

General Education Course Submission Form

Date of Submission: June 29, 2010

1. Check which area(s) this course applies to.

Inquiry – Arts & Creativity	<input type="checkbox"/>	Composition & Communications - II	<input type="checkbox"/>
Inquiry – Humanities	<input type="checkbox"/>	Quant Reasoning – Math	<input type="checkbox"/>
Inquiry – Nat/Math/Phys Sci	<input checked="" type="checkbox"/>	Quant Reasoning – Stat	<input type="checkbox"/>
Inquiry – Social Sciences	<input type="checkbox"/>	Citizenship – USA	<input type="checkbox"/>
Composition & Communications - I	<input type="checkbox"/>	Citizenship - Global	<input type="checkbox"/>

2. Provide Course and Department Information.

Department: Entomology

Course Prefix and Number: ENT 110 Credit hours: 3

Course Title: Insect Biology

Expected Number of Students per Section: 100 Course Required for Majors in your Program? NO

Prerequisite(s) for Course? None

This request is for (check one): A New Course An Existing Course

Departmental Contact Information

Name: John J. Obrycki Email: john.obrycki@uky.edu

Office Address: S-225 Ag Science North Phone: 7-7450 or 699-6077

3. In addition to this form, the following must be submitted for consideration:

- A syllabus that conforms to the Senate Syllabi Guidelines, including listing of the Course Template Student Learning Outcomes.
- A narrative (2-3 pages max) that explains: 1) how the course will address the General Education and Course Template Learning outcomes; and 2) a description of the type(s) of course assignment(s) that could be used for Gen Ed assessment.
- If applicable, a major course change form for revision of an existing course, or a new course form for a new course.

4. Signatures

Department Chair: John J. Obrycki Date: 6/29/10

Dean: Lucy J. Graham Date: 7/1/10

College Deans: Submit all approved proposals electronically to:

Sharon Gill Sharon.Gill@uky.edu
Office of Undergraduate Education

1. Describe methods of inquiry that lead to scientific knowledge and distinguish scientific fact from pseudoscience.

The use of the scientific method will be discussed as a method to disprove the idea of spontaneous generation. The experiment conducted by Francesco Redi in 1688 will be presented and discussed as a scientific experiment.

Charles Darwin's development of the idea of natural selection is discussed in-depth. The scientific process of developing this theory can be contrasted with creation science which cannot be tested by empirical research and scientific tests.

Throughout the course, examples of experiments are given that led to a better understanding of entomology. For example, experiments are described to demonstrate how scientists learned: where insect taste buds are located, that insects can demonstrate associative learning and latent learning, that insects see in color, and the different chemicals insects use to communicate.

2. Explain fundamental principles in a branch of science.

Principles of genetics, evolution, ecology, taxonomy, physiology, human health, and agriculture in relation to insects are presented and discussed in ENT 110.

3. Apply fundamental principles to interpret and make predictions in a branch of science.

A focus on increasing skills of observation and interpretation – being able to deduce the roles / niches of some arthropods based on physical adaptations that are suited for function – predators, swimmers, liquid feeders, pollinators, to interpret how modifications of these structures lead to specialization.

Discuss the use of degree-days to predict the seasonal development of insects that is used in pest management. This is based on an understanding of the effect of temperature on developmental rate.

An in-class group project focuses on using insects in forensic science. The group is presented with 4 cases in which a crime has been committed and insects are found at the scene of the crime. The group must determine the ages of the "insects" given to them in each case and use information about the insect's markings, size, temperature of the crime scene, to determine the species and ages of the insects and; therefore, determine how long it has been since the crime was committed (postmortem interval). They must also deduce other information about the crime such as where it was committed and if it was foul play.

4. Demonstrate an understanding of at least one scientific discovery that changed the way scientists understand the world.

Discovery of the role of insects as vectors of disease (e.g. mosquitoes as vectors of yellow fever), use of fruit flies as experimental organisms in the study of genetics and heredity (discussion of Thomas Hunt Morgan), development of Charles Darwin's theory of natural selection

5. Give examples of how science interacts with society.

Insects as model organisms for understanding genetics and genomics; arthropod-vector pathogens of humans, vertebrates, and plants; insect pest management; evolution of insecticide resistance; overuse of insecticides for insect suppression (Rachel Carson: *Silent Spring*); discussion of insects that are beneficial to humans as natural enemies, as food, as part of the ecosystem, as pollinators of crops, for use in forensics, as giving humans products (dyes, silk, honey).

Discussion of the importance of insects in art and culture: ancient Egyptians, Native Americans, movies and songs in modern culture, in books and poetry

6. Conduct a hands-on project using scientific methods to include design, data collection, analysis, summary of the results, conclusions, alternative approaches, and future studies.

Each student is given 2 insects of the same species to maintain under different abiotic conditions (temperature). They are to monitor insect development and make daily observations of how temperature affects the process. Students will be asked to evaluate this activity involving their observations and discuss what would be needed to move their observations to a scientific experiment.

Each student is given a sticky trap. They are to predict the habitats around their home that insects may find attractive, predict which insects they might capture in that habitat, place the trap there, and monitor it for one week. They move the trap to 3 new locations in the subsequent 3 weeks and keep data regarding the numbers, types, and lifestyle habits of the arthropods captured and discuss their findings in relation to their predictions when placing the trap.

7. Recognize when information is needed and demonstrate the ability to find, evaluate and use effectively sources of scientific information.

There is a wide range of topics about which students could write a 1-page summary or report. Some examples include:

A report about exotic insect pests of immediate concern to Kentucky (emerald ash borer, gypsy moth, hemlock woolly adelgid): how/when discovered, where currently located, what is being done

A report about insects in the news in which students must find a news article in the popular press (newspaper, magazine, internet, etc): summarize the content, look for mistakes or errors, determine the audience of the article, explain what they learned

A report about arthropods and global warming: students could find articles in the popular press as well as scientific articles on this topic, summarize the findings, and express their own opinions on the subject

COURSE CHANGE FORM

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: <u>Agriculture</u>	Today's Date:	<u>April 5, 2010</u>		
b.	Department/Division: <u>Entomology</u>				
c.	Is there a change in "ownership" of the course?			YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	If YES, what college/department will offer the course instead? _____				
d.	What type of change is being proposed?		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor ¹ (place cursor here for minor change[OSC1] definition)		
e.	Contact Person Name: <u>John J. Obrycki</u>	Email: <u>john.obrycki@uky.edu</u>	Phone:	<u>7-7450</u>	
f.	Requested Effective Date:	<input checked="" type="checkbox"/> Semester Following Approval	OR	<input type="checkbox"/> Specific Term ² :	_____
2. Designation and Description of Proposed Course.					
a.	Current Prefix and Number: <u>ENT 110</u>	Proposed Prefix & Number:	<u>ENT 110</u>		
b.	Full Title: <u>Insect Biology</u>	Proposed Title:	<u>Insect Biology</u>		
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:	<input checked="" type="checkbox"/> N/A	OR	Currently ³ Cross-listed with (Prefix & Number): _____	
	Proposed – <input type="checkbox"/> ADD ³ Cross-listing (Prefix & Number): _____				
	Proposed – <input type="checkbox"/> REMOVE ^{3,4} Cross-listing (Prefix & Number): _____				
e.	Courses must be described by <u>at least one</u> of the meeting patterns below. Include number of actual contact hours⁵ for each meeting pattern type.				
Current:	<input checked="" type="checkbox"/> Lecture	_____ Laboratory ⁵	_____ Recitation	_____ Discussion	_____ Indep. Study
	_____ Clinical	_____ Colloquium	_____ Practicum	_____ Research	_____ Residency
	_____ Seminar	_____ Studio	_____ Other – Please explain: _____		
Proposed:	<input checked="" type="checkbox"/> Lecture	_____ Laboratory	_____ Recitation	_____ Discussion	_____ Indep. Study
	_____ Clinical	_____ Colloquium	_____ Practicum	_____ Research	_____ Residency
	_____ Seminar	_____ Studio	_____ Other – Please explain: _____		
f.	Current Grading System:	<input checked="" type="checkbox"/> Letter (A, B, C, etc.)		<input type="checkbox"/> Pass/Fail	
	Proposed Grading System:	<input checked="" type="checkbox"/> Letter (A, B, C, etc.)		<input type="checkbox"/> Pass/Fail	
g.	Current number of credit hours:	<u>3</u>	Proposed number of credit hours:	<u>3</u>	

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.)

COURSE CHANGE FORM

h.	Currently, is this course repeatable for additional credit?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	<i>Proposed to be repeatable for additional credit?</i>	YES <input type="checkbox"/>	NO <input type="checkbox"/>
	<i>If YES: Maximum number of credit hours:</i> _____		
	<i>If YES: Will this course allow multiple registrations during the same semester?</i>	YES <input type="checkbox"/>	NO <input type="checkbox"/>
i.	Current Course Description for Bulletin:	<u>Overview of the biology of insects. Emphasizes how this enormously abundant and important group of animals has resolved the basic challenges of survival and reproduction. The roles of both beneficial and detrimental insects will be discussed.</u>	
	<i>Proposed Course Description for Bulletin:</i>	<u>SAME</u>	
j.	Current Prerequisites, if any:	<u>NONE</u>	
	<i>Proposed Prerequisites, if any:</i>	<u>NONE</u>	
k.	Current Distance Learning(DL) Status:	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Already approved for DL* <input type="checkbox"/> Please Add ⁶ <input type="checkbox"/> Please Drop	
	*If already approved for DL, the Distance Learning Form must also be submitted <u>unless</u> the department affirms (by checking this box <input type="checkbox"/>) that the proposed changes do not affect DL delivery.		
l.	Current Supplementary Teaching Component, if any:	<input type="checkbox"/> Community-Based Experience <input type="checkbox"/> Service Learning <input type="checkbox"/> Both	
	<i>Proposed Supplementary Teaching Component:</i>	<input type="checkbox"/> Community-Based Experience <input type="checkbox"/> Service Learning <input type="checkbox"/> Both	
3.	Currently, is this course taught off campus?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	<i>Proposed to be taught off campus?</i>	YES <input type="checkbox"/>	NO <input type="checkbox"/>
4.	Are significant changes in content/teaching objectives of the course being proposed?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	If YES, explain and offer brief rationale: _____		
5.	Course Relationship to Program(s).		
a.	Are there other depts and/or pgms that could be affected by the proposed change?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	If YES, identify the depts. and/or pgms: _____		
b.	Will modifying this course result in a new requirement⁷ for ANY program?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
	If YES ⁷ , list the program(s) here: _____		
6.	Information to be Placed on Syllabus.		
a.	<input type="checkbox"/> Check box if <u>changed to 400G or 500.</u>	If <u>changed to</u> 400G- or 500-level course you must send in a syllabus and you must include the <i>differentiation</i> 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.)	

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

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

COURSE CHANGE FORM

Signature Routing Log

General Information:

Course Prefix and Number: ENT 110

Proposal Contact Person Name: John J. Obrycki Phone: 7-7450 Email: john.obrycki@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
Entomology Faculty	April 12/10	John J. Obrycki Chair 7-7450	John J. Obrycki
Undergraduate Curriculum Committee, COA	April 30, 10	Larry J Grabau 1-7-1883	Larry J Grabau
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ⁸
Undergraduate Council			
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.

Entomology Faculty Meeting Minutes for April 12, 2010

Attendees: Lynne Rieske-Kinney, Ken Haynes, John Obrycki, James Harwood, Reddy Palli, Ken Yeargan, Daniel Potter, Lee Townsend, Jen White, Michael Sharkey, Joe Zhou, Ric Bessin, Blake Newton, Michael Potter, Stephen Dobson, Kim Miller-Spillman

1. Kim Miller-Spillman gave a Power Point presentation on QEP (Quality Enhancement Plan), UK's campus-wide project designed to transform student learning.
2. Blake Newton introduces a new advertising plan for the department via Google Ads. He asks faculty to come up with "key word" search ideas and discusses the possibility of a You Tube graduate student recruitment video.
3. Approval of minutes from the March 8th, 2010 faculty meeting.
4. Faculty discuss the Improvement Action Plan and chair suggests that students receive feedback on their proposal seminars via a departmentally-created form/questionnaire.
5. Faculty discuss offering additional Ent 770 courses and finding a way for students to have their teaching experience listed on their transcripts.
6. Chair discusses how to celebrate "120 Years of Entomology at UK". Possible ideas include hosting a symposium with guest speakers, hosting a distinguished alumni symposium, or releasing a magazine similar to UK Ag Magazine.
7. Faculty discusses proposal to submit Ent 110 as a new general education course that meets the Intellectual Inquiry in the Natural/Physical/Mathematical Sciences requirement. Unanimous vote in favor of submitting Ent 110 for consideration as a general education course.
8. Chair gives faculty members a copy of UK's Faculty TDL policy and reviews the policy with them.

Meeting adjourned.

Submitted by Kelly McHone



ENTOMOLOGY 110
INSECT BIOLOGY
3 credits



INSTRUCTOR:
TEACHING ASSISTANTS
OFFICE HOURS:

DESCRIPTION: Overview of the biology of insects. Principles of physiology, behavior, ecology, and evolution are introduced using insects as examples. The roles of both beneficial and detrimental insects will be discussed.

ENROLLMENT: This course is tailored for students who are not majoring in a biological science. It is designed to fulfill the University of Kentucky General Education requirement for Intellectual Inquiry in the Natural/Physical/ Mathematical Sciences.

LEARNING
OUTCOMES:

1. Describe methods of inquiry using insects that have led to new scientific knowledge and develop the ability to distinguish scientific fact from pseudoscience.
2. Explain fundamental principles of biology through the study of insects.
3. Develop the abilities to apply fundamental principles of insect biology to interpret and make predications in entomology.
4. Describe interactions between entomology and society and how fundamental understanding of insect-human interactions have altered our understanding of the world.
5. Collect, analyze and interpret data on the occurrence of insects in human dwellings and on the relationship between temperature and insect development.
6. Evaluate and use sources of entomological information to prepare a written report on an insect-human or insect-human resource topic.

CLASS
EXPECTATIONS

Disruptive behavior including cell phone usage, text messaging, reading of newspapers, or talking, will result in your being asked to leave the room.

TEXTBOOK: There is no textbook. You will get lecture outlines in class and some selected readings may be uploaded to BlackBoard (<http://elearning.uky.edu/>).

GRADING: I. **Quizzes.** There will be three short quizzes. Each quiz will be worth 25 pts.



II. Hourly examinations. There will be three hourly examinations worth 100 pts. each. The lowest score of the three hourly examinations will be dropped (see Cheating for an exception) unless you are able to drop the final exam.

III. Caterpillar development and summaries. Caterpillars and instructions for this assignment will be provided in class.

IV. Find five live insects. Materials and instructions for this assignment will be provided in class

V. Stick ‘em Up. This is a trapping project to see what arthropods are sharing your environment. You will be given a sticky trap and details of the assignment in class.

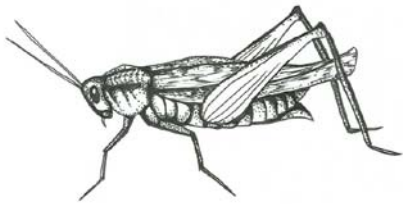
VI. Written Report. A 2-3 page written report on an insect-human or insect-human resource topic based on original sources of entomological information.

VII. In-class Activities. Most classes will have an in-class activity or short assignment. You must be present to earn these points.

VIII. Bonus points. There will be chances to earn a few bonus points on tests and quizzes. There are no projects for individual extra credit.

IX. Forensic Entomology. This is a group in-class project . You will use information on insect identification and development to help answer questions about criminal cases.

X. Final Examination. The final exam is worth 100 points and will be comprehensive.



POINTS AVAILABLE:

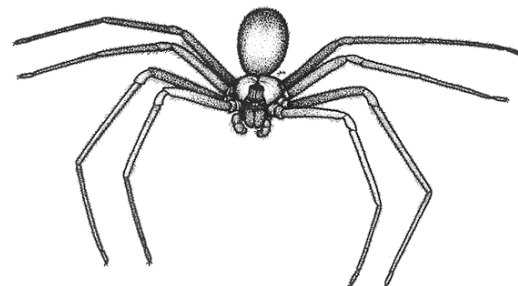
I.	Quizzes (3 worth 25 pts each)	75
II.	Three hour exams (100 pts each) + Final exam (100 pts)	400
III.	Caterpillar development and summary	25
IV.	Find Five Live Insects	25
V.	Stick ‘em Up Project	25
VI.	Written Report	50
VII.	In-class points (5-10 points each)	80
VIII.	Bonus points	*
IX.	Forensic Entomology in-class project	20
Total		700

BLACKBOARD: MY GRADES

All grades will be posted on BlackBoard (My Grades) as soon as possible so it will be easy for you to know how you are doing in this class. Check regularly and let me know **within 1 week** of the grade-posting if you find any mistakes. You should also check BlackBoard's arithmetic in the Totals column to make sure it has added your points correctly.

ASSIGNMENT OF LETTER GRADES:

- A = 90-100% of available points
- B = 80-89% of available points
- C = 70-79% of available points
- D = 60-69% of available points
- E = 0-59% of available points



MAKE-UP EXAMINATIONS/ASSIGNMENTS:

Make-up examinations will be given **only** if the student has a valid excused absence. Likewise, points from in-class assignments can be made up if the student has a valid excused absence. Provide a written excuse **within 1 week** of the absence. In-class make-up assignments must be completed and turned in **within one week** of the absence. Check Course Information on Blackboard for information on valid excused absences. Let me know of conflicts in advance, if possible. **You** are responsible for scheduling make-up exams and for inquiring about how to make up in-class points. Even if I know of an excused absence ahead of time, it is **your** responsibility to ask me about making up a test, quiz, or in-class assignment.

LATE ASSIGNMENTS:

The value of assignments (e.g. Caterpillar Development, Stick 'Em Up, Written report) will be reduced by 5 points per day for each day they are late.

CHEATING & PLAGIARISM:

The minimum penalty for cheating on the examinations or plagiarism on a project is a "0" for the assignment. If you cheat on an exam, you will receive a "0" for the exam and will not be allowed to drop that score as your lowest exam grade. In the event of cheating, we will follow the University of Kentucky's Guidelines and Policies.

ATTENDANCE:

Attendance is expected. Leaving lecture early or arriving late is not permitted. If on a specific occasion you have a valid reason to leave lecture early, you should inform me before class. In-class assignments will be worth 80 points (almost as much as a test) and randomly given during most classes throughout the semester so your grade will suffer if you miss these points. If you miss class, the lecture handouts will be on Blackboard. There will be a notebook outside my office with the

complete notes. You can sit at the table outside my office and hand-copy notes you missed.

LECTURE SCHEDULE:

Jan. 14	Insect appreciation
Jan. 19	Why study insects?
Jan. 21	Where do insects fit in the animal kingdom?
Jan. 26	Quiz 1
	Why are insects so successful?
Jan. 28	Biodiversity (the most ancient insects)
	Caterpillar Development Started
Feb. 2	Biodiversity (mantids, termites, true bugs)
Feb. 4	Biodiversity (beetles, wasps, ants)
Feb. 9	Biodiversity (moths, fleas, flies)
Feb. 11	First Examination
Feb. 16	The exoskeleton and how to get out of it
Feb. 18	Breathing, moving, and sensing the environment
Feb. 23	Eating, digesting, excreting
Feb. 25	Quiz 2
	Reproduction: Sex, bugs, and rock n'roll
Mar. 2	Insect behavior
Mar. 4	Insect defenses to avoid being eaten
	Start Five Live Insects assignment
Mar. 9	<i>Secret Weapons</i> (video)
	Caterpillar Development Write-Up Due
Mar. 11	Second Examination
<i>Mar. 16/18</i>	<i>Spring Break</i>
Mar. 23	Insect communication
	Stick 'em Up Project Starts
Mar. 25	Insect communication
Mar. 30	Dispersal and migration: Insects on the move
Apr. 1	Quiz 3
	Coping with harsh environments: staying alive
Apr. 6	Insect pollinators: Why flowers exist
Apr. 8	Insect carnivores: It's a bug eat bug world
Apr. 13	Third Examination
Apr. 15	Forensic Entomology and Entomophobia
	Forensic Entomology In-class Assignment
Apr. 20	Social insects
	Last date to turn in Five Live Insects
Apr. 22	Dealing with insect pests
	Stick 'em Up Project Due
Apr. 27	Insects and diseases
Apr. 29	What have we learned?
Finals Week	Final Examination



The lecture order or topics may change during the semester.