

**ILLINOIS STATE UNIVERSITY
UNDERGRADUATE PROGRAMS
REQUEST FOR NEW PROGRAM APPROVAL
(Reporting of Financial Implications)**

Purpose: Proposed new undergraduate programs (degrees, sequences, certificates) must include information concerning how the program will be financially supported to proceed through the curriculum proposal process. Signatures of the College Dean and Provost/Provost Representative are required prior to submission of the new program to the College Curriculum Committee.

Procedure: This completed form, with all necessary signatures, is to be attached to new program curricular proposals.

Definition: A "program" can be either a degree, a sequence as part of a degree or a certificate.

Complete the following information:

Department: Biological Sciences Date: 10 September, 2004

Proposed New Program: Organismal Biology and Public Outreach Sequence

Person Completing Form: J. E. Armstrong Contact #: 438-2602

Complete Table I to show student enrollment projections for the program.

Table I

STUDENT ENROLLMENT PROJECTIONS FOR THE NEW PROGRAM

	1 st Year (July – June)	2 nd Year	3 rd Year	4 th Year	5 th Year
Number of Program Majors (Fall headcount)	10	20	20	20	20
Annual Full-Time-Equivalent Majors					
Annual Credit Hours in EXISTING Courses ¹	40	40	40	40	40
Annual Credit Hours in NEW Courses ¹	0	0	0	0	0
Annual Number of degrees Awarded	10	20	20	20	20

¹Include credit hours generated by both majors and non-majors in courses offered by the academic unit directly responsible for the proposed program.

Complete Table II (even if no new funding is requested). Show all required resources including amounts and sources of funds reallocated from other programs or units.

Table II

PROJECTED RESOURCE REQUIREMENTS FOR THE NEW PROGRAM

	1 st Year (July – June)	2 nd Year	3 rd Year	4 th Year	5 th Year
FTE Staff ¹ (FTE)	0	0	0	0	0
Personnel Services (\$)	0	0	0	0	0
Equipment and Instructional Needs (\$)	0	0	0	0	0
Library (\$)	0	0	0	0	0
Other Support Services ² (\$)	0	0	0	0	0

¹Reflects the number of FTE staff to be supported with requested funds. Not a dollar entry.

²Other dollars directly assigned to the program. Do not include allocated support services.

Budget narrative listing projected sources of program funding (including sources of reallocated funds).

No new funds are requested for this sequence.

Routing and action summary:

1. _____
Department/School Curriculum Committee Chair Date Approved
2. _____
Department Chairperson/School Director Date Approved
3. _____
College Dean Date Approved
4. _____
Provost/Provost Representative Date Approved
5. _____
College Curriculum Committee Chairperson Date Approved
6. _____
Teacher Education Council Chair Date Approved
7. _____
University Curriculum Committee Chairperson Date Approved

Once approved, include this form with the curricular proposal for the new program. Please also submit an electronic copy of this form.

**NEW, REVISED, OR DELETED PROGRAM COVER SHEET
2004-2005**

**University Curriculum Committee
Undergraduate Programs (Majors, Minors, Sequences)**

DEPARTMENT/SCHOOL - **Biological Sciences** DATE - **10 September 2004**

A. **Proposed Action:** (more than one item may be checked if a revision).

- New Major CIPS CODE _____ (obtain from Planning, Policy Studies and Info Systems)
- New Minor CIPS CODE _____ (obtain from Planning, Policy Studies and Info Systems)
- New Sequence
- Change in requirements for major
- Change in requirements for minor
- Change in requirements for sequence
- Other program revisions
- More than 50% of courses in this program are distance education.
- Program deletion

B. **Summary of proposed action** (see Part A), including title and exact *Undergraduate Catalog* copy for a new or altered program. (See *Catalog* and Program Checklist for format and examples.) Provide a summary of the revisions in addition to the exact current *Catalog* copy.

New sequence in Biological Sciences BS degree: Organismal Biology and Public Outreach.

C. **Routing and action summary:**

_____	_____	4. _____	_____
Department/School Curriculum Committee	Date Approved	College Dean	Date Approved
_____	_____	5. _____	_____
Department Chair or School Director	Date Approved	Teacher Education Council Chair if appropriate (10 copies to the Dean of the College of Education)	Date Approved
_____	_____	6. _____	_____
University Curriculum Committee Chair	Date Approved	University Curriculum Committee Chair (8 copies to the Catalog Editorial Assistant, Moulton 109)	Date Approved

NEW SEQUENCE REQUEST

1. Name of Institution: **Illinois State University**
2. Title of the Sequence: **Organismal Biology and Public Outreach Sequence, BS in Biological Sciences.**
3. 6-Digit CIPS Code:
4. Proposed Date for Initiation of Program: **August 2005.**
5. Date of Submission: **10 October 2004.**
6. Abstract: The proposed sequence will provide a subset of biology majors with an expertise in organismal biology (behavior, ecology, evolution, and systematics: BEES) and prepare them for careers in public outreach, science education aimed at the general public. The unique component of this sequence is the use of professional practice and collaboration with local and regional organizations to provide the needed practical experience.

Catalog copy

Organismal Biology and Public Outreach Sequence:

Majors selecting this sequence seek broad organismal expertise and experience in public outreach for science education. This sequence is designed for students seeking educational jobs and careers in arboreta, botanical gardens, environmental and nature centers, museums, and zoos. The minimum requirements for this sequence are:

- 39 total hours required in biological sciences (23 hours of core courses and 14 hours in organismal courses and 2 hours of Professional Practice).
- 23 hours of core courses required: BSC 196, 197, 201, 203, 219, 297, and 304.
- 14 hours minimum in organismal courses of which at least two must be laboratory courses (*): BSC 211*, 212*, 222*, 223*, 283*, 286*, 290, 292*, 295*, 296, 301*, 308*, 325*, 330*, 334*, 335/336*, 337*, 378/379*, 395*, 396*.
- Obtain a minimum of 120 hours of direct experience in public outreach (2 credit hours of Professional Practice, BSC 398).
- A laboratory course in organic chemistry (CHE 220 or 230 and 231), a laboratory course in general physics (PHY 105, 108, or 110), and Mathematics (MAT 121 or 146).

Description of the Proposed Sequence

The proposed sequence will be part of and shares a core curriculum with the Biological Sciences major leading to a BS degree. This sequence will assist students in developing an expertise and the experience necessary to successfully compete for jobs in botanical gardens, museums, nature centers, parks, and zoos, a field of science education broadly called public outreach. Illinois has many institutions and organizations that present biologically based educational programs to the general public, and development of such educational programs is becoming increasingly common in city, state, and national parks. Such organizations and programs add considerable value to the state and their local communities. As such we will be responding to this need for well-prepared employees with experience in public outreach. At present no similar sequence or program exists at Illinois institutions of higher learning.

The key conceptual component of this proposed sequence is the combining of a set of organismal courses (ecology, evolution, & taxon based) with practical experience gained through professional practice in public outreach at local and regional organizations that have science programs aimed at students of all ages. These may include, but are not limited to: Miller Park Zoo, Fell Arboretum, Children's Discovery Museum, Ecology Action Center, Sugar Grove Nature Center, Lakeview Museum, Morton Arboretum, Chicago Botanic Garden. Appendix A lists all of the organizations at which biological sciences majors have gained professional practice over the past 10 years.

Rationale: Why have this sequence?

The primary reason is to enhance the career success of graduates of ISU's Biological Sciences major. An organized sequence calls attention to and labels this specific expertise and their experience. Even without this sequence, a number of students obtain an organismal expertise, experience in public outreach, and seek employment in this field. So, in a manner of speaking, we were already producing the product, but we expect better sales with new attractive packaging. The addition of this sequence to the Biological Sciences major has the benefit of informing incoming students of career opportunities that many are unaware of. The decision to initiate this sequence is born of the success our graduates have had in such positions, of their satisfaction with working at these types of institutions in the area of public outreach, and of the interests of a certain subset of Biological Sciences majors who desire neither to attend professional school nor teach in high schools. Yet these students enjoy biology and have a sincere interest in sharing their knowledge through informal science education programs.

To fulfill its mission of providing the premier undergraduate education in Illinois, it is imperative that we adequately prepare our students for all the many diverse careers for which Biological Sciences is an appropriate major. The proposed program takes advantage of both ISU's own facilities, e.g., Fell Arboretum, the Birkenholz Natural History Collection, and the Vasey Herbarium, and the proximity of so many organizations engaged in informal science education. An active interaction between ISU's faculty and students, and area and regional organizations engaged in science education is an important collaboration to cultivate. Not only that, ISU's Fell Arboretum, our biggest classroom, has been very much underutilized and its educational outreach potential remains under-developed. This sequence will provide an impetus to Fell Arboretum's educational development.

As state and national concerns increase about the decline in science literacy, these diverse organizations are playing bigger roles in educating the general public. Just as the BMB program seeks to improve our graduates' technological preparation for the Illinois workforce, this sequence seeks to improve our graduates' educational preparation in a particular area and for a particular type of science education. The subject matter emphasis on organismal courses and evolutionary/ecological subjects matches the areas of public interest at botanic gardens, museums, nature centers, and zoos, and when combined with practical experience in public outreach and informal science education, the two activities become mutually supportive.

In brief the proposed sequence has as its goals:

- i. providing students with more subject matter depth and breadth in organismal biology;
- ii. providing students with experience in public outreach and informal science education via professional practice;
- iii. establishing a working collaboration with local and regional organizations, botanic gardens and arboreta, museums, zoos, nature centers, and all other organizations that have science education as a component of their activities;
- iv. informing students about and prepare students for career opportunities in public outreach.

Expected impact on existing campus programs

The students enrolled in this sequence will be Biological Science majors anyways, so there would be no impact on enrollments in core courses in Biological Science, other science departments, or mathematics. This proposal is not anticipated to have significant impact on any existing campus programs, except, perhaps, resulting in a modest increase in Biological Sciences majors through greater retention of majors, who might have left the program because they perceived no career opportunities to their liking.

Curricular changes and new courses

The proposed sequence does not require any new courses. A numbered section of Professional Practice might be labeled so that it showed on the transcript as Professional Practice in Public Outreach.

Staffing and Resources

Presently all of the necessary courses are being taught by extant faculty, so no additional staffing is required by this sequence. Presently many organismal courses are somewhat under enrolled, so an increased enrollment will be absorbed by existing sections. Since professional practice is being conducted off campus in a collaborative manner, an increased enrollment requires no additional funds.

Letters of support

The following organizations have supplied letters (text reproduced below; copies of originals attached to hard copies) in support of the proposed sequence: Ecology Action Center, Sugar Grove Nature Center.

Appendix A: Area and Regional Organizations where Biology Majors have conducted organismally based Professional Practice.

Illinois Dept. of Natural Resources
Vasey (ISU) Herbarium
Birkenholz Natural History Collection
Forest Park Nature Center
Lake Le-Aqua-Na State Park
Miller Park Zoo
Ecology Action Center
Shedd Aquarium
Glen Oak Zoo
Minnesota Zoo

Letters of support

Sept. 14, 2004

Dear Dr. Capparella:

I strongly support the addition of the Organismal Biology and Public Outreach sequence to the Illinois State University Biological Sciences Undergraduate [BS] Program. During my 12+ years as Director of the Douglas-Hart Nature Center in Mattoon, Illinois, I employed over 30 full-time and seasonal staff to fulfill environmental education and natural resource management positions. I have always required a degree (or current coursework) pertaining to the biological sciences as opposed to recreation or education degrees. In fact, while in the Charleston (Mattoon) area, I worked with many Eastern Illinois University students to guide them in selecting the coursework that would benefit them the most in pursuing a career in the nature center profession.

Having a strong education in biology is important. But, having the education and training to share this education through programming and day-to-day interactions with the public is crucial. This is something that cannot be taught in the classroom. It comes with experience. Unfortunately, there are few opportunities at institutes of higher learning, both within Illinois and throughout the nation, for individuals seeking a career in biological sciences with a public outreach component (i.e., nature centers, museums, environmental centers). Illinois State University would be unique in this respect.

In addition to my work experience, through my involvement in the Environmental Education Association of Illinois and especially as the current president elect, I've had the opportunity to work with many administrators at environmental education/nature centers throughout the state. They also agree that appropriate programs, on the college level, that prepare students for a career in the field are lacking. Filling positions with qualified candidates is often a great challenge. The Environmental Education Association of Illinois is constantly striving to improve environmental literacy and Illinois State University's proposed Degree addition would assist in carrying out our mission.

Finally, as new Director of the Sugar Grove Nature Center in McLean, Illinois, I look forward to working with Illinois State University by offering independent study and internship opportunities. Not only will the students benefit the nature center, but my goal is to provide opportunities and leadership for them to develop and improve upon their skills, creating graduates that are marketable as they enter the workforce.

If you have any questions or would like further input in developing the Organismal Biology and Public Outreach Sequence, please call me at (309) 874 2174.

Sincerely,

Angela M. Smith, Director
Sugar Grove Nature Center

9 September 2004

Dear Dr. Armstrong:

The Ecology Action Center would like to express its support for the Organismal Biology and Public Outreach Sequence. We not only see this as very beneficial to Illinois State University Biology students, we hope to be able to participate as one of the partner agencies. We have an established track record of working with ISU interns and feel that they not only do they make up a critical part of our work force, they gain valuable experience in applying their academic skills to practical situations.

The Ecology Action Center is a not-for-profit environmental education center located near the ISU campus. We provide the Solid Waste Education program for McLean County and a Regional Energy Program for Bloomington-Normal. In addition, we have numerous nature education and environmental education programs for a variety of different groups. Several of our staff including the Director and Assistant Director has graduate degrees in the Biological Sciences.

We hope that ISU Biological Sciences is successful in adopting this sequence and we hope we can work with you in the future.

Sincerely,

Michelle Covi, Director
Ecology Action Center
(original printed on 100% post-consumer waste)