

ENTOMOLOGY 4010/6010
Insect Taxonomy
Fall, 2006

LECTURE 1: Welcome and course details.

Contact information:

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Class times: Lecture: 9:30-10:45; T, R.
 Lab: 3:30-6:15; T, R.

Room: 242 Poultry Science Building.

Required text:

Triplehorn, C.A. and N.F. Johnson. 2004. Borror and DeLong's Introduction to the Study of Insects. 7th ed. Thomson Brooks/Cole, Belmont CA, 864 pp. (≈\$100)

Grade breakdown:

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|--------------------------------|--|-----|
| Lecture: | | |
| Midterm exam: | | 15% |
| Taxonomic literature exercise: | | 2% |
| Final exam: | | 25% |
| Lab: | | |
| Three lab quizzes: | | 25% |
| Insect collection: | | 33% |

Attendance Policy:

Attendance is not specifically considered when calculating the grades for this course. The material presented in this class, however, is derived from diverse sources. Students are very strongly encouraged to attend each class session. The treatment of subjects in the required textbook is insufficient to substitute for one's attendance at the corresponding lectures and labs.

Insect Taxonomy (Ent. 4010/6010)
Fall, 2006
Lecture Syllabus

| No. | Date | Subject |
|------------|-------------|--|
| 1. | 8/17 | Welcome, introduction. |
| 2. | 8/22 | Taxonomy and Systematics. |
| 3. | 8/24 | Arthropoda Review. |
| 4. | 8/29 | Phylogenetics. |
| 5. | 8/31 | Hexapoda (Protura, Collembola, Diplura, Insecta). |
| 6. | 9/5 | Philosophies of Taxonomy. |
| 7. | 9/7 | Basal Insecta (Microcoryphia, Thysanura, Ephemeroptera, Odonata). |
| 8. | 9/12 | Taxonomy of Taxonomic Literature. |
| 9. | 9/14 | Basal Neoptera I (Grylloblattodea, Dermaptera, Embiidina, Plecoptera). |
| 10. | 9/19 | Basal Neoptera II (Zoraptera, Phasmatodea, Orthoptera). |
| 11. | 9/21 | Basal Neoptera III, Dictyoptera (Mantodea, Blattodea, Isoptera) |
| 12. | 9/26 | Basal Neoptera (cont.) |
| 13. | 9/28 | Paraneoptera I (Psocoptera, Phthiraptera, Thysanoptera). |
| 14. | 10/3 | Paraneoptera II (Hemiptera: Sternorrhyncha & Auchenorrhyncha). |
| 15. | 10/5 | MIDTERM EXAM (Lectures 1-14). |
| 16. | 10/10 | Paraneoptera III (Hemiptera: Coleorrhyncha & Heteroptera). |
| 17. | 10/12 | Neuropterida (Neuroptera). |
| 18. | 10/17 | Coleoptera I. |
| 19. | 10/19 | Coleoptera II. |
| 20. | 10/24 | Strepsiptera and Antliophora I (Mecoptera, Siphonaptera). |
| | 10/26 | FALL BREAK: No class |
| 21. | 10/31 | Antliophora II (Diptera). |
| 22. | 11/2 | Antliophora III (Diptera cont.). |

No. Date Subject

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23. 11/7 Amphiesmenoptera I (Trichoptera, Lepidoptera).
24. 11/9 Amphiesmenoptera II (Lepidoptera cont.).
25. 11/14 Hymenoptera I.
26. 11/16 Hymenoptera II.
27. 11/21 Holometabola wrap up.
 11/23 **Thanksgiving Break: No class.**
28. 11/28 The Code of Zoological Nomenclature.
29. 11/30 Types of Types / “The trouble with tribbles” exercise.
30. 12/5 Current state of systematics and final comments.
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TAX. LIT. PROJECT due: Tuesday, 9/19, in lecture.
MIDTERM EXAM: Thursday, 10/5, in lecture.
FINAL EXAM (cumulative): Thursday, 12/14, 8:00-11:00, Lab room.
 Note: Final exam conflicts with ESA Meeting.

Insect Taxonomy (Ent. 4010/6010)
Fall, 2006
Laboratory Syllabus

Wk. Date Activities & assignments.

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1. [Introduction]
 8/17 Tour of UGCA (meet in lab). Spreading and shipping insect specimens.

2. [Arthropod relatives]
 8/22 Lab work. Equipment issued.
 8/24 **Field Trip:** Lake Herrick Park.

3. [Protura, Collembola, Diplura, Microcoryphia, Thysanura]
 8/29 Lab work. Pinning specimens.
 8/31 **Field Trip:** Whitehall Forest.

4. [Ephemeroptera, Odonata]
 9/5 Lab work. Labeling specimens.
 9/7 **Field Trip:** Oconee Forest.

5. [Isoptera, Dermaptera, Embiidina, Plecoptera, Zoraptera]
 9/12 Lab work. Slide-mounting specimens.
 9/14 **Field Trip:** Location T.B.A.

6. [Phasmatodea, Orthoptera, Mantodea, Blattodea]
 9/19 Lab work.
 9/21 **Preliminary collection due;** Lab work.

7. [Psocoptera, Phthiraptera, Thysanoptera, Hemiptera (Sternorrhyncha, Auchenorrhyncha)]
 9/26 Lab work.
 9/28 Lab work.

8. [Hemiptera (Heteroptera)]
 10/3 Lab work.
 10/5 Lab work.
 10/6 **Field Trip** (Optional): Sapelo Island! (return 10/8).

*****Midpoint of Semester*****

9. [Heteroptera (cont.); Neuroptera]
 10/10 Lab work.
 10/12 **LAB QUIZ 1** (weeks 1-8); Lab work.
10. [Coleoptera]
 10/17 Lab work.
 10/19 Lab work.
11. [Strepsiptera, Mecoptera, Siphonaptera]
 10/22 Lab work.
 10/26 **Fall Break: No class.**
12. [Diptera]
 10/31 Lab work.
 11/2 **LAB QUIZ 2** (weeks 9-11); Lab work.
13. [Lepidoptera, Trichoptera]
 11/7 Lab work.
 11/9 Lab work.
14. [Hymenoptera]
 11/14 Lab work.
 11/16 Lab work.
15. [Work on Collections]
 11/21 Lab work.
 11/23 **Thanksgiving Break: No class.**
16. [Work on Collections]
 11/28 Lab work.
 11/30 **LAB QUIZ 3** (weeks 12-16); Lab work.
17. [Work on Collections]
 12/5 Lab work.

ASSIGNMENT

DUE DATE

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|--|--|
| Preliminary Insect Collection | 9/26, in lab. |
| Final Insect Collection due, return gear | 12/7, 2:00-5:00 P.M., Room 455 Bio. Sci. |

LAB WORK

Each week we will concentrate on the taxa of the week (in brackets). In the lab, you will find three types of specimens available:

(1) Sight I.D. taxa. You are expected to study these identified specimens especially carefully. Key the taxa out for yourself to confirm the determination and learn the terminology used in the key. Make notes, index cards, and sketches to help you remember critical aspects of the morphology and biology of these groups. In your laboratory quizzes, you will be expected to identify the taxa on your "Sight I.D." list without the aid of a textbook and provide basic information about their biology and morphology.

(2) Mystery taxa. These specimens will be numbered, but not be identified. You are expected to take a specimen back to your microscope and key it out. It is recommended that you confirm your determinations with the T.A. The mystery taxa will not necessarily be Sight I.D. taxa. On the lab quizzes, you could have a couple of mystery taxa to key-down to test your familiarity with the keys and diagnostic characters.

(3) Demos. These specimens will be set up to illustrate important characters or to show you a taxon that is interesting and unusual, but too uncommon for the class to use for keying. The specimens will be carefully arranged in some particular orientation. You should not touch or move the demo specimens.

LAB ACCESS: The lab is available to you whenever it is not in use by another class. The **key** for the room is available at all times from an Entomology mailbox. The mailbox number and combination will be given to you in class later. Please return the key immediately after opening the door.

ADVICE: Keep up with the lab schedule! Each week you should work your way through all of the material for the taxa listed in the syllabus. The specimens will be available in the lab for you to study whenever the room is not occupied by another class. Make yourself comfortable. The only way to learn insect taxonomy is to invest time at the microscope.