

COURSE SYLLABUS FOR FORENSIC ENTOMOLOGY—Section 700—Spring 2024

ENTO/FORS 414/814---Department of Entomology
College of Agricultural Sciences and Natural Resources/IANR
University of Nebraska-Lincoln

INSTRUCTOR:

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Office Hours: The best way to reach me is by email. Expect a response within 24 hours on weekdays or 48 hours on weekends (but often much sooner). If you call, leave a message and I will get back with you as soon as possible.

If you are on campus, come by my office in 305C Entomology Hall.

ABOUT THE COURSE

This course will introduce students to the study and application of entomology to legal issues. Use of insects in criminal investigations, insects of forensic importance, decomposition and insect succession on corpses, post-mortem interval, and case studies will be discussed.

COURSE OBJECTIVES

1. Recognize and identify the most common insects involved in a post-mortem crime scene.
2. Identify and describe the stages and processes of decomposition.
3. Describe how to collect, preserve, and rear insects as evidence.
4. Calculate post-mortem interval and determine whether a cadaver has been relocated.
5. Explain the importance of insects in urban, stored-product, and medico-criminal entomology in the context of forensics.

INSTRUCTIONAL METHOD

Canvas will be used for delivery of all materials pertinent to this course (lectures, asynchronous discussions, videos, readings, and assignments). Power Point presentations will be used to deliver lectures, which will include text and images and will be strengthened by narration to emphasize key points. In addition, readings and videos will be assigned. ***Each student is expected to watch all lectures, complete all reading assignments and view all supplementary materials (videos and/or publications) for each module unless otherwise noted.***

Because this is an asynchronous class, my role as instructor will be to answer any questions you have about the course, lectures, exams, or assignments. I check email frequently and usually get back to students within 24 hours on weekdays or 48 hours if over a weekend.

TEXTBOOKS AND RESOURCES

Students will be required to access two textbooks. They can be used free from the UNL Library but must be read online—not downloaded (link to books on Canvas). If you prefer to have your own copy, these are available new or used from Amazon.com and other retailers.

Required:

Gennard, D. (2012). *Forensic Entomology: An Introduction*. 2nd ed. Wiley Blackwell.

Rivers, D.B. & Dahlem, G.A. (2014). *The Science of Forensic Entomology*. Wiley Blackwell.

STUDENT ASSIGNMENTS

Detailed instructions about all assignments are on Canvas.

Everyone (undergrads and graduates)

Introductory Discussion: Students will briefly introduce themselves on the discussion board to better get to know the instructor and their classmates.

Maggot Choose Your Own Adventure: In this assignment, students will create a “Choose Your Own Adventure” style story about a maggot born on a carcass and how its life can play out.

Calculating PMI: Students will look at data from a fictional crime scene and calculate PMI estimates.

Bini Murthy Detective Story: Individually or in small groups (2-3), students will read a detective story introduction with 3 cases and then respond to the case by completing a project in one of the following formats: video, podcast, round robin story, or paper/report.

Grad Student Project Feedback: Both undergraduate and graduate students will contribute to the Graduate Student Project discussion for at least 6 of their graduate classmates. See Canvas for more information about how this will work.

Exams: There will be four exams in this course, three regular exams worth 30 points and a comprehensive final worth 60 points. All will be open book and untimed, with questions being multiple choice, matching, or true/false. ***All lecture and supplemental material (videos and publications) are fair game for the exams.***

Graduate students only

Graduate Student Project: Graduate students will complete a project on a forensic entomology topic of interest and lead the class through a discussion about that topic.

For assistance in obtaining reference materials from the library here at the University of Nebraska, contact the Entomology Librarian, who is Leslie Delserone, C.Y. Thompson Library, East Campus, UNL, Lincoln, NE 68583- 0717 (402) 472-6297 Email: ldelserone2@unl.edu

AI Policy: In this course, the use of AI tools such as ChatGPT is allowed under some circumstances. For papers and projects, you must clearly indicate any use of AI tools and provide appropriate citations or references for AI-generated content or results produced. This should include full documentation of exactly how the tool was used (i.e., prompts). Artificial intelligence should not replace your individual effort or original work but rather should be used as a supplemental resource to support your own analysis, critical thinking, and problem-solving. Any misuse or violation of the policy, including unauthorized or excessive use of AI, will be considered a breach of academic integrity and subject to disciplinary actions as per the institution's policies and procedures on academic misconduct.

POINT BREAKDOWN

Undergraduates

Assessment	Quantity	Points Per	Total Points
Intro Discussion	1	10	10
Calculating PMI	1	25	25
Bini Murthy Story	1	40	40
Maggot Adventure	1	25	25
Graduate Student Feedback	6	10	60
Regular Exams	3	30	90
Final exam	1	60	60
Total			310 points

Graduates

Assessment	Quantity	Points Per	Total Points
Intro Discussion	1	10	10
Calculating PMI	1	25	25
Bini Murthy Story	1	40	40
Maggot Adventure	1	25	25
Graduate Student Project	1	100	100
Graduate Student Feedback	6	10	60
Regular Exams	3	30	90
Final exam	1	60	60
Total			410 points

LETTER GRADE SCALE

100 – 98 A+	89 - 87 B+	79 - 77 C+	69 – 67 D+	59 – 0 F
97 – 94 A	86 - 83 B	76 – 73 C	66 – 63 D	
93 – 90 A-	82 - 80 B-	72 – 70 C-	62 – 60 D-	

CLASS SCHEDULE

Week	Topic	Assignments due
1 (Jan 22-26)	Forensic Science and Ethics	Read Chapters 1-3 (<i>Rivers</i>)
2 (Jan 29-Feb 2)	Intro to Forensic Entomology	Intro discussion (Feb 2)
3 (Feb 5-9)	Deadly Insects Archeoento and Warfare (Exam 1 opens Feb 9)	Read Chapters 16-18 (<i>Rivers</i>)
4 (Feb 12-16)	Important Flies (Exam 1 closes Feb 16)	Read Chapters 4 & 10 (<i>Gennard</i>)
5 (Feb 19-23)	Important Beetles	Read Chapters 6 & 11 (<i>Gennard</i>) Grad projects and feedback
6 (Feb 26-Mar 1)	Flies and the Body	Read Chapters 6 & 7 (<i>Rivers</i>) Grad projects and feedback
7 (Mar 4-8)	Maggot Mass and Temperature (Exam 2 opens Mar 8)	Read Chapters 8 & 9 (<i>Rivers</i>) Grad projects and feedback
8 (Mar 11-15)	Spring break, no lecture	
9 (Mar 18-22)	Decomposition and Succession Insect Succession in NE	Read Chapters 3 (<i>Gennard</i>); 10 & 11 (<i>Rivers</i>)

	(Exam 2 closes March 22)	Grad projects and feedback
10 (Mar 25-29)	Postmortem Interval	Read Chapters 9 (<i>Gennard</i>); 12 (<i>Rivers</i>) Maggot Adventure (Mar 29) Grad projects and feedback
11 (Apr 1-5)	Aquatic Decomposition	Read Chapter 12 (<i>Gennard</i>) Grad projects and feedback
12 (Apr 8-12)	Sampling and Rearing (Exam 3 opens Apr 12)	Read Chapters 7 & 8 (<i>Gennard</i>) PMI assignment (Apr 12) Grad projects and feedback
13 (Apr 15-19)	Neglect, Abuse, Bloodstains (Exam 3 closes Apr 19)	Read Chapters 13 & 14 (<i>Rivers</i>) Grad projects and feedback
14 (Apr 22-26)	Molecular Methods	Read Chapters 2 (<i>Gennard</i>); 15 (<i>Rivers</i>) Grad projects completed (Apr 26)
15 (Apr 29-May 3)	Entomologist Role in Court	Read Chapter 13 (<i>Gennard</i>) Bini Murthy story (May 3)
16 (May 6-10)	(Final exam opens May 6)	
17 (May 13-17)	(Final exam closes May 13)	

COURSE POLICIES AND RESOURCES

Visit the link below for UNL policies on Attendance, Academic Honesty, Students with Disabilities, Mental Health and Well Being, Emergency Procedures, Diversity and Inclusion, Title IX, and Final Exam Schedules.

<https://executivevc.unl.edu/academic-excellence/teaching-resources/course-policies>