

## 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 2301 – Anatomy and Physiology I

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 molecular biology 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
24. Describe the peripheral nervous system
25. Discuss the function of the peripheral nervous system including the motor, sensor, and autonomic systems
26. Describe the structure of the senses of the human body
27. Discuss the functions of the senses 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)
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 checked="" 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:**

Students will be assigned a “Bone Density” project, in which groups of four students to identify and discuss different methodologies for measuring bone density. The students must use critical thinking to identify and discuss the strengths and limitations of different methodology and to extrapolate instances where each methodology may be appropriate. 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 “Bone Density” project, students will present their findings in a 3-4 page written report. In the written report, students will discuss the strengths and limitations of different methodologies used to determine bone density, discuss the physical forces acting on human bones and how this effects their function and the rates of bone remodeling capacity and their impact on human health, fitness and aging. 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.

