

Sample Syllabus: Medical Entomology

ENTO415/815

Instructor: Steve Robertson

E-mail: blattaria@cox.net

Home: (757) 838-7623 (no calls after 9:00 p.m. EST please)

Course Objectives

In this course, we will examine the role of insects as vectors of diseases and their effects on human populations. Students will learn the taxonomy, morphology, life history, ecology, and behavior of the insects of public health importance and the epidemiology of the disease pathogens they transmit. Students will also learn integrated pest management (IPM) techniques that are helpful in diagnosing, preventing, and controlling disease vectors.

Course Activities

Course activities will include lectures, outside readings (book chapters, reviews, and selected original literature) for blackboard discussion, and two exams. Undergraduate students are required to do one research paper and graduate students are required to do 2 research papers.

Grading

Graded assignments and available points are depicted in the table below.

ASSIGNMENTS	POINTS
Exam #1	100
Exam #2	100
Research Paper #1 (Grad & Undergrad)	50
Research Paper #2 (Grad only)	50
Discussion #1	20
Discussion #2	20
Discussion #3	20
Discussion #4	20
Discussion #5	20
TOTAL POINTS	400 – Graduate 350 – Undergraduate

Examinations: Exam coverage will include all lecture materials. The final exam will be comprehensive, though it will concentrate more on materials covered during the latter part of the semester. The exam format, for both exams, will

be short answer essay questions. The exams are take home exams. You can use any resource to complete the exams EXCEPT for soliciting assistance from other individuals, including classmates.

Research Papers: Graduate students are required to write 2 research papers for this course. Undergraduate students are required to write 1 research paper for this course. Paper due dates are posted in the Course Schedule. Paper guidelines are posted in a separate document under **Assignments**.

Discussion: There will be 5 graded discussions. The discussions will take place on the Blackboard. Dates of when discussions will be completed are posted in the course schedule below. All students are expected to participate. Besides the normal lectures and textbook readings, additional readings for discussions will be posted under **Assignments**. The instructor will begin the discussion on the **Discussion Board** and then monitor and guide the discussion as necessary. Discussions are expected to be logical and professional. If there are disagreements or differences in opinions, I expect your position to be stated civilly and professionally.

Grades: Letter grades will be assigned based on the following percentage scale:

A+	97-100
A	93-96
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72

Course Text

Service, Mike W., 2012. *Medical Entomology for Students*, 5th Edition. Cambridge University Press. (ISBN: 978-1-107-66818-8)

Other References

If you would like some additional reference books, here's a list of a few more books that are currently in print and are excellent resources. I will actually be using information from these books and many other books and resources throughout this course.

- *Biology of Disease Vectors*, 2nd Ed., William C. Marquardt, 2004, Elsevier Academic Press

- *Medical and Veterinary Entomology*, 2nd Ed., Gary Mullen and Lance Durden, 2009, Academic Press, San Diego, CA
- *Medical Entomology: A Textbook on Public Health and Veterinary Problems Caused by Arthropods*, Revised Edition, Edited by Bruce Eldridge and John Edman, 2003, Kluwer Academic Publishers

Lectures

The lectures are provided in two formats (ShockWave Flash and MP4). You may watch these online or download them to your computer or other mobile devices. If you want to stream the videos, the ShockWave Flash (*.swf) files are smaller than the MP4 (*.mp4) files. For the hearing impaired, the ShockWave Flash files have the added advantage in that the narration text is displayed to the right of the slides (click on the Notes tab). The MP4 files are much larger, but they can be downloaded and run on some mobile computing devices.

As a note taking aid, the slides for each lecture will be available in a Portable Document Format (*.pdf) which is an open standard for electronic document exchange. These files can be viewed using Adobe® Reader® which is available for free online.

The lectures are broken up by topics. The videos vary in length of time. If we were in the traditional classroom with a set time period, we would just switch topics in mid-class and keep going until the end of the allotted time period. However, with distance courses, we can break up the lectures and other materials into any time length and watch them at our own pace. Instead of breaking the videos into set time lengths, I broke them up by topics.

Medical Entomology (ENT 415/815) Course Schedule

Lecture 1: Introduction	
Lecture 2: Medically Important Orders	
Lecture 3: Disease	Discussion #1 comments due
Lecture 4: Phobias	
Lecture 5: Epidemiology	
Lecture 6: IPM/IVM	
Lecture 7: Diptera/Muscids	Read Chapter 9
Lecture 8: Mosquitoes, Part 1	Read Chapter 1 Discussion #2 comments due
Lecture 9: Mosquitoes, Part 2	Read Chapter 2
Lecture 10: Mosquitoes, Part 3	Read Chapter 3
Lecture 11: Mosquitoes, Part 4	
Lecture 12: Malaria	
Lecture 13: Siphonaptera	Read Chapter 11 Discussion #3 comments due
Lecture 14: Plague	
Lecture 15: Phthiraptera	Read Chapter 12 Mid-term exam
Lecture 16: Myiasis	Read Chapter 10
Lecture 17: Psychodidae	Read Chapter 5
Lecture 18: Tabanidae	Read Chapter 7 1st paper due: All
Lecture 19: Simuliidae	Read Chapter 4 Discussion #4 comments due
Lecture 20: Ceratopognidae	Read Chapter 6
Lecture 21: Glossinidae	Read Chapter 8
Lecture 22: Hemiptera (Cimicidae)	Read Chapters 13
Lecture 23: Hemiptera (Triatominae)	Read Chapter 14
Lecture 24: Blattaria	Read Chapter 15
Lecture 25: Venomous Arthropods 1	Discussion #5 comments due
Lecture 26: Venomous Arthropods 2	
Lecture 27: Venomous Arthropods 3	2nd paper due: only grad students
Lecture 28: Acari	Read Chapters 18, 19, 20
Lecture 29: Ixodidae	Read Chapters 16 & 17
Lecture 30: Pesticides and the Public	Chemophobia Articles
	Final exam