PROGRAM DESCRIPTION AND EXPLANATIONS

Institution: Illinois State University

Responsible department/school or administrative unit: Department of Biological Sciences

Proposed Program Title: Ph.D. Sequence in Behavior, Ecology, Evolution, and Systematics (BEES)

Previous program title (if applicable): NA

CIPS classification (applicable to new program): 26.0101

Date of Implementation: June 2005

Description of proposed program or name change: We propose that BEES Ph.D. students take a limited number of 'core' courses and several 'concentration' courses to provide students with a strong conceptual background. This broad training is to be followed by elective courses tailored to meet specific student needs and interests. Determination of need of any additional courses will be solely at the discretion of the faculty advisor, the student, and the student's graduate committee. The objectives of the proposed sequence include: (1) To provide a focused learning environment for students enrolled in the BEES Sequence through participation in selected courses with the goal of improving the educational experience of BEES Ph.D. students. (2) To demonstrate to prospective students that the BEES Sequence has offerings in their area of conceptual interest. (3) To enhance the effectiveness of the BEES graduate training sequence by creating a 'cohort' experience for new graduate students. (4) To establish a cohesive set of research, learning, and training opportunities for graduate students.

BEES Core

Evolution (BSC 470), Biostatistics & Biostatistics Laboratory (BSC 490, 420.27), Seminar (BSC 420) (total 2 credit hours), and Analytical/Communication Tools for Biologists (BSC 462)

BEES Sequence Courses (Minimum of three conceptually-based courses required)

Community Ecology (BSC 405) (4), Ecological Physiology of Animals (BSC 325) (3), Ethology (BSC 486) (4), Evolutionary Population Genetics (BSC 471) (3), Limnology (BSC 378/379) (3-4) or Stream Ecology (BSC 375/376) (3-4), Phycology (BSC 330) (4), Plant Ecology (BSC 403) (4), Population Ecology (BSC 404) (4), Restoration Ecology (BSC 337) (3) or Conservation Biology (BSC 406) (3), Systematic Biology (BSC 488) (3), and Plant Taxonomy (BSC 335) (3-4).

BEES Recommended Electives (the major professor and student's committee will determine electives from those listed below and other suitable courses):

Advanced Area Studies
Advanced Cell Biology (BSC 415) (3), Immunology (BSC 367) (4), Introduction to Endocrinology (BSC 345) (3), Introduction to Neurobiology (BSC 343) (3), Parasitology (BSC 383) (4), Virology (BSC 368) (4), and other courses in the concentration

Techniques
Advanced Studies in Biostatistics (BSC 450.37) (3), Biotechnology Laboratory I: DNA Techniques (BSC 353) (3), Biological Microscopy (4) (BSC 418), Geographic Information Systems (3) (GEO 303), Geographic Information Systems and Applications (GEO 304) (3)

Organismal Courses
Avian Biology (BSC 396) (4), Biology of the Lower Vertebrates (BSC 395) (4), Entomology (BSC 301) (4), Field Biology (BSC 308) (3), Introductory Mycology (BSC 334) (4), Tropical Rainforest Ecology (BSC 306.08) (2), and other courses in the concentration.

Catalogue Copy:

Ph.D. in Biological Sciences

. . .liberal arts colleges and comprehensive universities. Students may elect to pursue a sequence in Behavior, Ecology, Evolution, and Systematics (BEES), which includes additional requirements (see below). Course work will include BSC 420-Seminar (4 semester hours). The typical program is approximately 80 hours.

Behavior, Ecology, Evolution, and Systematics (BEES): Students pursuing the Ph.D. may elect to pursue a Sequence in Behavior, Ecology, Evolution, and Systematics, a course of study that provides students with a strong conceptual background in whole-organism biology. The sequence is designed to enhance students' understanding of the underlying concepts that unite research in the areas of behavior, ecology, evolution, and systematics while providing the opportunity for training in specific taxa and in subjects ranging from molecular and cellular biology to neurobiology, physiology, and advanced research techniques. In addition to 4 hours of BSC 420 and 15 hours of dissertation (BSC 599), students are required to take 8 hours of sequence core courses (BSC 470, 490, 420.27, and 462) and 3 additional sequence courses (9-12 hours) chosen from BSC 325, 330, 335, 337, 375/376, 378/379, 403, 404, 405, 406, 471, 486, 488. Elective courses (unspecified hours) are selected through consultation among the major professor, the student's committee, and the student. For further information, see the Department's Web site at www.bio.ilstu.edu.

Rationale for proposal: We see the sequence serving two purposes: first, to assist in recruiting Ph.D. graduate students, and, second, to strengthen the training of these students. The conceptually-based courses illustrate our particular strengths, which should, in turn, assist in attracting prospective graduate students to our program. In addition, a strong group of Ph.D. students in the BEES Sequence will help to strengthen the pool of graduate students coming to our department in all areas. This framework provides students with formal training that includes a broad conceptual foundation in the areas covered by the BEES Section. We feel that students need to develop a solid conceptual foundation to become successful scientists and a structured approach will assure that this occurs. This program will also assist students in focusing their own training.

Expected impact of proposal on existing campus programs: The proposed BEES Sequence will not affect other existing campus programs. We anticipate that the creation of the Sequence will help to attract a modest number (1-2 per year) of high quality Ph.D. students to the Department of Biological Sciences' graduate program. The program has the capacity to accept these additional students

Expected curricular changes, including new courses: Currently, the Department will use all existing

courses. In the future, however, it is anticipated that a 1 credit new course, BSC 464, will replace BSC 462 (1 credit) and BSC 463 (1 credit). This anticipated replacement of 1 credit is noted in the Financial Implications form.

Anticipated staffing arrangements: The courses required in the Sequence are already being taught (with the exception of the new course, BSC 464), and, thus, are already integrated into regular course schedules and teaching assignments. The new course, BSC 464 (1), is replacing two current 1-hour courses.

Anticipated funding needs and source of funds: Establishment of the Sequence requires no new funds.

ILLINOIS STATE UNIVERSITY
GRADUATE PROGRAMS
REQUEST FOR NEW PROGRAM APPROVAL

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: Sept 6, 2004

Proposed New Program: Sequence in Behavior, Ecology, Evolution, and Systematics (BEES) (Ph.D. degree)

Person Completing Form: C F Thompson Contact #: 8-2656

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

Table I
STUDENT ENROLLMENT PROJECTIONS FOR THE NEW PROGRAM

	1st Year (July – June)	2nd Year	3rd Year	4th Year	5th Year
Number of Program Majors (Fall headcount)	2	4	4	4	4
Annual Full-Time-Equivalent Majors	2	4	4	4	4
Annual Credit Hours in EXISTING Courses[1]	18	36	36	36	36
Annual Credit Hours in NEW Courses[1]	1	1	1	1	1

Annual Number of degrees Awarded	0	0	0	2	4

[1]Include 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

-	1st Year (July – June)	2nd Year	3rd Year	4th Year	5th 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

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

[2]Other 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 required.

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.