Human Health Entomology

Instructor: Glen R. Needham, Ph.D.  Entomology  614-688-3026
Hours credit: 2, T,TH lectures (3 hrs each), Lab and Recitation

Course objectives:
1. Overview on arthropod biology and epidemiology
2. Examine the role for arthropods in direct causation of disease and the transmission of parasites.
3. Identify practices that promote the emergence of vector-borne pathogens and parasites.
4. Discuss targeted public health interventions that are sustainable and appropriate to the US and developing countries.

Grading: Course grades will be based on class participation (10%), one midterms (20%), case study presentation (20%); writing assignments (25%); final (25%)

Grading Scale:
93–100: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70 –72.9: C-
67 –69.9: D+
60 –66.9: D
Below 60: E

Course Requirements: Attendance is essential. Expect your grade to be negatively affected if you miss more than two class periods. Readings will be available on Carmen as PDF downloads. There will be several writing assignments, usually consisting of no more than a page of text, which are designed to encourage critical thinking in response to an issue that was raised during the week (e.g. current event or topic in class). These are not graded but are required.


Texts for Reference.

**Lectures**  
**Topic**

**Week 1**  
Introduction & history of public health entomology  
Epidemiology of vector-borne diseases & vector physiology, disease transmission

**Week 2**  
Acarine (ticks and mites) biology; Ticks: Lyme disease, ehrlichiosis, Rocky Mt. spotted fever  
Ticks: Lyme disease-Case study in Ohio

**Week 3**  
Mosquito biology; Mosquitoes: malaria (Dr. Woody Foster)  
Mosquitoes: yellow fever; St. Louis/West Nile encephalitis (Dr. Rich Gary, ODH)

**Week 4**  
Mosquitoes: dengue the new threat? **Examination I**  
Fly biology & myiasis; Black flies: onchocerciasis; Sand flies: leishmaniasis

**Week 5**  
Indoors: arthropod allergies: dust mites & cockroaches  
Bed bug epidemic is a nuisance; Fleas: plague yesterday and today

**Week 6**  
Delusory parasitosis; Triatomes: Chagas disease; Lice: typhus  
Controlling arthropod-borne disease; Pesticides;

**Week 7**  
Pesticide issues; Integrated pest management  
Case Studies: Class presentations

Final Comprehensive Exam

**Labs**  
**Topic**

**Week 1**  
Watch video on historical issues in public health entomology (e.g. plague)

**Week 2**  
Ticks

**Week 3**  
Mosquitoes

**Week 4**  
Flies
Week 5 Dust mites, cockroaches, follicle mites, scabies

Weeks 6 Bugs, lice

Weeks 7 Class presentations, Final

Academic Integrity Policy:
Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University’s Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University’s Code of Student Conduct and this syllabus may constitute “Academic Misconduct.”

The Ohio State University’s Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s Code of Student Conduct is never considered an “excuse” for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Accessibility Policy:
If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.
In addition to contacting the instructor, please contact the Student Life Disability Services at 614-292-3307 or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University.
Go to http://ods.osu.edu for more information.