**CAPITAL COMMUNITY COLLEGE**
COURSE OUTLINE
**General Biology II**

## SECTION I

**SUBJECT AREA AND COURSE NUMBER**: BIO*G122

**COURSE TITLE**: General Biology II

**COURSE CATALOG DESCRIPTION**: This course examines the biological diversity of organisms in all kingdoms and focuses on structure and function of plants and animals. Finally the course examines how different species interact with each other and their environment.

**LECTURE HOURS PER WEEK**: 3 **CREDIT HOURS**: 4

**LAB HOURS PER WEEK**: 3

**PREREQUISITE(S)**: Bio 121

## SECTION II

**A. SCOPE**: This course is the second semester component of a year-long sequence of introductory biology for biology majors. The topics that will be covered include the evolutionary history of biological diversity with a focus on plant and animal structure and function, and ecology.

**B. REQUIRED WORK**: To be determined by instructor.

**C. ATTENDANCE AND PARTICIPATION**: Regular attendance and class/lab participation are expected. (Specific instructor policies should be listed on the class syllabus.)

**D. METHODS OF INSTRUCTION**: The methods of instruction are determined by each instructor and may include but are not limited to lecture, lecture/discussion, small group, collaborative learning, experimental/exploration, distance learning, student presentations, and use of technologies such as audio-visual materials (films, CD-roms, transparencies, charts, handouts, newspaper and journal readings) computers, and calculators. Student participation through collaborative learning in the laboratory is an integral part of the course.

## E. OBJECTIVES, OUTCOMES, and ASSESSMENT

The following objectives and outcomes represent the department's core requirements for student achievement:

| LEARNING OBJECTIVES | LEARNING OUTCOMES | ASSESSMENT METHODS |
|---|---|---|
| **To demonstrate an understanding of:** | **Student will:** | **As measured by:** |
| **Scientific Investigation** | Identify questions that can be answered through scientific investigation and describe the components of a scientific experiment both in the lecture and lab.<br><br>Summarize results of lab work in tables and graphs.<br><br>Interpret and discuss results of laboratory work. | Exams<br>Presentations<br>Reports<br>Homework Assignments<br>Lab Reports<br>Lab Practicums |
| **Evolutionary History of Biological Diversity** | Analyze and compare phylogenetic trees.<br><br>Compare and contrast the structural and functional adaptations of Archaea and Bacteria<br><br>Identify the impact that prokaryotes have on the biosphere and on humans.<br><br>Examine and describe the structural and functional diversity of protists and their role in ecological relationships.<br><br>Describe how plants colonized the land.<br><br>Examine and describe the evolution of seed plants.<br><br>Examine and distinguish the structure and function of fungi and their role in nutrient cycling, ecological interactions and human welfare.<br><br>Analyze the diversity and evolution of the animal kingdom and summarize the characteristics used to classify animals into different phyla. | Exams<br>Presentations<br>Reports<br>Homework Assignments<br>Lab Reports<br>Lab Practicums |
| **The Structure and Function of Plants**. | Examine and summarize:<br>• plant structure, growth and development<br>• the acquisition of resources from the environment and transport in vascular plants<br>• angiosperm reproduction and biotechnology<br>• plant responses to external and internal signals | Exams<br>Presentations<br>Reports<br>Homework Assignments<br>Lab Reports<br>Lab Practicums |

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|---|---|---|
| **The Structure and Function of Animals** | Explain:<br>• homeostasis<br>• animal nutrition<br>• circulation and gas exchange<br>• osmoregulation and waste excretion<br>• nervous and hormonal control systems<br>• reproduction and development | Exams<br>Presentations<br>Reports<br>Homework Assignments<br>Lab Reports<br>Lab Practicums |
| **Ecology** | Analyze and describe ecosystems based on energy flows and chemical cycling.<br><br>Identify human's impact on the earth's biodiversity and attempts at restoration of degraded ecosystems.<br><br>Describe population and community ecology. | Exams<br>Presentations<br>Reports<br>Homework Assignments<br>Lab Reports<br>Lab Practicums |

**F. TEXT(S) AND MATERIALS**: To be determined by Science & Math department

**G. INFORMATION TECHNOLOGY**: To be determined by instructor