

Aquatic Insects of North America
BIOL 4560/5570
Spring 2014



Instructor: Dr. James H. Kennedy
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EESAT 310D
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Office Hours: M. & W. 1:30 - 2:30 or by appointment

Time and Room

Lecture: 11:00 - 12:20 Tuesday & Thursday (EESAT 358)

Lab: 1:00 - 4:50 Thursday (EESAT 358)

Required Text: *An Introduction to the Aquatic Insects of North America* (4th Edition)- Editors Merritt, Cummins and Berg.

Attendance: Attendance is expected in both the lecture and the laboratory.

AQUATIC INSECTS is a basic course in the taxonomy and biology of the insects most commonly encountered in freshwater habitats. Emphasis is placed on identification of aquatic insects and important aspects of their biology such as life cycles, habitat preferences, feeding habits, adaptations to environments, and functions in ecosystems. The course is primarily intended for persons interested in careers in aquatic ecology, fisheries science, and environmental science.

OBJECTIVES:

Upon completion of this course a student should be able to:

1. Demonstrate knowledge of the taxonomy of aquatic insects (adults and immatures) and identify:
 - a. basic morphological structures common to all aquatic insects.
 - b. all aquatic insects to order on sight.
 - c. common aquatic insects to family on sight.
 - d. most immature aquatic insects to genus with taxonomic keys and microscope.
2. Describe selected aspects of the biology of aquatic insects:
 - a. behavior
 - b. habitat preferences
 - c. feeding habits
 - d. life history
 - e. metamorphosis
 - f. physiology
 - g. reproduction
 - h. adaptations to freshwater environment
 - i. functions in aquatic ecosystems

3. Demonstrate current methods used in aquatic entomology:
 - a. collecting
 - b. preserving
 - c. preparing specimens for study
 - d. curating
4. Have the competency to use aquatic insects as a tool in:
 - a. aquatic ecology studies
 - b. bioassessments
 - c. teaching

Course Outline and Tentative Schedule

Date	Topic	Readings
14 January	Introduction, Introduction to General Entomology	M,C&B ¹ pp. 1-14, 139-156.
16 January	Aquatic Ecology: Habitats , Habits & Trophic Levels	M,C&B pp.55 – 103, 105 – 122.
21 January	Aquatic Ecology: Habitats , Habits & Trophic Levels Continued	M,C&B pp.55 – 103, 105 – 122.
23 January	Ephemeroptera	M,C&B pp. 181 - 225 ... Table 11 A
28 January	Ephemeroptera Cont'd	Same
30 January	Odonata	M,C&B pp. 237 -284 ... Table 12 A
04 February	Odonata Cont'd	Same
06 February	Examination 1 (Lectures 14 Jan - 04 February)	
11 February	Plecoptera	M,C&B pp. 311-375 ... Table 14 B
13 February	Plecoptera Cont'd	Same
18 February	Hemiptera	M,C&B pp. 385- 413 ... Table 15 A
20 February	Field Trip depart 11:00 – no lecture	
25 February	Hemiptera Cont'd	Same
27 February	Megaloptera	M,C&B pp. 425- 435 ... Table 16 A
04 March	Minor Orders	M,C&B pp. 295-306, 425- 435, 553-564, 673 - 677. Tables 13 A, 16A, 19A, 21A.
06 March	Examination 2 (Lectures 11 February - 04 March)	
10 & 14 March Spring Break		
18 March	Trichoptera	M,C&B pp. 439 - 530 ... Table 18 A
20 March	Trichoptera	Same
25 March	Trichoptera - Lepidoptera	
27 March	Coleoptera	M,C&B pp. 571 - 648 ... Table 20 A
01 April	Coleoptera	
03 April	TBA	
08 April	Examination 3 (Lectures 13 March -05 April)	
10 April	Overnight Field Trip	
15 April	Diptera	M,C&B pp. 687-722, 723-746 ,... Table 22 B
17 April	Diptera	

22 April	Communities	M,C&B pp. 105 - 122
24 April	Applications	M,C&B pp.123- 137
29 April	Applications	None
01 May	Induction into the UNT Dead Nymph Society and Aquatic Insect Feast	

¹ M,C&B = Merritt, Cummins and Berg... *An Introduction to the Aquatic Insects of North America*

Final Examinations: May 5-09, 2014 Final Examinations. *Aquatic Insects of North America* final is scheduled for 6 May 2014. The examination includes information from all areas that was covered during the semester.

Grading: The grade you earn in Aquatic Entomology is an average of your lecture grade and laboratory grade.

The Lecture grade is composed of examinations (90%) and participation (10%). There are three lecture examinations and a final examination. All examinations (lecture and final) are equally weighted and will be averaged to determine the lecture examination portion of your grade. Participation points are based on class attendance, and participation in class activities. The participation points are the easiest points to earn, just come to class, participate in the days activities, don't sleep during class, don't read newspapers or novels during class and you will earn the 10 %.

Although I do not anticipate any reason to modify this grading plan, I reserve the right to do so if circumstances warrant. I will inform the class if modifications to the grading scale are necessary.

Office Hours: If you are having problems, you are encouraged to talk with me as soon as possible. Please feel free to drop by during posted office hours. My office is in EESAT 310F or you may e-mail me for an appointment at kennedy@unt.edu. It is always a good idea to contact me (even for visits during posted office hours) before you visit.

Important Dates (provided as a courtesy please check and confirm dates on the UNT website):
January 21, 2014: Last day to withdraw from course without instructor permission. **February 4, 2014:** Last day to withdraw with a grade of W for courses the student is not passing. Instructor approval required. After this date a WF may be assigned. **If you decide to drop the course you must obtain a note from the lab instructor certifying you turned in the lab equipment before the course instructor will sign the drop slip, no exceptions.** A grade of F or WF will be assigned if equipment is not returned or paid for. **February 13** last day to drop a course with consent of the instructor.

Classroom Behavior: It is expected that student behavior will be courteous of the professor and other students. Students should arrive for class early and leave only at the end of class. If you arrive late please do not disrupt the class during your entrance. **If you missed the handouts for the class you will need to wait until the end of the class to receive them.** During lectures there should be no distracting behavior including the use of headphones or other unauthorized electronic devices. **Cell phones must be turned off during class.** Lap top computer may only be used for note taking and you must sit in the first row of the lecture hall. Students violating such norms will be asked and expected to leave the classroom.

Disability Accommodation: The Department of Biological Sciences, in cooperation with the Office of Disability Accommodation, complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request before the 12th class day.

Dishonesty: Academic dishonesty in this class is unacceptable and will not be tolerated in any form. Cheating can impact the entire class. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Before you can proceed in either the lecture or laboratory you must have on file a signed *BIOL 4560/5570 Aquatic Insects of North America Policy on Plagiarism and Cheating*

BIOL 4560/5570 AQUATIC INSECTS OF NORTH AMERICA POLICY ON PLAGIARISM AND CHEATING ¹

University Policy: Your Instructors (lecture and laboratory) support and will enforce the University of North Texas policies concerning academic misconduct. Please consult the [University of North Texas Center for Student Rights and Responsibilities](http://www.unt.edu/csrr/) at <http://www.unt.edu/csrr/> including the [Code of Student Conduct](http://www.unt.edu/csrr/code_of_student_conduct.htm) at http://www.unt.edu/csrr/code_of_student_conduct.htm which include the following text:

Categories of Misconduct Misconduct for which students are subject to discipline falls into the following categories: **Acts of Dishonesty, including but not limited to:**

Academic dishonesty -- cheating. The term "cheating" includes, but is not limited to:

- a. copying or any unauthorized assistance in taking quizzes, tests, or examinations,
- b. dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments,
- c. the acquisition, without permission, of tests or other academic material belonging to a faculty member, staff member or student of the university, or
- d. dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s).
- e. any other act designed to give a student an unfair advantage.

Academic dishonesty -- plagiarism. The term "plagiarism" includes, but is not limited to:

- a. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment, and
- b. the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in the selling of term papers or other academic materials (for example turning in insects not collected by you without proper acknowledgment).

Plagiarism and/or cheating and disciplinary action for such are defined by the UNT Policy Manual Code of Student Conduct and Discipline as further defined in the next two paragraphs as quoted from this manual: "Plagiarism and cheating refer to the use of unauthorized books, notes, or otherwise securing help in a test; copying tests, assignments, reports, or term papers; representing the work of another as one's own; collaborating, without authority, with another student during an examination or in preparing academic work; or otherwise practicing scholastic dishonesty." "Academic dishonesty matters may first be considered by the faculty member who may assign penalties such as failing, reduction or changing of a grade in a test, course, assignment, or other academic work, denial of a degree and/or performing additional academic work not required of other students in the course. If the student does not accept the decision of the faculty member, he/she may have his/her case heard by the academic department chairperson or head for review of his/her case. If the student does not accept the decision of the academic department chairperson, he/she may then follow the normal appeal procedures listed in Disciplinary Procedures."

Penalties for Academic Misconduct

- (1) I have read the BIOL 4560/5570 Policy on Plagiarism and Cheating located in the course syllabus which is also included in this document..
- (2) I understand that instructors of this course have a zero tolerance policy for plagiarism and cheating and that there are penalties outlined as:
 - First offense: A “0” will be recorded as the score for that activity **AND** the final course grade reduced by one complete grade.
 - Second offense: Assignment of F (Fail) for the final course grade.
 - For grievous infractions such as, but not limited to, a systematic or collaborative event: An assignment of F (Fail) for the final course grade may be issued in the case of a first offense.

Print Name: _____

Signature: _____

Date: _____

¹ This document has been modified from the course syllabus for UNT SLIS 5600/4600 Policy on Academic Misconduct: Plagiarism and cheating.

<http://courses.unt.edu/efiga/FACULTYPAGE/StudentStatementPlagiarism.htm>