

Textbook and Required Materials:

Campbell Biology 11th edition, by Urrey et al. hard copy or e-book (IncludED) iClicker or iClicker REEF

The use of an iClicker is required for participation in the lecture part of the course. iClickers purchased for use in General Chemistry can be used in Principles of Biology.

Grading:

Exams	25% each
11 recitation assignments	20% total
Oral participation in recitation	5%

Topics:

Module 1: Microbiology and Introduction to Animal Biology

Tree of Life
Prokaryotes
Viruses
Protists
The Immune System
Fungi
Introduction to Animal Biology

Module 2: Animal Biology: Animal Form and Function

Energetics and Temperature
Nutrition
Circulation and Gas Exchange
Osmoregulation and Excretion
Hormones and the Endocrine System
Reproduction and Development
Stem Cells
Neurons
Nervous System



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Module 3: Plant Biology and Ecology

Plant Development

Plant Signaling

Plant Nutrition and Biotechnology

Plant Evolution

Introduction to Ecology and the Biosphere

Ecosystems

Population Ecology

Communities

Climate