



Course Name: Introduction to Biology

Course Number: BIO* E105

Credits: 4

Catalog description: A study of the characteristics of life, the processes living organisms use to sustain life and how they pass information to future generations. The adaptations of humans are explored and compared to those of other organisms. Classification is presented to gain an appreciation of the unity and diversity of life.

Prerequisite: Eligible for ENG 101 or ENG 101W

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

SCKX Scientific Knowledge & Understanding

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

SCRX Scientific Reasoning

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

SCI Science elective

Course objectives:

General Education Goals and Outcomes:

Scientific Knowledge & Understanding: Students will gain a broad base of scientific knowledge and methodologies in the natural sciences. This will enable them to develop scientific literacy, the knowledge and understanding of scientific concepts and processes essential for personal decision making and understanding scientific issues.

Scientific Reasoning (for CSCU Transfer Degree Programs): Students will become familiar with science as a method of inquiry. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions.



Course Specific Objectives:

1. Demonstrate knowledge of basic chemical and biological principles.
2. Describe the classification and common characteristics of living organisms.
3. Identify and list the functions of basic structures of interphase and dividing cells.
4. List the major systems in animals, with an emphasis on humans, and be able to describe the specific structure and function of four.
5. Recognize and apply basic principles of genetics.
6. Evaluate and articulate the quality of the scientific information presented in a recent publication.

Laboratory Objectives:

1. Use the microscope properly.
2. Identify eukaryotic and prokaryotic cells.
3. Identify and differentiate specific animal and plant cells and organelles.
4. Perform tests to identify biological molecules and measure pH.
5. Design and perform a controlled experiment.
6. Identify the stages of mitosis.
7. Recognize and apply basic principles of genetics.
8. Identify the anatomical structures of four human organ systems.
9. Use appropriate precautions to enhance safety and environmental protection.

Course Content:

1. Methods and concepts of science
 - a. Organization of nature
 - b. Characteristics of living organisms
 - c. Unity among diversity
 - d. Role of experiments in scientific knowledge
2. Chemical foundations for living organisms
3. Cell structure and function
4. Principles of inheritance
5. Structure and function of animal systems

HCC Safety Standard

Instruction covering all safety rules and guidelines will be provided by the instructor during the first laboratory session. The safety features of the individual laboratory will also be highlighted by the instructor. Students are expected to read and understand the rules of the HCC Science Laboratory Student Safety Contract. The students will then sign this contract signifying that they have been instructed and



understand the requirements for safety pertaining to their course. The student and instructor will each keep a copy of this contract. Students must come to the laboratory prepared for the laboratory activity. Students must abide by the safety rules and guidelines which may include wearing personal protection equipment. Failure to do so may result in removal from the laboratory by the instructor.

Date Course Created:

Date of Last Revision: 02/27/2017