

Biology of Insects BIOL 4070/5070

Fall 2022

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Office Hours: Monday & Wednesday 0930 – 11:00 or by appointment. See note below.

Required Text: *The Insects An Outline of Entomology* 5th Edition by P. J. Gullan and P.S. Cranston.

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

INSECT BIOLOGY (Entomology) is a basic course in the study of insects. Insects are the most diverse group of animals found on Earth, outnumbering all other species of animals and plants combined. Course emphasis is placed on understanding factors that contribute to the success of insects and the diversity of forms and behaviors. The course is intended to provide a general background in entomology, to satisfy general knowledge, and /or provide a foundation for research/teaching careers in ecology, conservation or environmental science.

OBJECTIVES:

The overall course objective is to examine the role that insects play in the ecosystems they inhabit and to understand how ecosystems influence the insects that live in them.

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

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

- i. functions in ecosystems
- 3. Demonstrate current methods used in entomology:
 - a. collecting
 - b. preserving
 - c. preparing specimens for study
 - d. curating

TENTATIVE SCHEDULE

Date	Topic	Reference
Structure and Function		
30 Aug. 2022	Introduction: Class policies, Definition of insects, Biodiversity of Insects	Chap 1,& notes
01 Sep. 2022	Arthropods other than Insects, Evolution, Classification	Chap 1 Chap 7
06 Sep. 2022	General morphology of Adult insects, Integument	Chap 2
08 Sep. 2022	Internal Anatomy – muscles locomotion-flight	Chap 2
MAJOR LIFE SYSTEMS		
13 Sep. 2022	Tracheal System – getting oxygen to the tissues –structural and behavior	Chap 3
15 Sep. 2022	Tracheal System cont'd	Chap 3
20 Sep. 2022	Circulatory System – Cardiac physiology	Chap. 3
22 Sep. 2022	Insect Feeding and the Digestive System	Chap. 3
27 Sep. 2022	Excretory System	
29 Sep. 2022	EXAMINATION #1	Chap. 3
04 Oct. 2022	The Nervous System ... Sensing the Environment	Chap. 3
06 Oct. 2022	Sensory Mechanisms and receptors ... mechanoreceptors, chemoreceptors.	Chap. 4 (Section 4.1 - 4.2)

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11 Oct. 2022	Sensory Mechanisms and receptors ... mechanoreceptors, chemoreceptors. Continued	Chap. 4 (Section 4.1 - 4.2)
13 Oct. 2022	Exocrine and Endocrine Glands and their Functions	Chap. 3 (Section 3.3)
18 Oct. 2022	Reproduction: Male systems and Female systems; Mating Strategies	Chap. 3 (Sections 3.81 - .82)
20 Oct 2022	Insect Development and Life Histories	Chap. 6
25 Oct. 2022	Insect Development and Life Histories cont'd	
27 Oct. 2022	Examination #2	
01 Nov 2022	Insects and Plants	Chap 10
03 Nov 2022	Insects and Plants ... Cont'd	
08 Nov. 2022	Insect Societies	Chap. 11
10 Nov. 2022	Insect Societies ... Cont'd	
15 Nov. 2022	Introduction to Medical Entomology	
17 Nov. 2022	Medical Entomology Cont'd	
22 Nov. 2022	Examination #3	
24 Nov. 2022	No Class Thanksgiving Vacation ... Go south & collect insects.	
29 Nov. 2022	Forensic Entomology	Chap 9 section 9.4
01 Dec. 2022	Forensic Entomology continued	
06 Dec. 2022	Overview Reminder Collections Due by 4:00.	
08 Dec. 2022	Insects are food. Induction into The Dead Bug Society.	Chap 1
13 Dec. 2022	FINAL EXAMINATION ... 10:30 - 12:30 EESAT 190	

Please note that this syllabus is tentative. I will make every attempt to cover the materials in the syllabus as outlined but reserve the right to make changes.

Grading: The grade you earn in Insect Biology is an average of your Lecture grade and Laboratory grade. 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 the class activities (both lecture and laboratory). Frequent quizzes are given in the lecture. The quizzes provide insight into questions that might occur on the opportunity and provide clues on what to emphasize when studying. The quizzes also provide the instructor with how well students are grasping concepts. The quizzes are used as an attendance check and are not graded. The final Insect Biology grade is calculated by averaging your lecture and laboratory scores. This class includes undergraduates and graduate students. Lecture requirements are the same for undergraduates, and graduate students course requirements. However, when calculating lecture test grades, graduate students are considered separately from undergraduate students. Graduate student exams will often include extra short answer questions. If a *curve* is applied to an opportunity, graduate scores will not be considered. The requirements of the insect biology laboratory also differ for graduate students. These differences are outlined in the laboratory syllabus.

Regardless of the combined percentage, to receive a course grade of A or B a student must earn a minimum of a C in the lab and lecture portion of the course.

Final Insect Biology grade = (lecture percentage + laboratory percentage) / 2

A = 90 – 100

B = 80 – 89.9

C = 70 – 79.9

D = 60 – 69.9

F = 59.9 and below

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 with the class material, you are encouraged to talk with me as soon as possible, there is not much I can do for you during the last few weeks of the class. 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.

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 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.** Laptop computers may only be used for note-taking, and you must sit in the first row of the lecture hall. **Lectures are intellectual property. Video or voice recording is not permitted.** Students violating such norms will be asked and expected to leave the classroom.

Disability Accommodation: *The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time. However, ODA notices of reasonable 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 reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at [940.565.4323](tel:940.565.4323).*

Dishonesty: Academic dishonesty in this class is unacceptable and will not be tolerated in any form. Cheating affects 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 4070/5070 Biology of Insects Policy on Plagiarism and Cheating**. This policy is applicable in lecture and laboratory.

Drop Information: <http://registrar.unt.edu/registration/dropping-class>. If you decide to drop the class, ALL EQUIPMENT that has been assigned to you, (collecting and insect preparation materials) MUST be turned in to Heather Perry. There are no exceptions to this policy. Failure to turn in equipment will result in a WF assigned as a grade.

BIOL 4070/5070 BIOLOGY OF INSECTS

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. Academic dishonesty in this class is unacceptable and will not be tolerated in any form. Please consult the website www.vpaa.unt.edu/academic-integrity.htm for details.

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

1. 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,
2. 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 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 bought on eBay).

Penalties for Academic Misconduct

- 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. An example of a grievous 1st offense that will result in an "F" in the course would be turning in collections that you have stolen, borrowed, or otherwise not personally collected and try to pass them off as your work.

I acknowledge that:

- (1) I have been provided a copy of and read the BIOL 4070/5070 Policy on Plagiarism and Cheating located in the course syllabus.
- (2) I understand that instructors of this course have a zero tolerance policy for plagiarism and cheating and that policies as outlined in the syllabus will be enforced, without exception.

Print Name: _____

Signature: _____

Date: _____

