

Entomology 4607 Veterinary Entomology

Autumn Semester 2023, 7 week session 1 (Oct 16th – Dec 6th)

Instructor:

Peter M. Piermarini, Ph.D.

E-mail: piermarini.1@osu.edu

Phone: 330-263-3641

Teaching Assistants/Graders (Click on name to send an e-mail):

[Anna Henry](#), [Catherine Lawrence](#), [Gabe Levik](#), [Erick Martinez-Rodriguez](#), [Maya Phillips](#),

Credit hours: 2

Course Format: Distance Learning (or DL); this course is to be completed 100% at distance.

Location: This course is entirely on-line via the Carmen (Canvas) dashboard (carmen.osu.edu).

Prerequisites: None.

Recommended Text: [Medical and Veterinary Entomology 3rd Edition](#). 2018. Edited by G. Mullen and L. Durden. 637 pp. *Please note that the text is NOT required.*

Course Goal:

Students who successfully complete this course will understand and appreciate the biology of arthropods (insects/arachnids) that negatively affect the health of domestic animals.

Learning Outcomes:

Students will be able to:

- describe direct negative impacts that arthropods have on the health of domestic animals
- compare and contrast major groups of arthropod-borne pathogens with their associated animal diseases
- compare and contrast the transmission cycles of arthropod-borne diseases
- describe evolutionary adaptations of blood-feeding arthropods
- identify major taxonomic groups of arthropods that impact animal health
- compare and contrast life cycles of major taxonomic groups of parasitic arthropods
- associate major groups of arthropods with specific direct negative impacts that they cause in domestic animals

Student Expectations: (Students that do **NOT** fulfill expectations may receive an ‘incomplete’)

- Complete each module **before** the indicated deadlines (see p.11 for deadlines of each module). Completion of a module requires that you read and watch **ALL** of the content (i.e., Canvas webpages, embedded videos, assigned readings) and complete the quiz associated with the module.
- Complete **ALL** of the on-line discussion and research assignments **before** their respective deadlines (see p.5).

Course technology:

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the [OSU IT Service Desk](#). Support for urgent issues is available 24x7.

- Self-Service and Chat support: <http://ocio.osu.edu/selfservice>
- Phone: 614-688-HELP (4357)
- Email: servicedesk@osu.edu
- TDD: 614-688-8743

Required equipment:

- Computer or tablet capable of playing mp4 files: current Mac (OS X) or PC (Windows 10+) with high-speed internet connection and speakers/headphones is recommended.
- Digital camera (stand alone or integrated in a cell phone/tablet)

Required software:

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation is found <https://ocio.osu.edu/kb04733>.
- Adobe Acrobat Reader: Can be downloaded for free; <https://get.adobe.com/reader/>
- Approved browsers: Mozilla Firefox; Google Chrome; Microsoft Edge

Baseline technical skills for online courses:

- Ability to navigate CarmenCanvas, the Course Management System
- Ability to compose sentences in English
- Ability to communicate via the internet with other students
- Ability to use simple programs such as Word, Powerpoint, Excel are useful but not necessarily required.

Technology skills necessary for this specific course:

CarmenCanvas:

- Recommendations for [supported browsers and systems](#)
- Contact [8-HELP](#) for support

Digital Camera (standalone or within a device):

- Basic skills for taking a photograph and acquiring the file associated with the image for uploading to a Carmen/Canvas discussion board.

How do I succeed in this course?

Below are some tips that will help you succeed in this course. Please read them carefully even if you have taken an on-line course before.

1) Time management. **DO NOT WAIT UNTIL THE LAST MINUTE.** Each weekly module will take you approximately 4-5 hours to complete. I suggest scheduling at least 1 hour of time each day when you can read the content in the module, watch embedded videos, take notes, complete the readings, work on the assignments, and take the quiz. Each quiz will require up to 60 min (120 min if you take it twice).

2) Be organized and take good notes. Although the quizzes are open note/book, you only have a 60 min limit on each quiz. **Thus, taking organized notes on the content (especially the video lectures) and readings is advantageous.** One of the ‘perks’ of an on-line course is that you can review the content multiple times, which allows you to take better notes.

3) Watch and listen to the embedded videos! Most video segments are 5-10 min in length, but a few are ~20 min in length. The videos will contain important information not found in the course web-pages and reinforce concepts found in the course web-pages. **Thus, please be sure to watch the videos and take good notes on the content.** Before each video, I will often provide prompts for you to focus on information that is of most importance for quizzes.

4) Ask questions and participate. The end of each module contains a ‘Reflections and Questions’ open discussion board where you can ask questions and makes comments about the current module’s content. Dr. Piermarini and your TAs will regularly monitor these discussion boards and respond to you ASAP. These are great opportunities for you to extend your learning, clarify concepts that were not clear, or share excitement for new information you are learning. You are also welcome to e-mail Dr. Piermarini directly if you have any questions or are having technical issues with accessing the material (Piermarini.1@osu.edu). You can also schedule a time to speak with Dr. Piermarini over the phone, Skype, or Zoom if needed.

5) Pay attention to the course website and check your e-mail. I will relay general messages, announcements, and reminders by posting ‘Announcements’ items on Carmen/Canvas and sending you an e-mail. **For e-mails, I will always include “ENT4607:” in the subject line so that you can easily search for my e-mails and calibrate the settings on your spam filters. Also, be sure to check your notification settings on Canvas so that you are properly alerted when announcements are made. Check the following link for details:**
<http://resourcecenter.odee.osu.edu/carmencanvas/setting-notification-preferences>

Grading:

There will be a brief quiz on the course syllabus (10 pts). For each of the 7 modules, there will be an on-line quiz (30 pts each) based on the content, embedded videos, and assigned readings (see below). There are also 4 required assignments (10-20 pts each, see p.5) and 3 bonus point opportunities (2 points each, see p.5). Bonus points will be added to your final point total. **Please note that there is NOT a final exam.** See below for point totals and more details:

| Item | Points |
|-----------------------------|--------|
| Quizzes | 220 |
| Blog & Research Assignments | 70 |
| Bonus points (optional) | (0-6) |
| Total | 290 |

Grades will be assigned **strictly** according to the Ohio State University standard grade scheme according to the following percentages of the total points. **Please note that given the opportunity to earn bonus points (p.5) your total point percentages will NOT be rounded up (e.g., 92.99% \neq 93%).**

| Percent Range | Grade |
|---------------|-------|
| 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 |

Quizzes: Quiz questions are usually multiple choice, but may also include matching and multiple selection assessments. Each quiz consists of 15 questions (2 pts each). You are allowed to use your notes and Canvas resources for quizzes, but need to complete the quiz within 60 min. **If you are NOT satisfied with the score of your first attempt, then you can retake the quiz, and the highest score of the two attempts will be used** (note that questions are randomly selected from a question bank, so you will not have the same questions). Each quiz will focus on the current module, but concepts or information from an earlier module may be required to answer some of the questions correctly.

IMPORTANT: If you accidentally click on the second attempt for a quiz then do NOT complete it. Please leave your answers blank and notify me via e-mail ASAP.

Assignments: You are required to complete 4 assignments (2 discussion-based, 2 research-based) that will introduce you to some of your classmates and allow you to expand or apply your knowledge learned in the course content. **To receive full credit,** you will need to carefully follow the instructions and provide the requested information by the indicated deadline (see table below). For the discussion-based assignments, your group leader will provide a reply to your post, leave a comment in the gradebook, or e-mail you if additional information/clarification is needed, **so please check your discussion group and e-mail daily to make sure a follow up post on your part is not required.**

Please do not wait until the last minute to begin working on these assignments; some will require advanced preparation and research on your part, especially Discussion Assignment #2 and Research Assignment #1.

Posts that contain 1) inappropriate language, 2) derogatory statements about any gender, race, creed, religion, lifestyle, identity, etc., 3) threatening language, or 4) answers to quiz questions will be immediately removed and the authoring student will **receive a ‘zero’** for that assignment. It will be the instructor’s discretion as to whether the individual can participate in future discussions and earn the corresponding points.

| Discussion Assignment # | Deadline for post to be made |
|--------------------------------|-------------------------------------|
| 1 | 11:59 PM 10/24/2023 |
| 2 | 11:59 PM 11/07/2023 |

| Research Assignment # | Deadline for upload |
|------------------------------|----------------------------|
| 1 | 11:59 PM 11/21/2023 |
| 2 | 11:59 PM 12/05/2023 |

Bonus points: You can earn up to **6 bonus points** (to be added to your point total) by submitting up to **3** of the bonus assignments (2 pts each). To potentially receive credit, submit a SINGLE DOCUMENT (*.DOC or *.PDF) no later than 11:59 PM on Friday Dec 8th, 2023. For instructions and the template, please see ‘Bonus points’ under the Assignments tab in Canvas.

COURSE POLICIES

Late Policy:

A quiz or assignment that is submitted late without a legitimate, documented excuse (see below) **will be reduced in value by 25% for every week that it is late, for up to 2 weeks.** For example, if the deadline was 11:59 PM on a Wednesday, then your score will be deducted 25% if you submit it between 12:00 AM Thursday and 11:59 PM the next Wednesday. **Quizzes or Assignments that are more than 2 weeks late (or submitted after 11:59 PM on Wed, Dec 6th) without a legitimate, documented excuse will not be graded and receive a 'zero' for the quiz or assignment.**

Incomplete Grade Policy:

Incomplete grades will be given only in special circumstances as outlined in university policy. In brief, if an illness or emergency prevents you from finishing a course, you may request an "Incomplete" from the instructor. However, you must consult with the instructor as soon as possible to make arrangements for completing the course requirements, which needs to be done by the sixth week of the following semester.

Excused absences and deadline extensions:

Continuous engagement with this course is essential to learning the material. Students are expected to engage with assignments and discussion prompts at least once per week. Students who need to miss class or who are not able to participate due to illness (COVID-19 or other illnesses), exposure to COVID-19, care for family members exposed to COVID-19 or other reasons are expected to contact the instructor as soon as possible to arrange for accommodation. Students in special situations or those requiring specific, long-term or other accommodation should seek support from appropriate university offices including but not limited to: [Student Advocacy](#), [Student Life Disability Services](#), and the [Office of Institutional Equity](#).

Legitimate excuses for the extension of deadline for a quiz and/or assignment include the following: participation in a scheduled activity of an official University organization, verifiable illness, verifiable family emergencies, subpoenas, jury duty, and military service. It is the student's responsibility to notify their instructor of any expected, excused absence affecting their ability to meet a deadline as far in advance as possible. No documentation will be accepted after the last day of regularly scheduled classes.

Students who will be participating in University sanctioned events must provide the instructor with a copy of the scheduled events and those deadlines which will be missed, along with a signed letter by the coach/supervisor. Students who will be observing a religious holiday must provide date/event written notification to the instructor at least one week in advance. Students who are too ill or injured to meet a deadline must provide written documentation from a physician stating that the student was too ill or injured to complete the missed work. An official university form can be found at: shc.osu.edu/student/absence-excuse-for-class/

UNIVERSITY POLICIES & RESOURCES

Academic Misconduct/Academic Integrity:

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.

Disability Accommodations:

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process (slds.osu.edu/covid-19-info/covid-related-accommodation-requests/), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Counseling and Consultation Services/Mental Health:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292- 5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at (614) 292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org

For students in the College of Food, Agricultural, and Environmental Sciences, David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor. He is available for new consultations and to establish routine care. To schedule with David, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a phone screening.

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

OSU provides assistance to students facing a diversity of problems. Help with these issues can be found at:

<https://online.osu.edu/student-services-benefits> .

Diversity Statement:

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

- <https://odi.osu.edu/>
- <https://odi.osu.edu/racial-justice-resources>
- <https://odi.osu.edu/focus-on-racial-justice>
- <http://mcc.osu.edu/>

In addition, this course adheres to **The Principles of Community** adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to harassment or discrimination or a bias incident, you can report it online and anonymously (if you choose) at <https://equity.osu.edu/>.

Creating an environment free from harassment, discrimination, and sexual misconduct:

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Religious accommodations:

It is Ohio State's policy to reasonably accommodate the sincerely held religious beliefs and practices of all students. The policy permits a student to be absent for up to three days each academic semester for reasons of faith or religious or spiritual belief.

Students planning to use religious beliefs or practices accommodations for course requirements must inform the instructor in writing no later than 14 days after the course begins. The instructor is then responsible for scheduling an alternative time and date for the course requirement, which may be before or after the original time and date of the course requirement. These alternative accommodations will remain confidential. It is the student's responsibility to ensure that all course assignments are completed.

Weather or other short-term closing:

Unless otherwise announced by the university, online or distance-learning classes will occur as scheduled.

Grievances:

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Content Warning:

Some content in this course may involve media that may elicit a traumatic response in some students due to descriptions of and/or scenes depicting acts of violence, acts of war, or sexual violence and its aftermath. If needed, please take care of yourself while watching/reading this material (leaving classroom to take a water/bathroom break, debriefing with a friend, contacting a confidential Sexual Violence Advocate 614-267-7020, or Counseling and Consultation Services at 614-292-5766 and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

Online Privacy:

We follow FERPA and OSU policy for the protection of student information.

Details can be found at: https://registrar.osu.edu/policies/privacy_release_student_records.pdf

Copyright disclaimer:

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Schedule for the posting of on-line modules on Carmen.

| Date posted* | Deadline** | Module | Topics | Suggested Chapter(s) from Text Book |
|----------------------|----------------------|---------------|--|--|
| Oct 16 th | Oct 23 rd | 1 | 1-1 What is Veterinary Entomology and why is it relevant? 1-2 Epidemiology of vector-borne diseases | 1, 3, 4 |
| Oct 23 rd | Oct 30 th | 2 | 2-1 Evolution of blood feeding in arthropods | 2 |
| Oct 30 th | Nov 6 th | 3 | 3-1 Acari: Mites 3-2 Acari: Ticks | 26, 27 |
| Nov 6 th | Nov 13 th | 4 | 4-1 Insecta: Lice (Pthiraptera) 4-2 Insecta: Bugs (Hemiptera) | 7, 8 |
| Nov 13 th | Nov 20 th | 5 | 5-1 Insecta: Fleas (Siphonaptera) 5-2 Insecta: Flies (Diptera) | 10, 11 |
| Nov 20 th | Nov 29 th | 6 | 6-1 Diptera: Sand flies and black flies 6-2 Diptera: Mosquitoes and biting midges | 12, 13, 14, 15 |
| Nov 29 th | Dec 6 th | 7 | 7-1 Diptera: Tabanid, muscid, and glossinid flies 7-2 Diptera: Myiasis flies | 16, 17, 18, 19 |
| N/A | †Dec 8 th | | Deadline for Bonus Submissions | |

*Each module will be released at 12:01 AM on the indicated date.

**Completion of modules is due by 11:59 PM on the indicated date.

† Bonus assignments must be submitted by 11:59 PM on Fri Dec 8th to be considered.