REQUEST FOR COURSE CHANGE (MAJOR AND MINOR)

Signature Routing Log

General Information:

Course Prefix and Number: BIO 325

Proposal Contact Person Name: Ruth E. Beattie Phone: 257-7647 Email: rebeat1@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Biology Faculty	04/18/09	Dr. Vincent Cassone / 257-6766 / vincent.cassone@uky.edu	
		/ /	
A&S EPC	04/27/10	Ruth Beattie / 7-7647 / rebeat1@uky.edu	
A&S Associate Dean	4/27/10	Anna bosch / 7-6689 / bosch@uky.edu	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[8]
Undergraduate Council	9/14/2010	Sharon Gill	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[8] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Rev 8/09

REQUEST FOR COURSE CHANGE (MAJOR AND MINOR)

Complete 1a – 1f & 2a – 2c. Fill out the remainder of the form as applicable for items being changed.

1. General Information.

a. Submitted by the College of: A & S Today's Date: April 22, 2010

b. Department/Division: Biology

c. Is there a change in "ownership" of the course? YES ☐ NO ☒

If YES, what college/department will offer the course instead? _____

d. What type of change is being proposed? ☒ Major ☐ Minor[1] (place cursor here for minor change definition)

e. Contact Person Name: Ruth E. Beattie Email: rebeat1@uky.edu Phone: 257-7647

f. Requested Effective Date: ☐ Semester Following Approval OR ☒ Specific Term[2]: Spring 2011

2. Designation and Description of Proposed Course.

a. **Current Prefix and Number:** BIO 325 *Proposed Prefix & Number:* *no change*

b. **Full Title:** Introductory Ecology *Proposed Title:* *Ecology*

c. **Current Transcript Title** (if full title is more than 40 characters): _____

c. *Proposed Transcript Title (if full title is more than 40 characters):* _____

d. **Current Cross-listing:** ☒ N/A OR Currently[3] Cross-listed with (Prefix & Number): _____

Proposed – ☐ *ADD[3] Cross-listing (Prefix & Number):* _____

Proposed – ☐ *REMOVE[3,4] Cross-listing (Prefix & Number):* _____

e. **Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[5] for each meeting pattern type.**

Current: 3 Lecture _____ Laboratory[5] 2 Recitation _____ Discussion _____ Indep. Study
_____ Clinical _____ Colloquium _____ Practicum _____ Research _____ Residency
_____ Seminar _____ Studio _____ Other – Please explain: _____

Proposed: *3 Lecture* *3 Laboratory* _____ *Recitation* _____ *Discussion* _____ *Indep. Study*
_____ *Clinical* _____ *Colloquium* _____ *Practicum* _____ *Research* _____ *Residency*
_____ *Seminar* _____ *Studio* _____ *Other – Please explain:* _____

f. **Current Grading System:** ☒ Letter (A, B, C, etc.) ☐ Pass/Fail

Proposed Grading System: ☒ *Letter (A, B, C, etc.)* ☐ *Pass/Fail*

g. **Current number of credit hours:** 4 *Proposed number of credit hours:* *no change*

h. **Currently, is this course repeatable for additional credit?** YES ☐ NO ☒

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[1] See comment description regarding minor course change. *Minor changes are sent directly from dean's office to Senate Council Chair.* If Chair deems the change as "not minor," the form will be sent to appropriate academic Council for normal processing and contact person is informed.

[2] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

[3] Signature of the chair of the cross-listing department is required on the Signature Routing Log.

[4] Removing a cross-listing does not drop the other course – it merely unlinks the two courses.

[5] Generally, undergrad courses are developed such that one semester hr of credit represents 1 hr of classroom meeting per wk for a semester, exclusive of any lab meeting. Lab meeting generally represents at least two hrs per wk for a semester for 1 credit hour. (See *SR 5.2.1.*)

REQUEST FOR COURSE CHANGE (MAJOR AND MINOR)

Proposed to be repeatable for additional credit? YES ☐ NO ☒

If YES: Maximum number of credit hours: _____

If YES: Will this course allow multiple registrations during the same semester? YES ☐ NO ☐

i. **Current Course Description for Bulletin:** . BIO 325 INTRODUCTORY ECOLOGY. (4)
This course introduces students to the basic concepts in ecology. Topics covered include: adaptations of organisms to the environment; factors that influence the distribution and abundance of species; population structure, dynamics, and regulation; community development (succession), structure and function; food webs, energy flow, and nutrient cycling. Lecture, three hours; recitation, two hours per week. Prereq: BIO 150 and BIO 152 or consent of instructor.

Proposed Course Description for Bulletin: *BIO 325 ECOLOGY (4).*
This course introduces the scientific study of relationship between organisms and their environment. The course is structured around levels of organization—from physiological ecology to individuals, populations, communities, ecosystems, landscapes, regions, and the biosphere. Students will be expected to develop a solid knowledge base and understanding of key concepts and issues in contemporary ecology; to become familiar with how ecological understanding is attained by researchers; and to see how ecological knowledge and methods can be used to address important societal problems. Lecture, three hours per week; laboratory, an average of three hours per week. Prereq: BIO 150 – 153 or equivalent introductory biology sequence; BIO 304 or equivalent genetics course; or consent of instructor.

j. **Current Prerequisites, if any:** BIO 150 - 153 or consent of instructor

Proposed Prerequisites, if any: *Prereq: BIO 150 – 153 or equivalent introductory biology sequence; and BIO 304 or equivalent genetics course; or consent of instructor.*

k. Current Distance Learning(DL) Status: ☒ N/A ☐ Already approved for DL* ☐ *Please Add*[6] ☐ *Please Drop*

*If already approved for DL, the Distance Learning Form must also be submitted unless the department affirms (by checking this box ☐) that the proposed changes do not affect DL delivery.

l. **Current Supplementary Teaching Component, if any:** ☐ Community-Based Experience ☐ Service Learning ☐ Both

Proposed Supplementary Teaching Component: ☐ *Community-Based Experience* ☐ *Service Learning* ☐ *Both*

3. **Currently, is this course taught off campus?** YES ☐ NO ☒

Proposed to be taught off campus? YES ☐ NO ☒

4. **Are significant changes in content/teaching objectives of the course being proposed?** YES ☒ NO ☐

If YES, explain and offer brief rationale:

The course will include an embedded laboratory experince. This replaces an embedded recitation experience. This revision was made as a result of a comprehensive review and revison of the current biology undergraduate program and also in response to feedback on the most recent Departmental review. The inclusion of the laboratory

[6] You must *also* submit the Distance Learning Form in order for the course to be considered for DL delivery.

component will enhance the current course. Students will develop practical laboratory skills and will apply those skills to knowledge learned in the classroom to address a biological problem.

5. Course Relationship to Program(s).

a. Are there other depts and/or pgms that could be affected by the proposed change? YES ☒ NO ☐

If YES, identify the depts. and/or pgms: *BIO 325 is a required course in the BS and BA in Biology programs, This course change does not change any of the degree requirements for either program*

The BIO 325 course is an option for the B.S. in Landscape Architecture. In the past 5 semesters only 7 LA students have taken this option. LA students generally do not met the pre-requisite requirements of BIO 150 - BIO 153. Given that these courses continue to be pre-requisites for the proposed revised course - no change is expected in the enrollment levels of LA students in this course.

This course is a requirement in the BA in Education with a major in Seconday Education, Biological Sciences Major - This course change will not impact this program. See e-mail from Associate Dean Sandidge (College of Education).

FW: another biology course change : Changes to BIO 325 course
Sandidge, Rosetta
You replied on 4/21/2010 9:30 PM.
Sent: Wednesday, April 21, 2010 4:39 PM
To: Beattie, Ruth E

Dr. Beattie,
It sounds as if our science education faculty approve of the changes to BIO 325. Thank you for jogging my memory that I had not responded. I apologize.
Best,
Rosetta

Rosetta F. Sandidge, Ed.D.
Associate Dean for Academic and Student Services
College of Education
University of Kentucky
166 Taylor Education Building
Lexington, KY 40506-0001
Phone: 859-257-8847
FAX: 859-323-3887
URL: www.uky.edu/Education

The space needed to implement the laboratory component of this course is available.

b. Will modifying this course result in a new requirement[7] for ANY program? YES ☐ NO ☒

If YES[7], list the program(s) here: _____

6. Information to be Placed on Syllabus.

a. ☐ Check box if changed to 400G or 500. If changed to 400G- or 500-level course you must send in a syllabus and *you must include the differentiation* between undergraduate and graduate students by: (i) requiring additional assignments by the graduate students; and/or (ii) establishing different grading criteria in the course for graduate students. (See *SR 3.1.4.*)

[7] In order to change a program, a program change form must also be submitted.

BIO 325

University Senate Syllabi Guidelines

General Course Information

- ☑ Full and accurate title of the course.
- ☑ Departmental and college prefix.
- ☑ Course prefix, number and section number.
- ☑ Scheduled meeting day(s), time and place.

Instructor Contact Information (if specific details are unknown, "TBA" is acceptable for one or more fields)

- ☑ Instructor name.
- ☑ Contact information for teaching/graduate assistant, etc.
- ☑ Preferred method for reaching instructor.
- ☑ Office phone number.
- ☑ Office address.
- ☑ UK email address.
- ☑ Times of regularly scheduled office hours and if prior appointment is required.

Course Description

- ☑ Reasonably detailed overview of the course.
- ☑ Student learning outcomes.
- ☑ Course goals/objectives.
- ☑ Required materials (textbook, lab materials, etc.).
- ☑ Outline of the content, which must conform to the Bulletin description.
- ☑ Summary description of the components that contribute to the determination of course grade.
- ☑ Tentative course schedule that clarifies topics, specifies assignment due dates, examination date(s).
- ☑ Final examination information: date, time, duration and location.
- ☑ For 100-, 200-, 300-, 400-, 400G- and 500-level courses, numerical grading scale and relationship to letter grades for *undergraduate* students.
- N/A ☐ For 400G-, 500-, 600- and 700-level courses, numerical grading scale and relationship to letter grades for *graduate* students. (Graduate students cannot receive a "D" grade.)
- ☑ Relative value given to each activity in the calculation of course grades (Midterm=30%; Term Project=20%, etc.).
- ☑ Note that undergraduate students will be provided with a Midterm Evaluation (by the midterm date) of course performance based on criteria in syllabus.
- ☑ Policy on academic accommodations due to disability. Standard language is below:

  If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Course Policies

- ☑ Attendance.
- ☑ Excused absences.
- ☑ Make-up opportunities.
- ☑ Verification of absences.
- ☑ Submission of assignments.
- ☑ Academic integrity, cheating & plagiarism.
- ☑ Classroom behavior, decorum and civility.
- N/A ☐ Professional preparations.
- ☐ Group work & student collaboration.

BIO 325 Ecology

Instructor: TBA	**TA's: TBA**
Office:	**Office:**
Phone:	**Phone:**
E-mail/Web site:	**E-mail:**
Office Hours:	**Office Hours:**
Lecture time/location:	**Lab time/location:**

Course Description: BIO 325 ECOLOGY (4).
This course introduces the scientific study of relationship between organisms and their environment. The course is structured around levels of organization—from physiological ecology to individuals, populations, communities, ecosystems, landscapes, regions, and the biosphere. Students will be expected to develop a solid knowledge base and understanding of key concepts and issues in contemporary ecology; to become familiar with how ecological understanding is attained by researchers; and to see how ecological knowledge and methods can be used to address important societal problems. Lecture, three hours per week; laboratory, an average of three hours per week, including four Saturday exercises. Prereq: BIO 150 – 153 or equivalent introductory biology sequence; Bio 304 or equivalent genetics course; or consent of instructor.

Main objectives: a) To introduce the student to key ecological concepts across levels of organization: organismal, population, community, ecosystem, landscape, regional, and global. b) To challenge the student to think critically about the ideas presented, including the formulation and testing of hypotheses.

Format: Each week there will be two 75-minute lectures and one 3-hour laboratory. In lecture your participation is **strongly encouraged.** To this end, questions will be posed to solicit responses, verbal or written, to help you evaluate your grasp of the topics being covered. In laboratory, your participation is **required.** On the first day of laboratory you will receive a handout of the topics to be covered in this component of the course. The first day of laboratory will begin in the last week of January. More information about the laboratory component is included below.

Grades: Three exams will each be 25% of your course grade; the other 25 % will be based on your performance in the laboratory. The grading scale will be as follows: A=90-100%; B=80-89.9%; C= 70-79.9%; D= 60-69.9%; E < 60%. There will be no extra credit.

Missed exams: A missed exam will result in a score of zero, unless an acceptable excuse is presented to the instructor within one week of the missed exam. Excused absences as defined by the University include 1) serious illness; 2) illness or death of family member; 3) University-related trips (S.R. 5.2.4.2.C); 4) major religious holidays; 5) other circumstances the instructor find to be "reasonable cause for nonattendance". Please note, however, that make-up exams can be a mixture of multiple choice, fill-in-the-blank and/or short essay questions.

Student Code: Students are expected to abide by the UK Student Code (http://www.uky.edu/StudentAffairs/Code/); thus, no cheating of any kind will be tolerated. Cheating is a serious academic offense. Persons found to be cheating during the exams will suffer at least the minimum punishment - a zero on assignment for first offense. An additional penalty may be imposed, such as extra work, reduced letter grade, or a grade of E/F. A second offense is penalized by a grade of E/F.

Disabilities: If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Course Policy on Classroom civility and decorum:
The university, college and department has a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to respectfully disagree from time-to-time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students (S.R. 6.1.2). Equally, a faculty member has the right -- and the responsibility -- to ensure that all academic discourse occurs in a context characterized by respect and civility. Obviously, the accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors.

Important dates to note: Feb xx is the last day to withdraw from a class without receiving a 'W' grade on your transcript. April xx is the last day to officially withdraw from a course. You will receive a 'W' on your transcript.

Text : Manuel C. Molles, Jr. Ecology Concepts and Applications, 5th edition.

Other readings: To be announced

Course Schedule
This is the tentative flow of topics in the course. Actual lecture material on a given date may vary.

Lecture #	Date		Topic	Reading Assignment
1	Jan	xx R	Introduction	Chap. 1
2		xx T	Life on Land (**Natural History**)	Chap. 2
3		xx R	Life in Water	Chap. 3
4		xx T	Population genetics (**Evolution**)	Chap. 4
5	Feb	xx R	Temperature (**Adaptations**)	Chap. 5
6		xx T	Water	Chap. 6
7		xx W	Energy/Nutrients	Chap. 7
		xx R	*Last day to drop without a 'W'*	
8		xx T	Social Relations	Chap. 8
9		xx R	Distribution and Abundance	Chap. 9
10		xx T	Population Dynamics	Chap. 10
		xx R	***EXAM Lectures 1-9 (Chap 1-9)***	
12		xx T	Population Dynamics	Chap. 10
		xx R	Population Growth	Chap. 11
13	Mar	xx T	Life Histories	Chap. 12
14		xx R	Competition (**Species interactions**)	Chap. 13
		xx M	*Mid Term*	
15		xx T	Competition	Chap. 13
16		xx R	Predation	Chap. 14
		xx T	*Spring Break*	
		xx R	*Spring Break*	
17		xx T	Mutualism	Chap. 15

18		xx R	Species Abundance and Diversity **(Communities)**	Chap. 16
		xx T	***EXAM Lectures 10-17 (Chap 9 –15)***	
19	Apr	xx R	Species Abundance and Diversity	Chap. 16
		xx F	*Last day to withdraw from a course*	
20		xx T	Community structure	Chap.17
21		xx R	Succession and Stability	Chap. 20
22		xx T	Succession and Stability	Chap. 20
23		xx R	Energy(**Ecosystems)**	Chap. 18
24		xx T	Nutrient Cycling	Chap.19
25		xx R	Nutrient Cycling	Chap.19
26		xx T	Geographical Ecology	Chap. 22
27		xx R	Geographical Ecology	Chap. 22
	May	xx T	***FINAL 1:00 PM in BS 107***	
			Lectures 18-27 (Chap 16-20, 22)	

Learning Outcomes:
Students will be able to formulate hypotheses, design research studies, and solve problems related to the following concepts:

Natural History: Terrestrial and Aquatic Biomes

1. Uneven heating of the earth's spherical surface by the sun and the tilt of the earth combine to produce predictable latitudinal variation in climate.
2. Soil structure results from the interaction of climate, organisms, topography and parent material.
3. The geographic distribution of biomes is closely related to temperature and precipitation variations.
4. The hydrologic cycle exchanges water among reservoirs.
5. The biology of aquatic environments is related to physical/chemical factors, especially light, temperature, water movement, oxygen, and salinity.

Evolution

1. Phenotypic variation among individuals in a population results from the combined effects of genes and environment.
2. The Hardy-Weinberg equilibrium model helps identify evolutionary forces that can change gene frequencies in populations.
3. Natural selection is the result of differences in survival and reproduction among phenotypes.
4. The extent to which phenotypic variation is due to genetic variation determines the potential for evolution by natural selection.

5. Random processes, such as genetic drift, can change gene frequencies in populations, especially small populations.

Adaptations to the environment

1. Macroclimate interacts with the local landscape to produce microclimates.
2. Most species perform best in a fairly narrow range of temperatures.
3. Many organisms have evolved ways to compensate for variations in environmental temperature by regulating body temperature.
4. Many organisms survive extreme temperatures by entering a resting stage.
5. The movement of water down concentration gradients determines the availability of water to organisms.
6. Terrestrial plants and animals regulate their water content by balancing water loss with water gain.
7. Marine and freshwater organisms use complementary mechanism for water and salt regulation.
8. Organisms use one of three main sources of energy: light, organic molecules, or inorganic molecules.
9. The rate of energy intake is limited in characteristic ways.
10. Optimal foraging theory attempts to model how organisms feed as an optimizing process.
11. Separate male and female individuals are not the norm across all species.
12. Mate choice by one sex and/or competition for mates among individuals of the same sex can result in selection for particular traits in individuals—sexual selection.
13. The evolution of sociality is generally accompanied by cooperative feeding, defense of the social group, and restricted reproductive opportunities.
14. Kin selection plays a key role in the evolution of eusociality.

Populations

1. Environment limits the geographic distribution of species.
2. On small scales, individuals within populations are distributed in patterns that may be random, regular, or clumped.
3. On large scales, individuals within a population are clumped.
4. Population density declines with increasing organism size.
5. Dispersal can increase or decrease local population densities.
6. Ongoing dispersal can join numerous subpopulations to form a metapopulation.
7. A survival curve summarizes the pattern of survival in a population.
8. The age distribution of a population reflects its history of survival, reproduction, and potential for the future.
9. A life table combined with a fecundity schedule can be used to estimate net reproductive rate (R_o), geometric rate of increase, λ (lambda), generation time (T), and per capita rate of increase (r).
10. In the presence of abundant resources, populations can grow at geometric or exponential rates.
11. As resources are depleted, population growth rate slows and eventually stops.
12. Environment limits population growth by changing birth and death rates.

13. Organism have access to limited energy and resources, thus there is a tradeoff between number and size of offspring.
14. When adult survival is low, organisms invest in reproduction at an earlier age and invest a great proportion of energy into reproduction. When adult survival is high, organisms invest in reproduction at a later age and invest a small proportion of energy into reproduction.
15. Diversity in life history can be classified by a few population characteristics: fecundity (m_x), survival l_x age of reproduction (alpha).

Species interactions

1. Studies of intraspecific competition provide evidence for resource limitation.
2. The niche reflects the environmental requirements of species.
3. Mathematical and laboratory models provide a theoretical foundation for studying competitive interactions in nature.
4. Competition can have significant ecological and evolutionary influences on the niches of species.
5. Exploitation weaves populations into a web of relationships that defy easy generalization.
6. Predators, parasites, and pathogens influence the distribution, abundance, and structure of prey and host populations.
7. Predator-prey, host-parasite, and host-pathogen relationship are dynamic.
8. To persist in the face of exploitation, host and prey need refuges.
9. Plants benefit from mutualistic partnership with a wide variety of bacteria, fungi, and animals.
10. Reef-building corals depend upon mutualistic relationships with algae and animals.
11. Theory predicts that mutualism will evolve where the benefits of mutualism exceed the costs.

Communities

1. Most species are moderately abundant: few are very abundant or very rare.
2. A combination of the number of species and their relative abundance define species diversity.
3. Species diversity is higher in complex environments.
4. Intermediate levels of disturbance promote higher diversity.
5. A food web summarizes the feeding relations in a community.
6. The feeding activities of a few keystone species may control the structure of communities.
7. Exotic predators can collapse and simplify the structure of food webs.
8. Mutualists can act as keystone species.
9. On islands and habitat fragments on continents, species richness increases with area and decreases with isolation.
10. Species richness on islands can be modeled as a dynamic balance between immigration and extinction of species.
11. Species richness generally increases from middle and high latitudes to the equator.
12. Long-term historical and regional processes significantly influence the structure of biotas and ecosystems.

Ecosystems

1. Community changes during succession include increases in species diversity and changes to species composition.
2. Ecosystem changes during succession include increases in biomass, primary production, respiration, and nutrient retention
3. Mechanisms that drive ecological succession include facilitation, tolerance, and inhibition.
4. Community stability may be due to lack of disturbance or community resistance or resilience in the face of disturbance.
5. Terrestrial primary production is generally limited by temperature and moisture.
6. Aquatic primary production is generally limited by nutrient availability.
7. Consumers can influence rates of primary production in aquatic and terrestrial ecosystems.
8. Energy losses limit the number of trophic levels in ecosystems.
9. Decomposition rate is influenced by temperature, moisture, and chemical composition of the litter and the environment.
10. Plants and animals can modify the distribution and cycling of nutrients in ecosystems.
11. Disturbance increases nutrient loss from ecosystems.

Laboratory

Overview: The Teaching Assistants will have the primary role in conducting the weekly laboratory exercises, under the supervision of the course instructor. Several exercises will be conducted at the Department of Biology's Ecological Research Facility (ERF) on Russell Cave Road, adjacent to the North Branch of the Lexington Public Library. Two are planned for the UK Arboretum on Alumni Drive. Transportation will be provided to ERF, but students will be responsible for their own transport to the Arboretum. The bus taking the students to ERF will leave at the beginning of the laboratory period. The bus will not wait for tardy students. If you miss the bus you will be marked absent for that day. The pick-up/ drop-off location for the bus is the loading dock of the Morgan Building. Three sessions involving data analysis and computer simulation will be conducted in the computer lab (TBA).

Grading: As noted above, the laboratory component represents 25% of the course grade. Of this, 5% is for *participation* (contributions to the physical execution of the study, collaborative effort, positive attitude, discussion of results), 5% is for *performance as an expert* (each student will have a week in which he/she prepares a handout, helps serve as an information source about the topic, and assists the TA), 5% is for *assignments* (e.g. brief written exercises on literature searches, statistical methods, identification of sampled organisms), and 10% is for *laboratory reports* (write-ups of laboratory exercises in introduction-methods-results-discussion format). Attendance is required at all laboratory sessions; each unexcused absences will result in 3% being subtracted from the total 25% of the course grade earned in laboratory.

Schedule of exercises: These are tentative and subject to change.

Date	Topic	Topic Leaders	Meeting Place
***	Introduction; accessing scientific literature	TA	** Morgan Bldg
***	Design leaf bag study; bury leaf bags; explore ERF *Literature assignment due*	TA & ***	ERF
***	Design bryophyte study Experiment: bryophyte growth & competition started	TA & ***	** Morgan Bldg
***	Data analysis Introduction to ecological computer simulation	TA & ***	**Morgan Building
***	Experiment: *Tribolium* population dynamics, part 1 *Statistics assignment due*	TA & ***	** Morgan Bldg
***	Experiment: *Tribolium* population dynamics, part 2	TA & ***	** Morgan Bldg
***	Design Crayfish social structure study Experiment: Crayfish social structure *Lab report on the Tribolium study due*	TA & ***	** Morgan Bldg
***	Design Crayfish/snails predator-prey study Experiment: Crayfish and snails	TA & ***	** Morgan Bldg
***	Invasive species & effects on native plants *Lab report on crayfish experiments due*	TA & ***	UK Arboretum
***	*No lab—Spring Break*		
***	Environmental effects on stomatal density	TA & ***	UK Arboretum
***	Design experiments on pollination and on cover boards Computer simulations *Lab reports on invasive species & stomatal density due*	TA & ***	** Morgan Bldg
***	Experiment: Distribute cover boards and pitfall traps Experiment: Pollination of flowers by insects	TA & ***	ERF
***	Retrieve and process data from leaf bags, cover boards, and pitfall traps; process data from bryophyte study	TA & ***	ERF
***	Data analysis on leaf bags, cover boards, pitfall traps, and bryophyte study	TA & ***	** Morgan Bldg
***	Mist netting & bird habitat analysis *Lab reports on 2 of 4 analyzed experiments due*	TA & ***	ERF