



Lecturers: Dr. Kristen Healy
Email: khealy@agcenter.lsu.edu

Recommended texts (not required)

Text- "The Science of Forensic Entomology", by David River and Greg Dahlem

Text- "Forensic Entomology: The Utility of Arthropods in Legal Investigations", by Jason Byrd and Jeffery Tomberlin

Overview and Goal

The objective for this course will be to introduce students to the science and application of forensic entomology. Among the topics to be discussed include the history of FE, important arthropods, collecting insect evidence, processing and analyzing entomological data, case histories using insects in criminal investigations. Students will participate in a group field project and present results at the end of the course.

Format

Tuesdays: 9:30 – 10:20: Lecture in 110 Life Sciences.

Thursdays: 9:30 to 12:40: Laboratory in 110 Life Sciences.

Evaluation

Mid-Term Exam	100 pts
Final Exam	100 pts
Lab Practical	100 pts
Team Research Presentations	100 pts
Individual Case Summary Report	50 pts
<u>Class Participation</u>	<u>50 pts</u>

Total Points = 500 pts

Final Grade Determination

Final grades will be determined by the total number of points you earn in the course. We will use a typical score break down (ie. 90% of course points will result in an A-, 80% will result in a B-, and 70% will result in a C-).

SPECIFICS ON COURSE EVALUATION:

Exams: (100 pts each)

Mid Term exam will be given on Tuesday, 22 March 2022. A final exam will be given according to the assigned finals schedule. Exam questions will be multiple choice, matching, and essay.

Lab Practical (100 pts)

Students will be evaluated on their laboratory skills relevant to forensic investigations. Students will spend a predetermined amount of time at a number of stations in the lab and be asked to identify insects, calculate relevant parameters, and other critical thinking exercises. The lab practical will be held on **Thursday 24 March 2022**, during regularly scheduled lab hours.

Team Research Project and Presentations (100 pts)

Students will form teams of 2-4 for the field project (depending on class size). On **24 March 2022**, after the lab practical, we will be dividing students into teams. At that time, students can exchange contact information, and begin forming a research project that they would like to conduct during the remaining laboratory sessions of this semester. All projects must fit under the scope of forensic entomology and be approved by the course instructor. I can provide a list of examples, but would rather like teams to spark their own curious interests. Please note that research set up and data collection are set for April 7th and 14th and can be done either inside or outside of class. Presentations will occur during the final week of the semester (**March 3rd and 5th**).



Individual Case Summary Report (50 pts)

Each individual student (not a team) will submit a written Case Summary Report (50 pts.) written in their own words. The Case Summary Report must be written according to the guidelines of an official law enforcement format. A case report from a real case will be distributed as a template or example from which to model the final report. The final report will be submitted the day of the team's presentation.

Class Participation (50 pts)

The remaining portion of the grade (50 pts.) will be based on class discussion and participation during role playing presentations. You can view the rubric below to see how participation grades are determined.

PARTICIPATION GRADING RUBRIC:

100-90%	<p>Excellent Level of preparation and participation</p> <ul style="list-style-type: none">• Demonstrates excellent preparation.• Provides discussion and input, without having to be specifically called on.• Offers analyses, synthesis, and evaluation of materials• Offers input beyond simple answering of questions• Provides a deeper and more thoughtful input on the subject matter• Is actively involved throughout the class• Actively participates in group work, and presents materials discussed by group
89-80%	<p>High Level of preparation and participation</p> <ul style="list-style-type: none">• Demonstrates good preparation. Has read the materials, and can answer some basic questions, especially when called on.• Provides simple answers back regarding readings.• Contributes to discussions, by providing answers without prompting• Contributes during group and individual exercises• Asks questions as needed
79-70%	<p>Satisfactory Level of preparation and participation</p> <ul style="list-style-type: none">• Demonstrates adequate preparation.• Offers straightforward information when asked• Rarely contributes to class discussion, unless called on.• Does group and individual exercises, but only offers limited discussion• Rarely talks or asks questions in class
69-60%	<p>Low level of preparation and participation</p> <ul style="list-style-type: none">• Is present in class and not disruptive. Likely skims reading, and does not offer discussion or interpretation of materials.• Is rarely prepared for class, and is not willing to answer questions• Does not actively participate during group exercises, or participates at a very minimum level• Is inconsistent, and infrequently participates in discussion
60-0%	<p>Inadequate level of preparation and participation</p> <ul style="list-style-type: none">• Unable and unwilling to participate in class• Is unprepared and not engaged in class• Is disruptive (texts during class, chats during lecture, etc)

OTHER RELEVANT INFORMATION:

Special Accommodations and Class Absences

If you require special accommodations for taking notes, taking exams, etc., please notify the instructors **via email** as soon as possible along with verification from the Learning Services' office.

Cell Phones

Please be respectful and turn off phones during lecture times. While it seems harmless, it can often be distracting to other students. If you have a legitimate reason to maintain a cell phone active (e.g., sick child, parent etc.) please inform the instructors on the day of the class. Otherwise, don't be surprised to be called on in class if you use it.

Academic Misconduct

All students are expected to adhere to Section 10.1 of the LSU Code of Conduct. Any form of Academic Misconduct including, but not limited to, plagiarism, fabrication, or cheating will not be tolerated. Academic Misconduct is much easier to detect than you may think! Be forewarned! Check your references, citations, etc. before you submit anything written. If I catch you cheating on an exam, it will result in immediate dismissal from the course, an automatic F grade for the semester. If you have any question on these policies, please see me in my office.



Field and Laboratory

Expect to get dirty during laboratory sessions so please dress accordingly. Field projects will require proper clothing and protective gear. Since the course is in a classroom laboratory, plan on dressing in lab appropriate attire, including closed toed shoes. In the early labs, we will be looking at insects preserved in alcohol, as well as those preserved on insect pins. In addition, since it is a laboratory setting, there is no food or beverage consumption allowed during lab time.

Other interests

This course is always evolving. If you have any additional interests in material not provided in this course, please feel free to make suggestions. I'm always happy to provide additional content around student interests.

Weekly schedule at a glance....

Week	Topic	Tuesday (lectures 9:30 to 10:20)	Thursday (labs 9:30 to 12:40)
Jan 18 & 20	HISTORY AND OVERVIEW	History of forensic entomology, basic entomology overview	In this lab, we will go over the basic structure and function of insects, especially as it relates to insects of forensic relevance
Jan 25 & 27	STAGES OF DECOMP	We will lecture on the stages of decomposition and stages of insect succession	We will use photographic evidence to piece together a timeline of events. At each stage, we will discuss factors that may influence those results
Feb 1 & 3	SAMPLE COLLECTION AND PROCESSING	Lecture on sample collection, chain of custody, insect rearing and preservation	We will go to a mock forensic set up, where we will learn how to collect various insect groups and preserve them
Feb 8 & 10	ADULT FLIES	Lecture on adult flies of forensic relevance	Hands on learning to identify various forensically important adult flies in the lab
Feb 15 & 17	MAGGOTS	Lecture on maggots	Maggot identification laboratory, learning to preserve maggots
Feb 22 & 24	BEETLES	Lecture on beetles of forensic relevance	Forensically important beetle identification laboratory
Mar 1 & 3	NO CLASS THIS WEEK		
Mar 8 & 10	AQUATIC FORENSICS	Lecture on the use of insects in aquatic cases	Laboratory looking at aquatic specimens
Mar 15 & 17	NO CLASS THIS WEEK		
Mar 22 & 24	EXAM WEEK	Exam	LAB PRACTICAL EXAM Start of group project discussion
Mar 29 & 31	TEMPERATURE AND PMI	How the use of temperature and insect succession allows for determining time since death	Lab on topic, research proposals due
Apr 5 & 7	NEGLECT AND ABUSE	Case studies on forensic entomology in child neglect and abuse cases	RESEARCH SET UP
Apr 12 & 14	DEADLY INSECTS	Lecture on insects as cause of death	RESEARCH DATA COLLECTION
Apr 19 & 21	WILDLIFE FORENSIC ENTOMOLOGY	Case studies on the use of insects in wildlife forensic entomology	Research data analysis
Apr 26 & 28	URBAN FORENSIC ENTOMOLOGY	The use of insects in case litigation in urban entomology and stored grain pests	Research data analysis II
May 3 & 5	RESEARCH PRESENTATIONS	Presentation Day 1	Presentation Day 2