

BIOL 3850_5850: Medical and Veterinary Entomology
Department of Biology, College of Math and Science
Valdosta State University
Fall 2023, Syllabus and Course Policies

BIOL 3850 (4 credit hours): Section A, CRN #86212; Section B, CRN #86214

BIOL 5850 (4 credit hours): Section A: CRN #86213, Section B, CRN #86215

Lecture: BSC room 2022- MWF 11:00-11:50 am

Lab: BSC room 1043 -Section A, R 9:30 am – 12:20 pm; Section B, 2:00-4:50 pm

Instructor: Eric W. Chambers, Ph.D.

Office: BSC 2214; E-mail: ewchambers@valdosta.edu Phone: 229-249-2736

Office Hours: – MW 9:00-10:30 AM; F 1:00-3:00 PM; or by appointment

Prerequisites: Undergraduate: BIOL 1107, 1107L, BIOL 1108, and 1108L, or permission of instructor; Graduate: Admission to the graduate program or permission of instructor.

Catalogue Course Description: Overview of medical and veterinary entomology. The course reviews basic biology of insects and other arthropods, with emphasis on species affecting health of humans, domestic animals, and livestock. Diseases associated with arthropods and principles of forensic entomology will be considered.

Recommended Reading and Viewing Materials:

1. Medical and Veterinary Entomology 3rd ed. 2019 by Gary Mullen & Lance Durden.
2. Primary literature on medical and veterinary entomology. These will be available to students through Blazeview
3. Video presentations as assigned by Dr. Chambers

Technology Statement: In this class, students will regularly use the following applications:

1. Office 365 for access to VSU email and to Microsoft applications that we will use regularly (Outlook, Teams, Word, Excel, PowerPoint, etc.).
2. BlazeVIEW to access course materials

Although students can use their mobile phones to access these applications it might be preferably for to use a laptop or desktop computer. Computer labs can be found in Bailey Science Center, rooms 3018 and 3019.

IT provides a list of recommended technologies at

<https://www.valdosta.edu/administration/it/helpdesk/personal-devices/recommended-technologies.php>

VSU students may download and install Microsoft Office 365 on up to 5 personal devices (<https://www.valdosta.edu/administration/it/helpdesk/employee-resources/employee-services/work-at-home-tech-guide.php>)

Course scope and objectives: This course is intended to introduce the student to the biology, ecology and behavior of insects that affect the health of humans, livestock, and other domestic or wild animals. Factors contributing to the diversity and success of these arthropods and their interactions with humans will be emphasized. Students are expected to learn the characters used to identify the more common and important North American taxa of medical or veterinary importance and to assemble a collection of relevant locally-occurring species. These correspond to Department of Biology Educational Outcomes 2 and 5 (**Educational outcomes are listed at the end of syllabus**)

Course requirements & grading policy: Students are expected to attend all scheduled lectures, all laboratory sessions, and complete all assigned work including quizzes and examinations. BlazeView as well as the Valdosta State email system will be used to communicate with the class, and students should check BV daily for announcements or other information that may be posted there. Regular attendance and participation are essential for success in class. Therefore, students are expected to attend class as scheduled and must complete assignments as outlined in the syllabus. Attendance will not be routinely recorded after the Drop/Add period but students are responsible for all material presented in class and **must attend labs**. The Instructor is not obligated to provide lecture notes or handouts to absentee students and reserves the right to offer make-up examinations to students with documented valid excuses (eg. a death in the immediate family). Due to the logistical problems of setting up laboratory practical exams, make-ups of these tests may not be available. If students must be absent due to a quarantine or isolation requirement for COVID-19, they must report this situation via the COVID Self Reporting Link in MyVSU and through the Dean of Students Office to report any other absences as well. The schedule will not be altered for individual students unless arrangements have been made in advance.

Lecture topics will be covered in three one-hour examinations and a comprehensive final examination. These exams may consist of any combination of objective (fill-in, true-false, multiple choice) and subjective (essay, diagrams etc.) questions about material presented in class or in the text. Exams will be retained by the instructor for 1 calendar year; students may arrange to see these at any time. Laboratory material will be covered by 8 quizzes, 2 practical examinations (sight identification of specimens) and worksheets. Reading material assigned for the lab also may be covered on these tests but students will not be tested in the lab on subjects that are covered only in lecture. All tests are cumulative.

Points for the course will be allocated as follows:

<u>LABORATORY</u> (25% grade)	<u>LECTURE</u> (75% grade)
8 Quizzes (15 pts each, 2 low scores dropped)	Unit Exams 300 pts
90 pts	<u>Final Exam</u> 100 pts
Practical Exam I: 40 pts	TOTAL: 400 pts
Practical Exam II: 60 pts	
<u>Worksheets:</u> 10 pts	
TOTAL: 200 pts	

Graduate Students: In addition to the requirements set forth above, students enrolled for Graduate Credit (BIOL 5850) will read and provide written critiques of assigned research papers (TBA) (10 points total), and present 2 class or laboratory lectures (10 points each).

Grade scale for undergraduate students based on points earned:

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F < 60%

Dropping the course: The last day to drop the course is August 17, 2023 @ 11:59 PM;**Withdrawing from the course:** The last day to withdraw from the course (you will receive a W) is October 12, 2023. If you don't officially withdraw, and instead just stop coming to class, you will receive an F for the course.**Academic conduct:** Cheating and plagiarism will not be tolerated and may result in a failing grade for the assignment, exam, or the class. The Department of Biology has a plagiarism policy, which will be handed out during the first lab period.**SOI Syllabus Statement:** At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available through SmartEvals. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators, and they will be able to access results only after they have submitted final grades. Before final grade submission, instructors will not be able to see any responses, but they can see the percentage of students who have or have not completed their SOIs. While instructors will not be able to see student names, an automated system will send a reminder email to those who have yet to complete their SOIs. Complete information about the SOIs, including how to access the survey, is available on the SOI Procedures webpage (<https://www.valdosta.edu/academics/academic-affairs/sois/>).**Student identification:** Students should have in their possession at all times their VSU student identification card. In order to verify the identification of students officially enrolled in the course, it is the instructor's prerogative to request official student photo identification cards at any time during lecture. During examinations, students will routinely be asked to display their VSU student identification cards visibly on the desktop and to make them available for inspection by their instructor and/or assistants.**Privacy Act (FERPA):** The Family Educational Rights and Privacy Act (FERPA) prohibits the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given over the telephone or over email because positive identification can't be made.**Accommodations Statement:** Students with disabilities who are experiencing barriers in this course may contact the Access Office (<https://www.valdosta.edu/student/disability/>) for assistance in determining and implementing reasonable accommodations. The Access Office is located in University Center Room 4136 Entrance 5. The phone numbers are 229-245-2498 (V), 229-375-5871. For more information, please visit VSU's Access Office or email: access@valdosta.edu. To request reasonable accommodations for pregnancy and childbirth, contact Ms. Myia Miller, Title IX Compliance Officer, at maburden@valdosta.edu. Please note, you will be required to provide documentation from an appropriately licensed medical professional indicating the requested accommodations are medically necessary.

Non-Discrimination and Title IX Statement: Valdosta State University (VSU) upholds all applicable laws and policies regarding discrimination on the basis of race, color, sex (including sexual harassment and pregnancy), sexual orientation, gender identity or expression, national origin, religion, age, veteran status, political affiliation, or disability. The University prohibits specific forms of behavior that violate Title IX of the Education Amendments of 1972. Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education programs and activities that receive federal funding. VSU considers sex discrimination in any form to be a serious offense. Title IX refers to all forms of sex discrimination committed against others, including but not limited to: sexual harassment, sexual assault, sexual misconduct, and sexual violence by other employees, students or third parties and gender inequity or unfair treatment based on an individual's sex/gender. The designated Title IX Coordinator for VSU is Ms. Selenseia Holmes. To view the full policy or to report an incident visit: <https://www.valdosta.edu/administration/student-affairs/title-ix/>

Tentative Lecture Schedule – Fall 2023

Lecture Topics	Assigned Readings (Durden and Muller, 3 rd ed)
Introduction and Overview of Arthropods	Ch. 1
Morphological Adaptations of Parasitic Arthropods	Ch. 2
Arthropod Toxins and Venoms	Ch. 3
Epidemiology of Vector-borne Diseases	Ch. 4
Forensic Entomology	Ch. 5
Cockroaches	Ch. 6
Lice	Ch. 7
True Bugs	Ch. 8
Beetles and Fleas	Ch. 9 & 10
Flies	Ch. 11-20
Moths and Butterflies	Ch. 21
Ants, Wasps, and Bees	Ch. 22
Scorpions and Scolopugids	Ch. 23 & 24
Spiders	Ch. 25
Mites	Ch. 26
Ticks	Ch. 27
Molecular Tools Used in Med/Vet Entomology	Ch. 28

Tentative Lab Schedule – Fall 2023

Lab No.	Date	Topic/Activity
1	8/24/23	Classification, Dichotomous keys, Arthropod classes, Insect & Arachnid orders
2	8/31/23	External morphology and Life history stages
3	9/7/23	Quiz 1* ; Blattodea, Phthiraptera
4	9/14/23	Quiz 2* ; Hemiptera, Coleoptera & Siphonaptera
5	9/21/23	Quiz 3* ; Diptera part I (Nematocera)
6	9/28/23	Quiz 4* ; Diptera part II (Brachycera)
7	10/5/23	Lab practical exam I
8	10/12/23	Lepidoptera & Hymenoptera
9	10/19/23	No Lab
10	10/26/23	Quiz 5* ; Arachnid orders part I
11	11/2/23	Quiz 6* ; Arachnid orders part II
12	11/9/23	Quiz 7* ; Arachnid orders part III
13	11/16/23	Quiz 8* ; Review for practical exam
14	11/30/23	Lab practical exam II

* Quiz covers all material from previous labs

VALDOSTA STATE UNIVERSITY GENERAL EDUCATIONAL OUTCOMES (GEO)

4. Students will express themselves clearly, logically and precisely in writing and in speaking, and they will demonstrate competence in reading and listening. They will display the ability to write coherently in standard English; to speak well; to read, to understand, and to interpret the content of written materials in various disciplines; and to listen effectively and to understand different modes of communication.

7. Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written and visual materials. They will be skilled in inquiry, logical reasoning, and critical analysis. They will be able to acquire and evaluate relevant information, analyze arguments, synthesize facts and information, and offer logical arguments leading to creative solutions to problems.

9. Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical reasoning and concepts to solve problems.

DEPARTMENT OF BIOLOGY EDUCATIONAL OUTCOMES (BEO)

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral format used in peer-reviewed journals and at scientific meetings.

2. Describe the evolutionary process responsible for biological diversity, explain the phylogenetic relationships among the other taxa of life, and provide illustrative examples.

3. Demonstrate an understanding of the cellular basis of life.

4. Relate the structure and function of DNA/RNA to the development of form and function of the organism and to heredity

5. Interpret ecological data pertaining to the behavior of the individual organism in its natural environment; to the structure and function of populations, communities, and ecosystems; and to human impacts on these systems and the environment.