Aquatic Insects of North America
BIOL 4560
Spring 2020

Instructor: Dr. James H. Kennedy
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EESAT 310F
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Office Hours: M. & W. 2:15 – 3:15 or by appointment

Time and Room
Lecture: 11:00 - 12:20 Tuesday & Thursday (EESAT 190)
Lab: 1:00 - 4:50 Thursday (EESAT 358)

Labortatory Instructor: Sabrina Moore**,** sabrinamoore2@my.unt.edu

Required Text: *An Introduction to the Aquatic Insects of North America* (5th 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. The course includes two equal components: 1) **Lecture** where the emphasis is placed on important aspects of their biology such as life cycles, habitat preferences, feeding habits, adaptations to environments, and functions in ecosystems. 2) **Laboratory** activities focus on developing the skills needed to identify aquatic insects.

Aquatic insects are used **universally** by conservation and regulatory agencies to assess the ecological health of freshwater around the world. 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 the family on sight.
   d. most immature aquatic insects to the 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
14 January	Introduction to General Aquatic Entomology 2	Chapters 1, 4, 5 & 6	
16 January	Aquatic Ecology: Habitats, Habits & Trophic Levels 2		Introduction, Morphology, Grasshopper Dissection, Key to Order
21 January	River Webs + Written exercise	Chapter 5.	
23 January	Lecture and Laboratory combined	Chapter 12 & 13	Collembola & Ephemeroptera
28 January	Ephemeroptera	Chapter 13	
30 January	Ephemeroptera finish & Odonata	Chapter 14	Odonata
04 February	Odonata Cont'd	Same	
06 February	Plecoptera	Chapter 15	Plecoptera
11 February	Plecoptera Continued	Same	
13 February	**Examination 1 (Lectures 14 Jan - 06 February)**		Hemiptera and Megaloptera/Neuroptera. Review for lab practical
18 February	Hemiptera	Chapter 17	
20 February	Field Trip Depart 11:00 – no lecture		**FIELD TRIP**
25 February	Hemiptera Cont'd	Same	
27 February	Megaloptera/Neuroptera	Chapter 18	MIDTERM LAB PRACTICAL
03 March	Neuroptera	Same	
05 March	**Examination 2 (Lectures 18 February - 08 March)**		**Field Trip**
Spring Break (no classes) 09 & 13 March Spring Break			
17 March	Minor Orders- Semiaquatic Orthoptera and Hymenoptera	Chapter 15, 22 Note these Orders are not presented Phylogenetically	
19 March	Trichoptera	Chapter 18	Trichoptera (Collection-spreadsheet check)
24 March	Trichoptera/ Lepidoptera	Chapter 19	
26 March	Coleoptera	Chapter 21	Coleoptera
31 March	Coleoptera	Same	
02 April	**Examination 3**		Diptera

07 April	Preparation for the overnight field trip. Sampling for Aquatic Insects Drift, Substrate Sampling.	Chapter 3 & Handouts	
09 April	**Overnight Field Trip**	Same	**Overnight Field Trip**
14 April	Diptera	Chapters 23, 24, 25, 26, and 27	
16 April	Diptera (alternate date for the overnight field trip)	Same	Review Materials for Practical
21 April	Communities	Chapters 5 & 6	
23 April	Applications	Chapter 7	**FINAL LAB PRACTICAL**
28 April	Applications	Chapter 7	
30 April	Induction into the UNT Dead Nymph Society and Aquatic Insect Feast		**COLLECTION, SPREADSHEET, EQUIPMENT DUE**

[1] Merritt, Cummins and Berg, 2019. *An Introduction to the Aquatic Insects of North America 5th Edition*

[2] Chapters 1, 4, 5 & 6 provide the background information needed to understand aquatic insect ecology. These chapters complement the concepts introduced in Lecture and Laboratory.

Cell Phones must be turned off during the class; no texting or web browsing.

Final Examinations: The final examination for *Aquatic Insects of North America* is scheduled for 5 May 2020 (10:30-12:30). The examination includes information from all areas that were 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 is 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 your 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 15 %. 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 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.

Dropping the class (information provided here as a courtesy, please check and confirm this information on the UNT website) https://registrar.unt.edu/registration/spring-add-drop**. January 27, 2020 (11:59 PM)** is the last day to drop a class online. After this date, a student who wishes to drop a course must complete and submit a Request to Drop Class form to the Office of the Registrar.

If you decide to drop the course, you must turn in the lab equipment. Failure to return equipment will be considered a theft of University property and reported to the Department and UNT police.

ACCEPTABLE STUDENT BEHAVIOR

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at https://deanofstudents.unt.edu/conduct.

It is expected that student behavior will be courteous of the corse nstrutors and other students. Students should arrive for class early and leave only at the end of class. On those days that you must you arrive late, please do not disrupt the class during your entrance. **If you missed the handouts please wait until the end of the class to receive them.**

Cell phones must be turned off during class. Students violating such norms will be asked and expected to leave the classroom.

Students do not have permission to video or audio record lectures or laboratory presentations.

SEXUAL DISCRIMINATION, HARASSMENT, & ASSAULT

UNT is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or experiences any of these acts of aggression, please know that you are not alone. The federal Title IX law makes it clear that violence and harassment based on sex and gender are Civil Rights offenses. UNT has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more. UNT's Dean of Students' website offers a range of on-campus and off-campus resources to help support survivors, depending on their unique needs: https://deanofstudents.unt.edu/sexual-

misconduct/reporting-sexual-misconduct#4. Renee LeClaire McNamara is UNT's Student Advocate and she can be reached through e-mail at SurvivorAdvocate@unt.edu or by calling the Dean of Students' office at 940-565-2648. You are not alone. We are here to help.

ADA Accommodation Statement. UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website at disability.unt.edu.

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 following 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

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. submitting for a grade that have not been collected or acquired as described in th lab syllabus.
f. 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: _____