Passaic County Community College
Academic Year: 2024-2025
Standard Syllabus

Department Chair: Professor Joshua Sabatini

Course Code: BS 102 **Course Title:** Biology II

Department: Biological & Physical Sciences **Semester Offered:** Fall: Spring, Summer

Course Description: This course explores the basic study of representative organisms of the five kingdoms, with an emphasis on classification, differential features and reproduction. For the plant and animal kingdoms, it covers fundamentals of development, physiological control systems, organ systems, nutrition, movement, ecology and selected biological problems of representative organisms. The laboratory sessions include dissections and experimental studies of selected representative organisms for all kingdoms.

Pre-requisites: College level math and college level English

Credits: 4 **Lecture Hours:** 3 **Lab Hours:** 3 **Clinical/Fieldwork Hours:** 0

REQUIRED TEXTBOOK/MATERIALS:
Lecture: Campbell BIOLOGY
Lab: Exploring Biology in the Laboratory, Murray Pendarvis, John Crawley

ADDITIONAL TIME and SUPPLEMENTAL REQUIREMENTS:
Based on a 15 week semester, students are expected to complete approximately 8 hours per week of assigned work outside of class.

COURSE LEARNING OUTCOMES:
Upon successful completion of this course, students will be able to:

- Perform laboratory techniques including skilled dissection, proper use of a microscope and equipment to explore selected aspects of the biological world.
- Demonstrate use of the scientific method in the laboratory.
- Recognize and demonstrate an understanding of selected groups or species of organisms.
- Analyze the taxonomic relationships among and between organisms
- Dissect, identify and describe major organ systems in representative species.
- Research a current biological problem related to the population dynamics and related physiology of a species
- Develop an appreciation for living organisms by understanding the need to balance their requirements with human activities.

GENERAL EDUCATION OUTCOMES:
Upon successful completion of this course, students will be able to:
3.1 Use critical thinking skills appropriate for the nature and level of a given general education course to solve problems involving, but not limited to, data analysis and interpretation, and experimental design.

3.2 Demonstrate understanding of basic terminology, major concepts and fundamental theories in Biology I
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<u>GRADING STANDARD</u>:

Lecture Tests	40%
Lab Quiz	10%
Lab Practical	10%
Lab Report	05%
Lab Work	05%
Research Paper	05%
Final Exam (Comprehensive)	25%

<u>COURSE CONTENT</u>:

Schedule and suggested topics, readings, and assignments subject to change based on instructor and instructional resources.

Lecture Schedule

	Topics and Chapters	Chapter(s)
	Test 1 – Evolution, Natural Selection and Speciation	
1	Descent with Modification: A Darwinian View of Life The Evolution of Populations Origin of Species History of Life on Earth Phylogeny and the Tree of Life	22 23 24 25 26
	Test 2 – *Biological Diversity: Prokaryotes, Protists and Plants*	
2	Bacteria and Archaea Protists Fungi Plant Diversity I: How Plants Colonized Land Plant Diversity II: Evolution of Seed Plants Plant Structure, Growth and Development Angiosperm Reproduction	27 28 31 29 30 35 38
	Test 3 – *Biological Diversity: Animals*	
4	An Overview of Animal Diversity Introduction to the Invertebrates Origin and Evolution of Vertebrates Basic Principles of Animal Development and Form	32 33 34 40
	Test 4 - *Mammalian Anatomy and Physiology*	
	Animal Digestion Circulation System Respiratory System Osmoregulation & Excretion Nervous System Community Ecology	41 42 42 44 49 54
5	**Comprehensive Final Examination**	

Laboratory Schedule

	Lab Topics

1	Lab Safety & Procedure Agreement; Lab Policy Microscopy (Review if needed)
	Evolution, Natural Selection and Speciation
2 3	Natural Selection Labs Cladistics & Phylogenetics
	Biological Diversity: Prokaryotes, Protists and Plants
4 5 6 7 8	Bacteria Protists Fungi Non-vascular Plants and Seedless Vascular Plants Angiosperm Reproduction: Dissections
	Animal Diversity
9 10 11 12 13	Sponges & Cnidarians Flatworms, roundworms, rotifers Mollusks, Segmented worms, Jointed Animals Echinoderms & Invertebrate Chordates Fetal Pig

COLLEGE POLICIES:

For Information regarding:

- PCCC's Academic Integrity Code
- Student Conduct Code
- Student Grade Appeal Process

Please refer to the PCCC Student Handbook and PCCC Catalog

Inclement Weather:

In the event of inclement weather and the College is closed, all classes will switch to remote (Zoom) learning. The Zoom link for this course section is has been added here in this document by your instructor. Please also see BlackBoard for further instructions.

PANTHER ALERT:

The College will announce delayed openings, closings, and other emergency situations through the Panther Alert System. Students are encouraged to sign up for Panther Alert Notifications by logging into their student accounts through the PCCC website at www.pccc.edu and following Panther Alert System instructions.

Requesting Reasonable Accommodations at Passaic County Community College: Passaic County Community College Office of Accessibility Services, in accordance with Section 504 of the Rehabilitation Act of 1973, Americans with Disabilities Act (ADA) of 1990, and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008 is committed to providing reasonable accommodations to students with documented disabilities. If you have a disability and believe you need accommodations, please contact the Office of Accessibility Services (OAS) at (973) 684-6395 or email ods@pccc.edu. Students should request accommodations as early as possible, since they may take time to implement.