BIOL 122 – INTRODUCTORY BIOLOGY II | 4 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course is an introduction to the dynamic processes of living things and includes local natural history, population genetics, ecology and evolutionary processes.

Prerequisites: MATH 095, (RDNG-096 or RDNG-113), and ENGL-095 or appropriate Math, Reading, and English Accuplacer scores.

Semester Offered: Fall and Spring

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in…

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

GENERAL LEARNING OBJECTIVES

Upon completion of the course, the student should understand the following content areas:

1.) Philosophy of Science and falsifiability.
2.) Identification of living things from the local area and an understanding of how they may interact with one another.
3). Gene pools, variability, genetic fitness and selective processes.
4.) Ecological dynamics and some of the long term consequences.
5.) Experimental design and field work.

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

1.1 Explain why most scientists avoid using the word “proof”.
1.2 Discuss what sorts of evidence can make a convincing argument and the creation of testable hypotheses.

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2.1 List some of the members of each of the main groups of animals and plants on campus.
2.2 Write and use a Taxonomic Key to local species.
2.3 Discuss the ecological roles of some of the local species and describe some of the consequences of interactions and diversity.
2.4 Suggest factors involved in the stability of communities.

3.1 Describe how diversity in the genetic system of a population might influence the success of its members.
3.2 Compare the selection within variable populations to those with less genetic diversity.

4.1 Describe and predict the outcomes of interactive systems such as competition, mutualism and predation.
4.2 List and give examples for some of the ways that natural and manmade systems have become stable or unstable because of interactive complexity.

5.1 Collect and identify local organisms.
5.2 Assist in the design of class measurements of natural systems.