

Approval Form

Proposal Title: General Policy - Environmental Fees

Sponsor(s) H. Lee, M. Smith Dept.: Prov. Sec. Ext. _____

Check one: Course Specialization Concentration Minor Achievement Certificate
 Certification Program Major Program Minor Change (please name deletion or credit/title/catalog change)

Undergraduate Graduate _____ Credit Hours

<p>Step 1 (Department)</p> <p><input checked="" type="checkbox"/> Approved <u>10/22/07</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p><u>J. Reeves</u> Dept. Chairperson</p> <p><input checked="" type="checkbox"/> Reviewed <u>11/22/07</u> Date</p> <p><u>J. Reeves</u> Dept. Chairperson</p>	<p>Step 2 (Receipt)</p> <p><input type="checkbox"/> SCC# <u>9798-114</u></p> <p>Proposal Received <u>10-24-07</u> Date</p> <p><u>J. Reeves</u> SCC Chairperson</p>	<p>Step 3 (School CC)</p> <p>Reviewed <u>11/30/07</u></p> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p>Comments:</p> <p><u>[Signature]</u> School Curr Comm Chairperson</p>
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Step 4 (Academic Dean) **Comments:**

Recommend
 Not Recommend
 Conditionally Recommend (see comments)

Reviewed _____ Date _____

[Signature]
Signature, Dean of School

Step 5 (SCC)

Open Hearing _____ Approved by Senate Curriculum Committee _____ Date _____

Returned to sponsor(s) for the following reasons:

Step 6 (Senate)

Presented to Senate _____ Approved Not Approved
Date

Notification to Executive Vice President/Provost 11-25-08 [Signature]
Date Signature of Chairperson

Step 7 (Executive V.P./Provost)

Received _____

Date

If no, reasons are as follows.

Approved Yes No

Student credit hours 4

Faculty load hours 4

Equalized credit hours _____

2/27/98
1998

Official copy and approval sheet filed _____

Date

C. Matthews

Signature, Executive Vice-President/Provost

Registrar

Approved course description received _____

Date

Hegis Taxonomy and Course Number assigned 0401-112

E.G. Egan

Signature, Registrar

3/2/98

Date

Notification forwarded:

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean(s)
- Registrar
- Sponsor(s)

Transmitted
3/5/98

NEW COURSE PROPOSAL
0401.1xx GENERAL BIOLOGY: ENVIRONMENTAL FOCUS

1. **Details:**

a. **Course Title:** General Biology: Environmental Focus

b. **Sponsors:** Department of Biological Sciences

L. Stanton Hales, Jr., Ph.D., Assistant Professor
Patricia Mosto, Ph.D., Assistant Professor
Joanne Scott, Ph.D., Associate Professor

c. **Credit Hours:** 4 s.h.

d. **Course Level:**

Undergraduate; 100-level HEGIS number requested. General Education status has been requested. No credit towards the Biology major.

e. **Curricular Effect:**

This course is designed to offer a General Education laboratory course for students not majoring in the Biological Sciences. Although we assume that some non-majors will still enroll in Biology I and II, we anticipate that the majority of non-majors will opt for this course (or the analogous "General Biology: Human Focus", submitted under separate cover). Thus, the curricular effect will be to decrease the number of sections of Biology I and/or Biology II offered each semester, and to fill those sections with mostly Biological Sciences majors.

General Education status is requested for this course, as a science course with laboratory.

f. **Prerequisites:**

None.

g. **Suggested Time and Scale of Implementation:**

Effective Fall 1998. Each section of this proposed laboratory course can accommodate a maximum of 24 students.

h. **Adequacy of Present Staff, Resources, Library Facilities:**

All faculty members in the Department are capable of teaching this course. Since fewer Biology I and Biology II sections will need to be offered, faculty currently teaching Biology I and Biology II can be reassigned to teach the proposed course.

Library resources are adequate.

i. **Short-term Evaluation:**

The success of this course will be evaluated in the same manner as all other courses in the Department. That evaluation will include, but not be limited to, student evaluations.

2. **Rationale:**

The current General Education model requires each student to take a one-semester science course with laboratory. Currently students not majoring in the Biological Sciences can enroll in three such courses offered in the Biological Sciences: Biology I, Biology II, and Human Anatomy and Physiology I. Each of these courses is one-half of a two-semester sequence. The proposed course, "General Biology: Environmental Focus", is a "stand-alone" one-semester course, with the syllabus carefully designed to:

- 1) provide an intellectually challenging selection of topics of relevance to non-Biological Sciences majors;
- 2) provide hands-on laboratory experiences in activities more relevant to non-majors than to our majors, and which will help students visualize the concepts discussed in class;
- 3) permit the student to feel that he/she has completed a course in its entirety, rather than 1/2 of a 2-semester sequence.

Note should be made that this proposed course is not similar to the course entitled "Essentials of Biology". "Essentials of Biology" is a required course for Liberal Studies: Math/Science majors. (That course, and its unique syllabus, was approved by the University last year.) The course entitled "Essentials of Biology":

- a) is not a General Education course; it is intended to serve a specialized groups of students (Liberal Studies: Math/Science majors);
- b) has "Chemistry of Everyday Life" (or its equivalent) as a firm prerequisite, and therefore does not include an introduction to the basic chemistry needed to understand biology;
- c) has a significantly different syllabus because it is part of a required two-semester biology sequence within the carefully designed Liberal Studies: Math/Science major; (the second course is "Principles of Ecology");
- d) is carefully integrated with the other science and math courses that all Liberal Studies: Math/Science majors are required to take;
- e) is limited to Liberal Studies: Math/Science majors except on a seat-available basis.

3. Essence of the Course:

a. Objectives:

This is a laboratory course in Biology for non-Biological Sciences majors. The major objectives of this course are to introduce fundamental biological concepts and expose students to global and regional issues affecting humans and life on earth. Although many non-environmental topics will be discussed, the topics will be related to the environment as much as possible. For example, photosynthesis will be addressed along with its role in modifying the earth's atmosphere. In like manner, the mechanism of evolution (*i.e.*, natural selection) will be discussed, but with emphasis placed on how this mechanism brought about the earth's flora and fauna. This is, however, not a course in Ecology or in Environmental Science; therefore, to provide a broad-based introduction to the basic concepts of the Biological Sciences, topics such as taxonomy, origin of life, and aerobic respiration will be discussed, and a survey of the five kingdoms of living organisms will be presented.

b. Topical Outline/Content:

Section 1: The Dynamic Earth

A historical perspective of planet earth that emphasizes the physical backdrop of the earth against which life has evolved. This section will look at the earth's history and the major developments and changes that occurred, including:

- 1) the origin of life
- 2) photosynthesis and atmospheric conversion
- 3) the evolution of sexual reproduction
- 4) symbiosis and the origin of eukaryotic cells
- 5) aerobic respiration
- 6) evolution of multicellular life: Burgess shales, Cambrian explosion, etc.
- 7) continental drift

Section 2: Global, National and Regional Biodiversity

A general systematic survey of modern kingdoms, with snapshots to emphasize critical habitats and modern conservation problems.

Section 3: General Biological and Ecological Principles

- 1) population and community ecology
- 2) predation, parasitism, environmental changes
- 3) ecosystem diversity and function
- 4) energetics, including physiological ecology and body size, trophic pyramids, and ecological efficiency

Section 4: Human Ecology and Impacts

- 1) human population growth and its problems, including disease, nutrition, and human health
- 2) land use patterns and problems, including pollution, fragmentation, and sustainable development
- 3) energy consumption and problems, including global climate change, ozone, and acid rain

Topic Outline/Content (continued):

Laboratory exercises will include microscopy, dissections, and computer-simulated experiments. These exercises will be chosen with non-science majors in mind.

c. Evaluation and Grading Procedure of Students:

Students will be graded on the basis of their performance on several hour exams plus a final exam. In addition, they will be graded on their laboratory reports as well as on their performance in the laboratory. Classroom discussion is encouraged as part of the general learning process. At the discretion of the particular instructor, students may also be assigned papers and/or oral reports.

d. Course Evaluation:

The Biological Sciences Department, as a whole, routinely reviews the Department's courses to assess the courses' success in meeting the goals and objectives of the College and the Program.

4. Results of Consultation:

For many years, informal discussions in the All-University Curriculum Committee, prompted by representatives from many Academic Departments, have occurred with respect to the need for such a course.

This course was designed through consensus of the Biological Sciences faculty. No other Rowan University Department offers a course with similar content.

5. Possible Textbooks and Laboratory Manuals Used for the Course:

Since courses of this genre are offered in most colleges and universities throughout the country, publishers have many such texts to offer. The Department will work together to select appropriate textbooks and laboratory manuals.

6. Catalog Description:

See next page.

CATALOG DESCRIPTION

General Biology: Environmental Focus 0401.1XX
(Prerequisite: None.)

4 s. h.

This one-semester laboratory course provides an introduction to the basic concepts of the biological sciences, including, but not limited to, origin of life, evolution of multicellular organisms, population and community ecology, and a survey of the modern kingdoms of living organisms. Emphasis will be placed on ecological and conservation problems. Laboratory exercises enable the student to visualize many of the concepts discussed in class. No credit toward biology major.