Aquatic Insects of North America
BIOL 4560
Spring 2018

Instructor: Dr. James H. Kennedy
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EESAT 310F
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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 345)
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[1]	LAB
16 January	Introduction, Introduction to General Entomology	pp. 1-14, 139-156.	
18 January	Aquatic Ecology: Habitats, Habits & Trophic Levels	pp. 55 – 103, 105 – 122.	Introduction, Morphology, Grasshopper Dissection, Key to Order
23 January	Aquatic Ecology: Habitats , Habits & Trophic Levels Continued	PP. 55 – 103, 105 – 122.	
25 January	Ephemeroptera	pp. 181 - 225 ... Table 11A	Collembola & Ephemeroptera
30 January	Ephemeroptera Cont'd	Same	
01 February	Odonata	pp. 237 -284 ... Table 12 A	Odonata
06 February	Odonata Cont'd	Same	
08 February	**Examination 1 (Lectures 16 Jan - 06 February)**		Plecoptera
13 February	Plecoptera	pp. 311-375 ... Table 14 B	
15 February	Plecoptera Cont'd	Same	Hemiptera and Megaloptera/Neuroptera Review materials available for practical (Collection-spreadsheet check)
20 February	Hemiptera	pp. 385- 413 ... Table 15 A	
22 February	Field Trip Depart 11:00 – no lecture		**FIELD TRIP**
27 February	Hemiptera Cont'd	Same	

01 March	Megaloptera	pp. 425- 435 ... Table 16 A	MIDTERM LAB PRACTICAL
06 March	TBD		
08 March	**Examination 2 (Lectures 18 February - 08 March)**		**FIELD TRIP**
12 & 16 March Spring Break			
20 March	Minor Orders	pp. 295-306, 425- 435, 553-564, 673 - 677. Tables 13 A, 16A, 19A, 21A.	
22 March	Trichoptera	pp. 439 - 530 ...Table 18A	Trichoptera
27 March	Trichoptera		
29 March	Coleoptera	pp. 571 - 648 .. Table 20A	Coleoptera
03 April	Coleoptera		
05 April	**Examination 3 (Lectures 13 March -05 April)**		Diptera
10 April	Preparation for the overnight field trip. Sampling for Aquatic Insects Drift, Substrate Sampling.	Handouts	
12 April	**Overnight Field Trip**		**Overnight Field Trip**
17 April	Diptera	pp. 687-722, 723-746... Table 22B	
19 April	Diptera (alternate date for overnight field trip)		Review Materials for Practical
24 April	Communities	pp. 105 - 122	
26 April	Applications	pp.123- 137	**FINAL LAB PRACTICAL**
01 May	Applications	None	
03 May	Induction into the UNT Dead Nymph Society and Aquatic Insect Feast		**COLLECTION, SPREADSHEET, EQUIPMENT DUE**

[1] Merritt, Cummins and Berg... *An Introduction to the Aquatic Insects of North America*

Final Examinations: *Aquatic Insects of North America* final is scheduled for 08 May 2018 (10:30-12:30). 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. Regardless of your scores in lecture or laboratory if your semester grade in either of these segments if an "F" the highest grade you can earn in the course is a "D".

The Lecture grade is composed of examinations (85%) and participation (15%). There are three lecture opportunities (examinations) and a final opportunity. All opportunities (lecture and final) are equally weighted and will be averaged to determine the lecture portion of your grade. Participation points are based on participation in class activities. The participation points are the easiest points to earn, just come to class, participate in the day's activities, don't sleep during class, don't text during class, don't read newspapers or novels during class and you will earn the 10 %. Participation points are part of the curves added to each opportunity.

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 http://registrar.unt.edu/registration/spring-registration-guide. January 30, 2018: Last day to withdraw from course online after this date after this date a student who wishes to drop a course must first receive written consent of the instructor. **February 23, 2018** is the last day to drop a course with a W. **April 02, 2018:** Last day to drop with either W or WF. 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.

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 you 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 at http://www.unt.edu/csrr/ including the Code of Student Conduct at http://www.unt.edu/csrr/code_of_student_conduct.htm which include the following text:

Categories of 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 collaboratory 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