

## Request for Courses in the Core Curriculum

Originating Department or College: Department of Biology and Chemistry, College of Arts and Sciences

Person Making Request: Fernando Quintana

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Course Number and Title: BIOL 2101 – Anatomy and Physiology I - Lab

Please attach in separate documents:

Completed Catalog Add/Change Form

Syllabus

List the student learning outcomes for the course (Statements of what students will know and/or be able to do as a result of taking this course. See appended hints for constructing these statements.)

### **Student Learning Outcomes: After completing of the course the students will be able to:**

1. Apply critical thinking to examine primary literature concerning anatomy and physiology in order to effectively defend a conclusion.
2. Use the scientific method to design an experiment and analyze a data set to determine a conclusion.
3. Demonstrate effective technical communication skills.
4. Collaborate effectively on a research project and on a presentation of scientific results
5. Discuss homeostasis
6. Describe the anatomy terminology and body plan
7. Describe the structure of human cells
8. Discuss the functions of human cells
9. Describe the tissues of the human body
10. Discuss the function of the tissues of the human body
11. Microscopically identify the tissues of the human body
12. Describe the structure of the integumentary system
13. Discuss the functions of the integumentary system
14. Describe the structure of the bones
15. Discuss the functions of the skeletal system
16. Identify and describe the two hundred and six named bones of the human body
17. Describe the structure and function of the three types of muscle tissue
18. Describe the functions of the muscular system
19. Identify and describe the major skeletal muscles of the human body
20. Describe the structure of neurons and neuroglia
21. Discuss the function of neurons and neuroglia
22. Describe the central nervous system
23. Discuss the function of the central nervous system Discuss the function of the peripheral nervous system including the motor, sensor, and autonomic systems
24. Describe the structure of the senses of the human body
25. Discuss the functions of the senses of the human body
26. Describe the peripheral nervous system

### **Core-Curriculum Learning Outcomes:**

1. Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information. (SLOs: 1 & 2)

2. Communication Skills: Students will demonstrate their ability to communicate effectively by using written communication. (SLOs: 3 & 4)
3. Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs: 2)
4. Teamwork: includes the ability to work effectively with others to support a shared goal. (SLOs: 4)

Component Area for which the course is being proposed (check one):

- |  |   |
|--|---|
| <input type="checkbox"/> Communication                       | <input type="checkbox"/> American History             |
| <input type="checkbox"/> Mathematics                         | <input type="checkbox"/> Government/Political Science |
| <input type="checkbox"/> Language, Philosophy, & Culture     | <input type="checkbox"/> Social & Behavioral Science  |
| <input type="checkbox"/> Creative Arts                       | <input type="checkbox"/> Component Area Option        |
| <input checked="" type="checkbox"/> Life & Physical Sciences |   |

Competency areas addressed by the course (refer to the appended chart for competencies that are required and optional in each component area):

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Critical Thinking               | <input type="checkbox"/> Teamwork                |
| <input type="checkbox"/> Communication Skills                       | <input type="checkbox"/> Personal Responsibility |
| <input checked="" type="checkbox"/> Written Communication           | <input type="checkbox"/> Social Responsibility   |
| <input type="checkbox"/> Oral Communication                         |  |
| <input type="checkbox"/> Visual Communication                       |  |
| <input checked="" type="checkbox"/> Empirical & Quantitative Skills |  |

Because we will be assessing student learning outcomes across multiple core courses, assessment assigned in your course must include assessment of the core competencies. For each competency checked above, indicate the specific course assignment(s) which, when completed by students, will provide evidence of the competency. Provide detailed information, such as copies of the paper or project assignment, copies of individual test items, etc. A single assignment may be used to provide data for multiple competencies.

Critical Thinking:

During the “Muscle Fatigue” lab, students will perform an experiment on the effect of repetitive activity on the instance and duration of muscle lactic acid induced muscle fatigue. They will use critical thinking to compile and analyze the data, determine the function of controls and variables in the experiment, predict the effects of different variables on the rate and duration of muscle fatigue and their implications for human fitness. A critical thinking rubric with domains for creative thinking, depth of inquiry, evaluation of importance and synthesis of information can be scored by the instructor from the lab report, or the written lab report can be up loaded for evaluation by the Core Curriculum Assessment Committee.

Communication Skills:

Upon completion of the “Muscle Fatigue” lab, each student will write a 3-4 page lab report addressing critical thinking questions concerning muscle physiology and how their results impact human health and fitness. The instructor can score the written lab report for organization, focus, style and grammar using a modified WIN rubric, or the report can be up loaded for evaluation by the Core Curriculum Assessment Committee.

Empirical & Quantitative Skills:

During the “Muscle Fatigue” lab, students will calculate the amount, rate, instance and duration of muscle fatigue after repetitive activity and graph their results to determine the mathematical relationship between the variables. The instructor can assess the logical reasoning behind the calculations and extrapolations, or the written lab report can be up loaded for evaluation by the Core Curriculum Assessment Committee.

Teamwork: N/A

Personal Responsibility: N/A

Social Responsibility: N/A

Will the syllabus vary across multiple sections of the course?     Yes                                     No

If yes, list the assignments that will be constant across the sections:

In each section, the first 4 student learning outcomes and the assignments described for assessment will be consistent across sections.

Inclusion in the core is contingent upon the course being offered and taught at least once every other academic year. Courses will be reviewed for renewal every five (5) years.

The department understands that instructors will be expected to provide student work and to participate in university-wide assessments of student work. This could include, but may not be limited to, designing instruments such as rubrics, and scoring work by students in this or other courses. In addition, instructors of core courses may be asked to include brief assessment activities in their courses.

Reviewed and approved by the Core Curriculum Committee on February 15, 2013.