



Course title and number	Medical Entomology ENTO 423
Term	Spring 2014
Meeting times and location	Lecture: MW 1:50-2:40 PM, Heep Center – West Campus, Room 102 Lab: Times as assigned, Heep Center, Room 207

Course Description and Prerequisites

Prerequisite(s): Junior or Senior classification or permission of instructor

ENTO 208, Seminar (3 credit hours) Biology, disease relationships and control of insects and other arthropods parasitic on or in humans are described and discussed in lecture sessions, within the context of this information being an important aspect of the fields of clinical and preventive medicine. Survey, collection, taxonomy of medically important arthropods and molecular biology applications are emphasized in the laboratory sessions. The course objectives are to familiarize students with the arthropod groups involved in the causation and/or transmission of diseases affecting human and sometimes other animal health, with key morphological characteristics, habits and habitat needs of the various life stages of each group and/or species of arthropod being emphasized. The laboratory class will focus on the identification of immature and adult specimens of arthropod species of medical importance to be covered in the course. Students will also be introduced to the use of molecular biology applications to medical entomology.

Student Learning Outcomes

Course Objective: At the end of this course, you should be able to: (1) Name medically important arthropods covered in the course, by scientific and common names, (2) Demonstrate the comprehension of how each arthropod group covered in the course may become involved in the transmission of causative agents of human diseases (i.e., the role of each group as "vectors" for other disease agents), (3) Name diseases that can be caused by agents transmitted by each arthropod group covered in the course, and (4) Demonstrate the comprehension of how the knowledge of vector biology has been applied to develop methods to control arthropod vectors and vector borne diseases.

Instructor Information

Name	Dr. Adrienne Brundage
Telephone number	979-845-9731
Email address	adrienne.brundage@agnet.tamu.edu
Office hours	TR 10:00 AM – 1:00 PM; By appointment
Office location	Heep Center, 404A

Textbook and Resource Material

Mullen, Gary & Lance Durden. 2009. Medical and Veterinary Entomology, Academic Press: New York. 597 p.

Additional Reading

Occasionally I will assign additional reading material. These will be available under the "Additional Reading" link on eCampus, and will be listed in the syllabus.

Lecture

Class attendance is the student's responsibility. I expect you to attend class regularly and complete all assignments. I will not take attendance. If you miss class, you are responsible for all information and assignments. No makeup assignments or extensions will be given without a university approved excuse. I will occasionally assign unannounced in class extra credit or pop quizzes that cannot be made up, which will serve as attendance checks.

eCampus

This course has a companion website hosted through eCampus. It is important for you to access eCampus on a regular basis because it will be the place where you will:

- See the class assignment calendar to keep up with your assignments
- Download additional course materials, like handouts, power points, and notes
- Access your weekly quizzes
- Check your grades using the online grade book
- Check the FAQs, ask questions, or email your instructor

If you cannot access eCampus, please contact your instructor or TA this week to get this resolved.

Classroom Management:

- All cell phones, pagers (do they even make those anymore?), mp3 players, and other electronic devices are to be turned off and put away while in the classroom.
- Do no answer calls, view or send text messages, or surf the web while in the classroom. What's that phrase? Students, I know you're texting, no one just looks down at their crotch and smiles.
- Please be respectful to those around you and minimize talking to other students while the instructor is speaking...it throws me off and then I get all annoyed. ☹
- Please do not sleep in class, that's also annoying, and then to make myself feel better I will take your picture to post on my "students sleeping in class" Instagram account
- Do not bring visitors or children into class without permission. Just ask me and I'll happily allow them in...I just have to let the department know so I don't get in trouble.
- Do not bring food, drink, or tobacco into the classroom unless you plan to share with all of us.
- If you have any problems with other students in the class, please come and talk to me about it.
- We will be using eCampus heavily throughout the course. Make sure you are able to log into eCampus today to get up-to-date information. All information you need is probably on eCampus. (Seriously. Check there first)
- If you have any questions, check the FAQs list on eCampus. Whenever I get more than one person asking me a question, I'll post it on the FAQs list, so your question may already be answered! If not, just let me know and I'll get back to you.
- Any questions, comments, concerns, etc. come and see me in my office or drop me an email.
- If you cannot make my office hours, please make an appointment with me, or walk by my office. If my office door is open, you are welcome to walk on in!

Laboratory

Necessary materials for completion of labs are available within the required lab course packet. Proper lab attire must be worn to each lab session, and proper lab etiquette must be followed as outlined by lab instructors. Failure to do so may result in dismissal from lab and an unexcused absence.

Teaching Laboratory Safety: The Department of Entomology is committed to the safety of all students and employees participating in teaching laboratories. To ensure that a safe environment is maintained in our teaching laboratories, it is expected that all students will adhere to general safety guidelines and emergency procedures, as well as course-specific and activity-specific safety instructions provided by faculty and teaching assistants. The only chemical solvent used in the laboratory is 80% ethanol for specimen preservation. Laboratory safety and emergency procedures will be reviewed during the first class period and you will be asked to sign your acknowledgement of these instructions before attending further classes in this course.

Grading Policies

Three 100-point examinations and one **comprehensive** 200-point final will be given in lecture. In addition, we will have 11 weekly online eCampus quizzes (open note, open book) worth 20 points each. Five 10-point quizzes, three 50-point practical exams, one 100-point **comprehensive final** examination, and one 100 point lab report will be given in laboratory. Laboratory examinations will consist of the identification of specimens (lice, fleas, flies, ticks, and mites) using taxonomic keys made available to you in the laboratory. There will be several chances for extra credit throughout the semester. These may be announced on eCampus, during class, or through email.

- A = 90 -100
- B = 80 - 89
- C = 70 - 79
- D = 60 - 69
- F = Below 60

Exams will be available for review in my office. I do not return exams, but you can look at them at any time, for as long as you wish.

Grades are not negotiable. Your final course grade will be based on your work in the course. If you are concerned about a grade, please see your instructors during office hours.

QUIZZES

Quizzes are online, multiple choice, open note, and open book. Each quiz consists of 20 questions randomly drawn from a pool of questions associated with that week's lectures and reading assignments. You have 40 minutes to complete the quiz, after which the quiz will automatically submit, and you have two (2) chances to take the quiz. Different questions will be drawn each time you take the quiz. The higher of your two quiz grades will be counted. Each week's quiz will be open on Wednesday at 5:00 PM, and be due by Sunday night at 11:59 PM. No late quizzes will be accepted. If you have technical difficulties, you must contact Dr. Brundage by 5:00 PM Sunday night. **ECampus servers experience problems when overloaded by students. Technical problems resulting in late quizzes due to over loaded servers after 5:00 PM on Sunday evenings will not be considered an approved excuse for an extension. Do not ask for one.** I have outlined known problems with taking online quizzes in the FAQs section of eCampus. Please familiarize yourself with these before you take your first quiz. **Note: There will be no quizzes on weeks we have exams.** Take that week off!

MAKE UP EXAMS

Make-up exams are available only with a university approved excuse. Students missing a lecture exam will have **two weeks** from the date of the initial examination to take make-up examinations. If student does not take exam during that period, the student will receive a zero for that examination. University accepted excuses are needed in order to take make-up exam. Professor discretion can be implemented. Just come talk to me about things! Everything always works out better that way.

Students missing a lab exam must make arrangements with his or her TA within **one week** of the missed exam. Due to the nature of the lab exam set up, make up lab exams are only available on Fridays, and only at the discretion of the lab TA. Alternative arrangements are not possible (nope, not even if you come and talk to me about it. Nope, not even for that reason you just thought of). If you know you will miss a lab exam in advance, you must work out an alternative with your TA in advance.

The university views class attendance as an individual student responsibility (<http://student-rules.tamu.edu>). Students are expected to attend class and to complete all assignments. Instructors are expected to give adequate notice of the dates on which major tests will be given and assignments will be due. This information has been provided on the course syllabus, which has been distributed at the first class meeting.

EXTRA CREDIT

There will be several opportunities for extra credit throughout the semester. These opportunities will be announced in class, through eCampus, and through email. I do not accept late extra credit for any reason, not even university approved excuses. It's extra!

Course Topics, Calendar of Activities, Major Assignment Dates

Spring 2014 ENTOMOLOGY 208 LECTURE SCHEDULE (Tentative)

Note: This schedule can change. Please see eCampus for updated lecture schedule

Date	Lecture	Reading Assignment/Quiz
Jan 13	Introduction	
15	Lecture 1: Direct effects of arthropods on human health	Chapter 1 Quiz 1 (Lec 1)
20	Martin Luther King Jr. Day	
22	Lecture 2: Morphological adaptations of parasitic arthropods	Chapter 2 Quiz 2 (Lec 2)
27	Lecture 3: Principles of arthropod-borne (vector-borne) disease epidemiology pt 1	Chapter 3
29	Lecture 4: Principles of arthropod-borne (vector-borne) disease epidemiology pt 2	Chapter 3 Quiz 3 (Lec 3 & 4)
Feb 3	Lecture 5: Principles of arthropod-borne (vector-borne) disease epidemiology pt 3	Chapter 3
5	Lecture 6: Factors contributing to the dynamics of vector-borne diseases	Chapter 3 Quiz 4 (Lec 5 & 6)
10	Lecture 7: General tactics and strategies to control vectors and vector borne diseases	
12	Exam 1: Effects of arthropods-Factors (Lectures 1-6)	
17	Lecture 8: Biology, ecology and behavior of ticks	Chapter 26
19	Lecture 9: Tick-borne diseases	Chapter 26 Quiz 5 (Lec 7 & 8)
24	Lecture 10: Biology, ecology and behavior of mites	Chapter 25
26	Lecture 11: Mite damage and disease	Chapter 25 Quiz 6 (Lec 10 & 11)
Mar 3	Lecture 12: Biology, ecology and direct effects of mosquitoes	Chapter 14
5	Lecture 13: Mosquito-borne disease epidemiology pt 1 (Malaria, filarial and dengue)	Chapter 14 Quiz 7 (Lec 12 & 13)
10	Spring Break (Have fun!)	
12	Spring Break (Have even more fun!)	
17	Lecture 14: Mosquito-borne disease epidemiology pt 2 (Arboviruses)	Chapter 14
19	Exam 2: Control – Epidemiology pt 1 (Lectures 7-13)	
24	Lecture 15: Biology and ecology of blackflies	Chapter 13
26	Lecture 16: Biology and ecology of Sandflies, sewer gnats and biting midges	Chapters 11 and 12 Quiz 8 (Lec 15 & 16)
31	Lecture 17: Biology and ecology of horse flies and deer flies	Chapter 15
Apr 2	Lecture 18: House, stable, horn & tsetse flies	Chapters 16 & 17 Quiz 9 (Lec 17 & 18)
7	Lecture 19: Filth flies and myiasis	Chapter 18
9	Lecture 20: Lice	Chapter 6 Quiz 10 (Lec 19 & 20)
14	Lecture 21: Fleas	Chapter 9
16	Exam 3: Epidemiology pt 2-Lice (Lectures 14-20)	
21	Lecture 22: Hemiptera	Chapter 7
23	Lecture 23: Spiders	Chapter 24 Quiz 11 (Lec 20 & 21)
28	Catch up day or Movie	
May 1	Reading Day (No class)	
6	Final Exam: 3:30 -5:30 PM Cumulative	Lectures 1-23, all Chapters

Note: We will be using ethanol in lab.

Spring 2014 ENTOMOLOGY 423 LABORATORY SCHEDULE	
Date	Laboratory
Jan 13-16	Lab 1: Introduction to Medical Entomology
20-23	No Lab (Martin Luther King Day)
27-30	Lab 2: Introduction to the Identification of Ticks Lab quiz 1
Feb 4-7	Lab 3: Introduction to the Identification of Mites Lab quiz 2
11-14	Lab Practical Exam 1: Ticks and Mites
18-21	Lab 4: Introduction to collecting/surveying mosquitoes in the field How to write a scientific paper
25-28	Lab 5: Introduction to Identification of Mosquito Larvae Lab quiz 3
Mar 4-7	Lab 6: Introduction to Identification of Adult Mosquitos Lab quiz 4
11-14	Spring Break
18-21	Lab Practical Exam 2: Adult and Larval Mosquitoes
25-28	Lab 7: Introduction to Identification of Flies and Maggots Lab quiz 5
Apr 1-4	Lab 8: Introduction to Identification of Fleas, Lice and True Bugs
8-11	Lab Practical Exam 3: Flies, Maggots, Fleas, Lice, and True Bugs
15-18	Lab 9: Mosquito Blood Meal Typing Methods; Unknown Mosquito Identification
22-25	Lab Practical Exam 4: Cumulative

Other Pertinent Course Information

Classroom Behavior: Disruptive classroom behavior is defined as anything that would interfere with “an instructor’s ability to conduct the class” or “the ability of other students to profit from the instructional program.” *TAMU Student Rules* explicitly prohibit disruptive behavior.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit <http://disability.tamu.edu>

Academic Integrity

For additional information please visit: <http://aggiehonor.tamu.edu>

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

The Texas A&M University Honor Code, based on the long-standing affirmation that “An Aggie does not lie, cheat, or steal or tolerate those who do” is fundamental to the value of the A&M learning experience and requires that Aggies will not involve themselves in any form of academic dishonesty. According to the Office of the Aggie Honor System, academic dishonesty consists of cheating, fabrication, falsification, multiple submission, plagiarism, and multiplicity. Clarification of each of actions may be found at the Aggie Honor System website at <http://www.tamu.edu/aggiehonor>. This list, however, is not exclusive of any other acts that may reasonably be termed academic dishonesty. The penalty for a violation of academic dishonesty in this class shall be an “F” in the course and filing of an Honor Code Violation Report with the Office of the Aggie Honor System. Less severe penalties may be imposed if the circumstances warrant.