

Course: Introduction to Biology 10/11

1. Date of Application: December 5th 2011
2. Name of Proposer: Wendy Lacy
3. Name of Department/Program housing the course: Biology
4. Name of Chair/Program Director: Carla Bossard
5. How often is this course taught: yearly
6. Course Prerequisites (if any): none
7. Unit Value of the Course: 1
8. Normal Class Size: 48
9. Number of Sections expected to be taught in Fall 2012: 1
10. Number of Sections expected to be taught in Spring 2013: 0
11. Is the course designed for and/or appropriate for first-year students: yes
12. Relevant Working Goal(s): Scientific Understanding
13. Chair will oversee submission of student work: yes
14. Chair will oversee instructor participation in Norming and Assessment exercises: yes

Teaching: how the course will guide students to achieve the learning outcomes:

"Bio 10 is a required course for Nursing majors and may be required for Kinesiology (Health and Human Performance) majors in the future. The Nursing majors who take it are predominantly Freshmen.

The first learning outcome of the Scientific Understanding learning goal will be met through the first five learning objectives within the course. The first five learning objectives for the course are to explore the concepts of organization, function and processes in biological systems. In addition, we will be exploring the principles underlying patterns of inheritance and gene regulation in this class. These objectives will be achieved in lecture, through discussion of topics such as cell structure, cellular metabolism, cell division and genetics. Thus, we will be exploring the different concepts pertaining to the natural world in this class.

The second outcome of the Scientific Understanding learning goal requires a course to have a component of data collection and analysis. Bio 10 is accompanied by a mandatory lab section (Bio 11) that is 3 hours a week. In this lab, student will learn the process of scientific inquiry, hypothesis testing. Most weeks, students will collect data on different topics such as macromolecule structure, cellular metabolism etc. They will be analyzing and interpreting the collected data to validate or refute their hypothesis.

The third outcome of the Scientific Understanding learning goal is to explore the social and ethical implications of scientific inquiry. This learning outcome will be met through discussion pertaining to ethics of genetics, genomics and newer technologies in the last section of the course. In this section of the course, students will be discussing the ethical implications of topics such as stem cell therapy, cloning, and personalized medicine in the class.

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Learning: how coursework will be used to measure student learning of the outcomes:

"Since the core learning outcomes are aligned with the course objectives, course learning assessment will also allow us to ascertain the meeting of core learning outcomes. Students will demonstrate their learning of these principles and concepts through their midterm and final exams. The questions will be in both essay and multiple choice format to test the student's knowledge, comprehension and application of the biological principles. Essay questions will be incorporated to allow the student to demonstrate their understanding of the biological concepts and theories covered in the course.

The student learning in the process of scientific inquiry will be assessed using lab quizzes that test their ability to analyze data as well as through lab practicals at the end of the semester, which assess all aspects of scientific inquiry – collection, analysis and interpretation of data.

Assessment of student learning about social and ethical issues will occur through a two-page (double-spaced) paper due near the end of the semester. The student will write about one of several contemporary issues covered in class relating to recent scientific developments, such as the ethics of stem cell therapy, cloning, or personalized medicine. The paper will look at different ethical perspectives on and possible social implications of the scientific development chosen by the student.

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