Course Syllabus

Department: Science and Technology
Date: 1/2012

I. Course Prefix and Number: BIO 115
   Course Name: Human Biology
   Credit Hours and Contact Hours: 4 credit hours and 5 contact hours

Catalog Description including pre- and co-requisites:

A principles course with a laboratory experience designed for non-science majors. This course approaches basic biological principles with a human orientation. Basic chemistry, cell division, genetics, cancer, systems physiology, evolution and human ecology are the major topics. The course will consist of three hours of lecture and two laboratory hours weekly (four credit hours).

Prerequisite: Successful completion of all required remedial courses.

II. Course Outcomes and Objectives

   Student Learning Outcomes:
   - Describe the organization and functioning of the cell, Mendelian genetics, the process of cell division, including cancer development, functioning of several key physiological systems, including diseases affecting those systems, and evolutionary theory.
   - Evaluate scientific claims
   - Identify the components of well designed scientific inquiry
   - Discuss the human species' place in, and effects on, the environment.
   - Determine ethical implications and personal values regarding humans in science research and medical treatments.
   - Analyze data and form conclusions and present in a written laboratory report.
   - Revise written laboratory reports.
   - Evaluate and summarize articles including ethical implications.

Relationship to Academic Programs and Curriculum:

This course has been designed to give students an option for fulfilling lab science requirements for their degree. The course will be taught at a level that is accessible for non-majors students, emphasizing real-world examples, common disease processes and class discussions to facilitate the non-science major student’s ability to relate to scientific material. This course is approved for SUNY Gen Ed Credit in the Natural Science knowledge and skill area.

College Learning Outcomes Addressed by the Course:

- X writing
- □ oral communications
- X reading
- □ mathematics
- X critical thinking
- □ computer literacy
- □ ethics/values
- □ citizenship
- □ global concerns
- □ information resources
III. Instructional Materials and Methods

Types of Course Materials:
Textbook and Lab book required

Methods of Instruction (e.g. Lecture, Lab, Seminar …):

Three hours of lecture and two hours of laboratory per week.

Which will include: Group work and problem solving, Guided class discussions, Class projects and presentations (single and group), Papers or case study reports based on articles of interest

IV. Assessment Measures (Summarize how the college and student learning outcomes will be assessed):

Objective format exams with short answer items will assess the student’s understanding of biologic principles and scientific inquiry.
Written laboratory reports and article review will assess the student’s ability to summarize knowledge, apply scientific reasoning, analyze data, communicate understanding of scientific principles, interpret results, and evaluate experimental design. A computer generated report will have data and information from a variety of sources, synthesized into a report. This will also assess the college learning outcome of ethics and values.

V. General Outline of Topics Covered:

1. Scientific method
2. Cells, organelles and their functioning
3. Cell division – mitosis and meiosis
4. Development and progression of cancer
5. Mendelian genetics and genetic problem solving
6. Nervous system
7. Endocrine system
8. Cardiovascular system
9. Respiratory
10. Immune system
11. Urinary system
12. Reproductive system, including an overview of birth defects
13. Evolution
14. Ecology and man’s interaction with the environment