Request for Courses in the Core Curriculum

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

Person Making Request: Michael Daniels

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Course Number and Title: BIOL 1171 – Human Biology Lab

Please attach in separate documents:

___ Completed Catalog Add/Change Form

_X 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 Objectives: Upon the successful completion of this course students will be able to:

1) Use critical thinking empirical skills to design and implement a scientific experiment to test a specific biological hypothesis.
2) Use quantitative skills to analyze a biological data set.
3) Gain and apply laboratory and safety skills.
4) Communicate the results of a scientific investigation both verbally and through written reports.
5) Demonstrate a knowledge of structure and function of the human body
6) Demonstrate a knowledge of the systems of the human body

Core-Curriculum Learning Outcomes:

1. Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information. (SLOs: 1)
2. Communication Skills: Students will demonstrate their ability to communicate effectively by using visual communication. (SLOs: 4)
3. Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs: 2)

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

___ Communication
___ Mathematics
___ Language, Philosophy, & Culture
___ Creative Arts
_X_ Life & Physical Sciences
___ American History
___ Government/Political Science
___ Social & Behavioral Science
___ Component Area Option

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

_X_ Critical Thinking
_X__ Communication Skills
_X_Written Communication
___ Oral Communication
___ Visual Communication
_X_ Empirical & Quantitative Skills
_X_ Teamwork
___ Personal Responsibility
___ Social Responsibility

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 Physiology" lab, students will design and implement an experiment to examine the relationship between pulse rate and muscle volume at a resting state and after moderate physical activity. The students must use critical thinking to design the experimental methodology, construct a testable hypothesis and draw a conclusion supported by the collected data. 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:
At the conclusion of the "Muscle Physiology" lab, students will present their findings in a 3-4 page written lab report. The written report will include an introduction of their study, the methods used during the experiment, a presentation of the findings, including graphs and tables representing the data collected and a discussion of the significance of the results. 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 Physiology" lab, students will observe, record and calculate pulse rate and muscle volume at a resting state and after moderate exercise. They will calculate a mean, standard deviation and standard error for each replicate and conditions. They will use a correlation analysis to examine the relationship between pulse rate and muscle volume. The instructor can assess the logical reasoning behind the calculations and the appropriateness of the statistical analysis, or the written project 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 _X_ No
If *yes*, list the assignments that will be constant across the 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 13, 2013.