ENTM 4007 **FORENSIC ENTOMOLOGY** Fall 2015

Lecturers:	Dr. Frank D. Rinkevich and	Dr. Kristen Healy
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Office:	A551 Life Sciences Annex	A583 Life Sciences Annex
Hours:	By Appointment	By Appointment

Course Materials

Text- "The Science of Forensic Entomology", by David River and Greg Dahlem, ISBN 9781118403044

Optional- "Forensic Insect Identification Card", James Castner and Jason Byrd, ISBN 978-0962515088

All outside readings will be supplied by the professors.

Overview and Goal

The objective for this course will be to introduce an emerging topic within forensic science known as forensic entomology. Among the topics to be discussed include the history of FE, important arthropods, collecting insect evidence, processing and analyzing entomological data and particular case histories that illustrate the purpose of using insects in criminal investigations. Students will participate in a field project and present results at the end of the course in a formal courtroom setting.

Format

The course meets for lecture Mondays and Wednesdays of the Fall 2015 semester from 10:30 – 12:00 in 110 Life Sciences. Lab will be held on Mondays from 2:30 – 5:00 110 Life Sciences. The format will be lecture, lab, field work, and discussion.

Readings

Lecture material will come from the text, as well as other notable sources. Some additional reading assignments will come from primary scientific literature sources and will be provided prior to class. Reading assignments must be completed before class. Some assigned readings may be discussed in class. A portion of your grade will be dependent on your participation in these discussions.

Evaluation

Mid-Term Exam	100 pts
Final Exam	100 pts
Lab Practical	100 pts
Team Presentations	100 pts
Team Insect Collections	50 pts
Individual Case Summary Report	50 pts
Class Participation	50 pts
Total Points = 550 pts	

Exams: (100 pts each)

Mid Term exam will be given on Wednesday, 14 October 2015. 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 **Monday, October** 19 during regularly scheduled lab hours.

Team Presentations (100 pts)

Students will form teams of 2-4 for the field project. The field project will be conducted on University property. The field project will consist of monitoring the decomposition of a pig. However, students will not know how long the body has been dead. Therefore, the objective for each team is to determine the PMI for their pig based upon evidence they collect according to course instruction. Students are encouraged to take slides or photographs etc. for their presentation. When the pigs have reached the final stage of decomposition, all remains must be collected and returned to the classroom for proper disposal. Each team will give an oral presentation arguing their case to the class. Teammates will evaluate each other for a total of 50 pts, evaluations will be averaged. Instructors will provide the other 50 pt score based on participation as well as each team's estimate of the minimum PMI compared to the actual time of colonization for the body.

Team Insect Collection (50 pts)

Each team is required to submit a voucher collection of the insect evidence they collected from their investigation. Collections will be graded on correct identification of all insects, proper labelling, neatness, and quality of pinning/preservation. Imagine this collection will be submitted as evidence in a court of law so it should be presented in a professional manner. Collections are due the day each team performs its Case Study Presentation.

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. Students will also present a discussion of a scientific paper concerned with an aspect of forensic entomology of their choosing. If you do not actively participate in discussions (translates into participation), we have nothing upon which to base a participation score. If this is not clear, please ask the instructors. Keep in mind we do keep notes of who participates each class meeting and during the role playing presentations.

Final Grade Determination

Final grades will be determined by the total number of points you earn in the course. Students with 495 or more will receive an A, 440 – 494 B, 385 – 439 C, 330 – 384 D, and less than 329, F. Plus and minus values will be assigned at the ends of letter grade ranges. No extra credit opportunities will be available.

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 turn off phones. Use of cell phones will not be tolerated in the class or laboratory other than for use as a calculator or camera. 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.

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. Choice can be tragic!!!

Laboratory

Expect to get dirty during laboratory sessions so please dress accordingly. Field projects will require proper clothing and protective gear. Please see Dr. Rinkevich or Healy if you need nets, forceps, vials, or data sheets.

ENTM 4007: Forensic Entomology Lecture Agenda

Date	Topic	Presenter	Chapters
M Aug 24	Course Overview	**Rinkevich**	**1**
W Aug 26	Forensic Entomology overview, history of forensic entomology, stages of decomposition	**Healy**	**2, 10, 16**
M Aug 31	Collection and Preservation of Insect Evidence, processing of lab evidence	**Healy**	**Appendix I and II**
W Sept 2	Entomology 101	**Rinkevich**	**4, 5**
M Sept 7	**Labor Day- No Class**		
W Sept 9	Insects of Forensic Importance- Flies	**Healy**	**5, 6,**
M Sept 14	Chemical attraction and maggot mass	**Healy**	**7, 8**
W Sept 16	Insects of Forensic Importance – Beetles, Factors effecting insect succession on carrion	**Rinkevich**	**11**
M Sept 21	Insects of Forensic Importance - Aquatics	**Rinkevich**	**Wallace 2008**
W Sept 23	Minimum Postmortem Interval Analysis	**Rinkevich**	**12**
M Sept 28	Temperature data acquisition and analysis, molecular tools used in forensic entomology	**Rinkevich**	**9, 15**
W Sept 30	Collecting Forensic Evidence – Medical Examiner	**TBA**	
M Oct 5	Collecting Forensic Evidence – Law Enforcement	**TBA**	
W Oct 7	Urban and stored product forensic entomology	**Healy**	**3**
M Oct 12	**Columbus Day/Not St. Patrick's Day- No Class**		
W Oct 14*	**Mid Term**		
M Oct 19	Other factors and considerations in forensic entomology (blood stain evidence, neglect and abuse cases)	**Healy**	**13, 14**
W Oct 21	Real World Case Studies	**Rinkevich**	
M Oct 26	Wildlife Forensics		
W Oct 28	Forensic Anthropology	**Ginesse Listi**	
M Nov 2	Deadly insects and threats to our national security	**Healy**	**17, 18**
W Nov 4	Legal Testimony Preparation	**Adam Becnel (Louisiana Crime Lab)**	
M Nov 9	Student Paper Discussions		
W Nov 11	Student Paper Discussions		
M Nov 16	**Entomological Society Meeting- No Class**		
W Nov 18	**Entomological Society Meeting- No Class**		
M Nov 23	Case Study Presentations		
W Nov 25	Case Study Presentations		
M Nov 30	Case Study Presentations		

ENTM 4007: Forensic Entomology Lab Agenda

Date	Topic	Readings
M Aug 24	Introduction to Lab and Insect Identification	**1, 2, 10, 16**
M Aug 31	Identification of forensically important flies - adults	**4, 5, A1, A2**
M Sept 7	**Labor Day- No Class**	
M Sept 14	Maggot identification and development	**7, 8**
M Sept 21	Insects of Forensic Importance – Beetles and Aquatics	**11, Wallace**
M Sept 28	Temperature data acquisition and analysis	**9, 12, 15**
M Oct 5	Field Trip- Evidence Collection	
M Oct 12	**Columbus Day/Not St. Patrick's Day- No Lab**	
M Oct 19	Case Preparation Laboratory	
M Oct 26	Case Preparation Laboratory	
M Nov 2	Crime Lab Field Trip	
M Nov 9	Mock Forensic Case Investigation	
M Nov 16	**Entomological Society Meeting- No Lab**	
M Nov 23*	**Lab Practical**	