

**Syllabus**  
**Biology 338 – Entomology**  
**Fall 2016**

**INSTRUCTOR:** Dr. Brian Scholtens

Office Hours: Tuesday/Thursday 10: 00-12:00 – RHSC 241

Or by appointment – also available by email: scholtensb@cofc.edu

**COURSE DESCRIPTION and INSTRUCTIONAL OBJECTIVES:**

This class will emphasize:

- Diversity of insects
- Structure and function of insects
- Insect lifestyles
- How Insects fit into ecological systems

This class has both lecture and lab components:

- Lecture will cover primarily insect biology and ecology topics
- Lab will cover primarily insect taxonomy and diversity



All students should have completed one year of introductory biology and Biology 211 before enrolling in this course.

**STUDENT LEARNING OUTCOMES:**

By the end of the course, students should

- 1) Appreciate the incredible diversity of insects and their lifestyles
- 2) Identify insects on sight to order and major family
- 3) Understand the various roles that insects play in ecosystems
- 4) Properly prepare insect specimens for research purposes
- 5) Write and present scientific results of a biodiversity study

## GRADING

Quizzes (5 at 25 each; drop low score)	100
Collection check	25
Collection	100
Project	150
Exam I	100
Exam II	100
Exam III	100
Lab Final	100
<u>Final Exam</u>	<u>100</u>
Total possible points	875

Grades will be assigned according to the following scale:

A	≥93
A-	≥90
B+	≥87
B	≥83
B-	≥80
C+	≥77
C	≥73
C-	≥70
D+	≥67
D	≥63
D-	≥60
E	<60

### IDENTIFICATION QUIZZES AND LAB FINAL

- All quizzes will be identification of 25 insects in the lab
- 5 quizzes, lowest non-zero score dropped
- All 31 orders of insects will be covered on the 1<sup>st</sup> quiz
- Other 4 quizzes will be family identification
- Final 4 quizzes will be cumulative, covering all families learned up to that point
- About 80 families of insects will be covered in lab during the term
- No text or notes allowed
- Spelling will be checked; ¼ point off for each spelling mistake

### EXAMS AND LECTURE FINAL

The midterm and final lecture exams will cover material presented in lecture and the appropriate sections of the text. Life history information about each required order and family will be covered on these exams. To prepare for this, each will be covered briefly in lecture or on the field trips, but you should read the text material under each group as we cover it in class.

### COLLECTION

The collection will be composed of specimens that you collect and identify during the term. Each specimen that you turn in **must be properly labeled** with location, date of collection, and the name of the collector. On a separate label, identify the insect to order or family. The first occurrence of each correct order will be worth 3 points and the first of each correct family will be worth 1 point.

Specimens must be correctly identified to receive credit. Order level errors will result in a 4 point deduction from your score. Although the highest possible score is 100, points above 100 are important because of error subtractions. Painful experience indicates that incorrect identifications will lower more grades than lack of specimens. If you are not confident in your identification, do not include the specimen for grading. In each case the first specimen in your box under that category will be graded. I will be glad to look at questions you have on non-graded specimens. **Each collection must be accompanied by a checklist of the orders and families that are being submitted for grading.** Please have these in the order you have the specimens in your collection. Work on this list as you go; it takes more time than you think, and last minute mistakes are common.

### **MID-TERM COLLECTION CHECK**

At the midpoint of the term there will be a collection check to make sure you have gotten a good start on the collection. At this point you should have 12 orders and 25 families identified (with some effort it should be possible to have many more) and **labeled properly**. You should check with me ahead of time to make sure you are on the right track.

### **PROJECT**

The College acquired Dixie Plantation, a property of about 800 acres over a decade ago, and now has put up some field labs for use by students and researchers. At the moment, we know little about the biota of the plantation, and would like to work on an inventory so we know what species we have, and where they exist on the site. Our Entomology class will use our class project to surveying insects of Dixie Plantation, identifying species in selected groups, and constructing a reference collection of the species.

We will be visiting the plantation several times over the course of the term, including for 2 night collecting trips. We will set up several different kinds of traps, work on sorting what we catch and will do daytime collecting during our trips.

We will be dividing the class into working groups based on different insect taxa. Each working group will do an extensive search for literature on that insect group in SC, particularly sources that will help us build a potential list of species in that group and sources to identify species. The working groups will put together a synoptic collection for their focal insect group, and write up a report that will be available for future workers to summarize our work. Each section of the project, 1) literature search (due 20 Sept), 2) synoptic collection (due 22 Nov.), and 3) written report (due 22 Nov.) will be worth 50 pts, for a total of 150 pts. Each of these will be a group effort, and group members will do peer evaluations of other group members to evaluate their contributions to the project. Each person's final project grade will be scaled based on the average of these evaluations.

We will provide more information on the project as we get into the term.

### **TEXTBOOK**

Borror and DeLong's Introduction to the Study of Insects, 7th ed., by Triplehorn and Johnson.

### **SUPPLIES**

Most of your supplies will be supplied by the school. Please do not use these excessively; they are very expensive (they amount to well more than your lab fee).

**Academic Support Services—The Center for Student Learning**

The CSL, located on the first floor of the library, offers a wide variety of tutoring and other academic resources that support many courses offered at the College. Services include walk-in tutoring, by appointment tutoring, study strategies appointments, Peer Academic Coaching (PAC), and Supplemental Instruction (SI). All services are described and all lab schedules are posted on the CSL website <http://csl.cofc.edu/>, or call 843.953.5635 for information.

## Disability Statement

The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me in advance of when accommodation is needed.

## Honor Code Statement

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the *Student Handbook* at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

## Safety Policy and Procedures

The School of Sciences and Mathematics of the College of Charleston understands that the safety of our students, staff and faculty is of paramount importance. Engendering a safety culture is an important part of our mission in teaching and doing science. Each department, course of instruction, or research lab may require higher standards or procedures. The policies and procedures set forth below are understood to be minimum requirements across our departments.

In this document, the term "laboratory" is meant for a work space/facility where chemicals, biological agents, or equipment is used for research and/or instruction. No one (student, staff, faculty, or visitor) will be allowed in a laboratory (teaching or research) to perform experiments or where experiments may be in progress unless these regulations are followed.

Students dismissed from a teaching lab due to violations of the safety procedures will not be allowed to re-enter the laboratory until authorized to do so by their supervisor (instructor) and, in the case of research laboratories, by the department chair or designee. Any course work missed because of a violation of these guidelines cannot be made up at another time (or by an extension of the lab period) and will be treated as an unexcused absence.

1. You are responsible for knowing the biological, chemical, electrical, ergonomic, mechanical, and physical hazards associated with the equipment and materials that are being utilized in the laboratory. Listen to all instructions and ask questions about that which you do not understand.
2. Know the location of safety equipment: telephones, emergency shower, eyewash, fire extinguisher, fire alarm pull.
3. Know the appropriate emergency response procedures. If there is an injury or emergency, call 953-5611.
4. Do not work alone in the laboratory if you are working with hazardous materials or equipment.
5. Use hazardous chemicals, equipment, and biological agents only as directed and for their intended purpose.
6. Do not engage in horseplay, pranks or other acts of mischief while in lab.
7. Drinking, eating, and application of cosmetics is forbidden in laboratories where chemicals or biohazards are present. Smoking is forbidden in all College buildings.
8. Appropriate personal protective equipment shall be worn. The dress code for laboratory work when using chemicals, biological or physical hazards, or when instructed to do so by the laboratory supervisor is as follows:
  - a) Wear safety glasses or goggles at all times.
  - b) No exposed skin on arms, legs or torso.
  - c) Wear lab coats or other approved protective garments.
  - d) Wear gloves or other personal protective equipment (PPE) as directed by the instructor or mandated by prudent practices based on the chemicals being handled. If in doubt, wear appropriate gloves. Latex is not permitted. Avoid cross-contamination.
  - e) Remove PPE (gloves and lab coat) when exiting the laboratory.
  - f) Wash your hands, even if gloves were used, before leaving a lab where you did any lab work.
  - g) Closed toe shoes are required. The heel and top of foot must be covered. High heeled shoes, sandals, and perforated shoes are not permitted.
  - h) Confine long hair and loose clothing.
9. Inspect equipment or apparatus for damage before adding chemical reagents or biological samples or

energizing electrical equipment. Do not use damaged equipment.

10. Never remove chemicals, biological samples, or laboratory equipment from a lab without proper authorization.

11. Presume that all chemicals and biological samples used in the laboratory are hazardous for you and the environment, unless instructed otherwise.

12. Never leave an experiment unattended unless proper safety precautions are in place.

13. Read all labels on chemicals twice before using them in the lab. Read all instructions twice for the operation of any equipment or machinery.

14. Properly and safely dispose of all waste materials.

15. Treat sharps and broken glassware containers carefully.

a) Broken glass should be disposed of in properly marked safety containers. All sharps (needles, razor blades, etc.) used for any purpose must be disposed of in specially labeled SHARPS containers.

b) Do not place contaminated glass in the broken glassware container. Consult your supervisor.

c) Waste chemicals and contaminated PPE should be discarded as directed.

16. When using a reagent, replace the lid immediately. Never return unused reagents to stock bottles. Take only the amount needed for your experiment.

17. All chemicals and biological samples/media are to be disposed of in appropriately labeled containers. Specific instructions for each material will be provided. Pay attention to waste container labels before adding the material to be discarded.

18. Use good personal hygiene. Keep your hands and face clean. Wash hands thoroughly with soap and water after handling any chemical or biological agent.

19. Keep the work area clean and uncluttered with chemicals and equipment. Clean up the work area on completion of an operation or an experiment. Before leaving the laboratory, you are responsible for making sure your lab area is clean and organized.

20. Never store a chemical or biological specimen in an unlabeled container.

21. Always have your College of Charleston identification and insurance information with you when working in a laboratory. MedicAlert identification must be worn if you have any potential life-threatening chemical sensitivities or medical conditions.

22. Report any accident or injury, however minor, to your teaching assistant, instructor, or lab supervisor immediately. An accident report form must be completed and forwarded to the department chair, dean, and to the Director of Environmental Health and Safety.

If you have questions/concerns about safety in the lab please first consult your instructor. If these are not answered, please see the department chair. Finally, you may consult the director of Environmental Health and Safety, Randy Beaver at 3-6802 or [beaverr@cofc.edu](mailto:beaverr@cofc.edu)

Adopted: March 7, 2012