

ACADEMIC STANDARDS COMMITTEE
Request For Foundations Credit Form
(10-22-09)

Please type your answers directly on this form. All of the information noted below must be included in the request form. Failure to show how the request for foundations credit directly addresses each of the three ECU Foundations Goals for the course area may result in the request being denied. ECU Goals of the Liberal Arts Foundations Curriculum are available online at:

<http://author.ecu.edu/cs-cad/fsonline/customcf/committee/as/liberalartsfoundation.htm>.

A. Basics (for items 1-16, for cross-listed courses provide two or more sets of information, as appropriate, under each category)

1. Foundations Course Area (Arts, Humanities, Basic Sciences, Basic Social Sciences, Health Promotion and Physical Activity, Writing Competence, Mathematics Competence).

Basic Science

2. Unit in which the course will be taught.

Biology

3. Unit Administrator's title, name and email.

Mary Farwell, Director of Undergraduate Studies, farwellm@ecu.edu

4. Course Prefix, Number and Name.

BIOL1150 Principles of Biology: A Human Approach

5. Number of credit hours.

3 CH

6. Prerequisites (if applicable).

No pre-requisites

7. Course description as it will appear in the catalog and a detailed course syllabus with a weekly schedule of topics to be discussed which should reflect explicit coverage of each of the foundation goals.

1150. Principles of Biology: A Human Approach (3) (F,S) The nature of biological science, molecular biology, bioenergetics, cell structure and function, cell physiology, molecular basis of inheritance and control of

gene expression, overview of human tissue and organ systems, and human population and disease dynamics.

8. College in which the course will be taught.

HCAS

9. College dean's name and email.

Allen White, whiteal@ecu.edu

10. Date approved by unit's curriculum committee and chair's initials.

2/1/11

11. Date approved by unit's voting faculty.

2/2/11

12. Date reviewed by the unit's chair and chair's initials.

2/15/11

13. Date approved by the college curriculum committee and chair's initials.

2/15/11

14. Date forwarded to Academic Standards.

9/2/11

The purpose of the information provided below is to enable Academic Standards Committee members to determine whether or not it is reasonable to believe that the course named above will satisfy the three or four specific goals for all courses in its area that are stated in ECU Goals of the Liberal Arts Foundations Curriculum are available online at:

<http://author.ecu.edu/cs-cad/fsonline/customcf/committee/as/liberalartsfoundation.htm>.

B. Using the Foundations Goals listed under the course's area:

1. Describe in enough detail that it is clear to the members of the AS committee how the course's content will meet Foundations Goal One for its area. List examples of required course textbooks or other required materials that address the content described above.

Goal 1: *Students will learn the subject matter of at least one core discipline*

in the Basic Sciences. Students will learn the properties and processes of one or more basic component of the natural world.

The text being used for this course is Starr et. al (2010), ***Biology: A Human Emphasis***. I have found this text to be rigorous in content but useful in that it stresses the human relevance of biology. In addition, students will be assigned additional popular science articles (see attached syllabus for more detail)

This course will meet Goal 1 in multiple ways. First, biology is the study of life, and this course covers an overview of the major unifying characteristics of living things: 1) emergent properties along the varying scales of living things (Chapters 1,2,3,18), 2) the structure and function of cells (Chapter 4), 3) how living things obtain and use energy (Chapters 5,7), 4) genes as the information units of living things (Chapters 8,9,10), and 5) cell and organism reproduction (Chapters 11,12,13,14).

Secondly, since the student population will consist of exercise physiology and clinical laboratory science majors, all of this content will be placed within the context of relevant impacts on the human organism. Topics will include: 1) various human organ system overviews (Chapters 21,24,25,26,28), 2) biotechnology applications to human life (Chapter 15), 3) pathogens and human disease (Chapter 16), and 4) human population dynamics (Chapter 30).

2. Describe in enough detail that it is clear to the members of the AS committee how the course's content will meet Foundations Goal Two for its area. List examples of required course textbooks or other required materials that address the content described above.

Goal 2: Students will learn the research methodology, principles and concepts required to understand research in a basic science.

Biology, like all sciences uses tools to conduct research. In addition, there are fundamental methods, skills, and habits of mind common to all science disciplines. This course highlights the nature of scientific research within the context of biology (Chapter 1). Specifically, we will begin the course discussing the nature and process of experimental science and the evaluation of "good" science research and valid scientific arguments. Throughout the rest of the semester, students will be expected to read popular science articles as well as peer-reviewed journal articles and evaluate the validity of claims, arguments, and research assertions.

3. Describe in enough detail that it is clear to the members of the AS committee how the course's content will meet Foundations Goal Three for its area. List examples of required course textbooks or other required materials that address the content described above.

Goal 3: Students will learn about the discipline's contribution to general knowledge.

Biology is a basic science because the information found in the discipline helps to raise awareness of our species' place in the world and how we can (and cannot) control our world. These concepts are fundamental to what an educated person should know and will be highlighted throughout the semester.

All content topics will be placed within a relevant human context. Major relevant discussions for each unit are as follows: 1) During the section on emergent properties along the varying scales of living things we will discuss evaluation of "good" science in the popular media, human mercury toxicity, health impacts of trans fatty acids, adrenal gland disorders and diabetes, 2) During the section on structure and function of cells we will discuss stem cell research and *E. coli* contamination of food, 3) During the section on how living things obtain and use energy we will discuss drinking behavior and alcohol abuse, pneumonia and asthma, obesity and nutrition, 4) During the section on genes as the information units of living things we will discuss animal and human cloning, the human genome project, human genetic disease and human genetic testing, 5) During the section on cell and organism reproduction we will discuss cell cycles and cancers, genetics of skin color, and in-vitro fertilization, and 6) During the section on disease and human populations we will discuss HIV and AIDS, HPV and cervical cancers, and human impacts on the environment.

Finally, news articles on new research will be supplied outside of the textbook to supplement information and make it current and relevant.

4. If the course area is Health Promotion and Physical Activity or Writing Competency, describe the course's content in enough detail that it is clear to the members of the AS committee that the course will meet Foundations Goal Four for its area. List examples of required course textbooks or other required materials that address the content described above.
- C. The sample course syllabus should contain a schedule outlining what will be taught when during the semester. Be sure that the syllabus reflects coverage of areas included in Foundations Goals 1-3/4. Readings and assignments that meet the goals should be included in the syllabus. If there is something not covered that provides evidence that the course satisfies the foundations goals in its area (course pedagogy, etc.), describe it here.

- D. If it may not be clear to committee members how your course materials address the foundations goals then bring samples of course materials that will be used in the course that explicitly address all of the foundation goals for the course's area.
- E. If the course is an upper-division course (3xxx or 4xxx), briefly explain why students should get foundations credit for taking the course.