BIOLOGICAL SCIENCES 101

General Biology

Spring 2013 (1131)

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COURSE PREREQUISITES

High school biology 12 (or equivalent) with a C grade or better, or BISC 100 with C- or better, or HSCI 100 with C + or better. Breadth-Science[1]

COURSE DESCRIPTION

An introduction to the biochemical and physiological mechanisms of living organisms. Topics covered include cell structure and function, DNA replication and the flow of genetic information, enzyme function, metabolism and physiology of microorganisms, plants, and animals.

COURSE OUTLINE

Cell Biology (Dr. Punja) (Weeks 1-4)
Cellular chemistry: structure and properties of biological molecules
Cell structure: membrane and organelle form and function
Cellular reproduction : mitosis, cytokinesis and the cell cycle
DNA, RNA and gene expression
Cell energy: principles of energetics
Enzymes
Cellular respiration

Midterm exam—25%
Final exam—25%

Animal Biology (Dr. Kennedy) (Weeks 5-8)
Structure and function of tissue types
Digestion
Circulatory and respiratory systems
Excretion and homeostasis; hormones
Nervous and motor mechanisms

Plant Biology (Dr. Punja) (Weeks 9-12)
Flowering plants: morphology, anatomy and growth
Plant reproduction and biotechnology
Transport processes
Control systems: plant hormones
Photosynthesis

TEXT

Campbell, N.A., and Reece, J.B. 2010. Biology 9 th Ed. Benjamin Cummings Publishing Co. **Note**: The 8th edition of the textbook is also acceptable

MARK DISTRIBUTIONS

Lecture Midterm - 20%, Lab. Midterm - 20%, Lab. Final - 20%, Lecture Final Exam - 40% .
Note: There is a 5% penalty for non-attendance in tutorials.

[1]*Prerequisite Minimum Grade Requirement: Unless stated, a grade of C- or better is required on all Prerequisite BISC & MBB courses.*