

Request for Courses in the Core Curriculum

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

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Course Number and Title: BIOL 1370: Survey of Life Science

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

1. apply critical thinking and the scientific method to examine biological phenomena.
2. design an experiment to test a specific biological hypothesis.
3. communicate scientific information both verbally and through written reports.
4. effectively discuss the relationships between organisms and their environment.
5. collaborate effectively on a research project and on a presentation of scientific results.
6. describe the basic structure and function of plants and animals at various levels of biological complexity.
7. describe the process of adaptation and the theory of evolution.

**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: 5)

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

Communication

American History

Mathematics

Government/Political Science

Language, Philosophy, & Culture

Social & Behavioral Science

Creative Arts

Component Area Option

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):

Critical Thinking

Teamwork

Communication Skills

Personal Responsibility

Written Communication

Social Responsibility

Oral Communication

Visual Communication

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:

Students will be assigned a "Paper Presentation" project in which groups of four students will review and analyze a recent (within the last 4 years) scientific paper (approved by the instructor) in the field of biology. The students will use critical thinking skills to evaluate the experimental approach, the importance of the finding with regards to biology and the public in general and to develop the next reasonable experiment for the given field of study. A critical thinking rubric with domains for creative thinking, depth of inquiry, evaluation of importance and synthesis of information can be scored during the presentation by the instructor, or the written essay can be up loaded for evaluation by the Core Curriculum Assessment Committee.

#### Communication Skills:

At the end of the "Paper Presentation" project, each student will produce a 2-3 page essay based on their analysis of the paper (see Critical Thinking). The instructor can score the written essay for organization, focus, style and grammar using a modified WIN rubric, or the written essay can be up loaded for evaluation by the Core Curriculum Assessment Committee.

#### Empirical & Quantitative Skills:

The students will perform an analysis on class data generated in the lab sections. Class data on human height and hand length will be assembled in all of the laboratory sections, but the aggregate data will be analyzed in the lecture. Each student will produce a 1-2 page written analysis that will include calculating the mean, median, standard deviation, standard error for each group and conducting a correlation to examine the relationship between human height and hand size. The instructor can assess the logical reasoning behind the calculations and the appropriateness of the statistical analysis, or the lab report can be up loaded for evaluation by the Core Curriculum Assessment Committee.

#### Teamwork:

The same "Paper Presentation" can be used to assess teamwork as well. The students will be given a survey to assess their participation on the project as well as an evaluation of their each member's contribution during the analysis of the paper.

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.