

## PRINCIPLES OF BIOLOGY II

**CATALOG DATA:** BIO 112 introduces the concepts of modern biology, emphasizing the basic unity of life and the similarities of the challenges that have been faced and solved by organisms. Topics covered are plant anatomy, reproduction, transport and tropisms structure and functions of tissues, organs and systems of animals, basic embryology, and principles of ecology.

**OBJECTIVES:** To understand and appreciate the diversity of life on Earth, the remarkable adaptations of organisms to their environment, the common set of characteristics found in living things; to obtain a deeper understanding of metabolism and homeostasis, the transmission of life and the flow of energy through living systems.

- Lecture: 3 credits.
- Prerequisite: BIOL 111; corequisite BIOL 112L.

**TEXT:** Biology, 8th. Ed., 2008, by Campbell and Reece.

LECTURE TOPICS	CHAPTER
Plant diversity: bryophytes, seedless plants	29
Plant diversity: seed plants,	30
Plant structure, growth and development	35
Stems and plant tissues	35
Vascular transport in roots and stems	36
Reproduction in angiosperms	38
Animal diversity	32
Invertebrate taxa	33
Vertebrate taxa	34
Animal tissues, organs, systems	40
Animal nutrition: digestive systems	41
Circulatory systems and blood	42
Gas exchange	42
Immune system	43
Osmoregulation in animals; excretory systems	44

Endocrine system and hormones	45
Animal reproduction	46
Development (embryology)	47
Neurons, synapses and signaling	48
Nervous system	49
Sensory and motor mechanisms	50
Ecology and the biosphere	52
Community ecology	54
Ecosystems	55