

Forensic Entomology 4701, Section 5706

Spring 2013 Syllabus

Instructor: Dr. Phillip Kaufman, Associate Professor, Entomology and Nematology Department. His office is 3213, Entomology and Nematology Building on Natural Area Drive. Telephone: (352) 273-3975.

Office Hours: Dr. Kaufman will be available to students on Monday's from 10:00-11:30 AM and by appointment. He can be reached on e-mail pkaufman@ufl.edu at all times. **Do not email Dr. Kaufman through Sakai – I cannot readily respond to you.** I do not meet with students during the hour before class meets without a confirmed appointment. If you show up at my office, I will not discuss the course with you, as this is my preparation time.

Meeting time and place: Lecture: Monday Period 6 and 7 and Wednesday Period 7, Room 1031, Entomology & Nematology Building

Course description: Forensic Entomology is a 3-credit course that presents current information on the role of arthropods in decomposition, the role of forensic entomology in criminal and civil investigations and the increasing importance of science on society. The material discussed in this course deals with death and some may consider images and concepts presented disturbing.

Course objective: The goal of this course is to provide students with an understanding of the importance and role that arthropods play in civil and criminal investigations. Students will learn to critically analyze published literature on this subject by leading discussions of these papers with classmates through structured exercises. Students who successfully complete this course will be aware of the challenges and opportunities presented by this emerging discipline.

Student Demeanor: Students are expected to arrive to class on time and to be prepared for the scheduled event. Cell phones are to be turned OFF, not on vibrate. Texting and emailing during class is disruptive and is not allowed.

Textbook:

REQUIRED – Gennard, D.E. 2012. Forensic Entomology: An Introduction. John Wiley & Sons, Ltd. Sussex England. 2nd Edition

Additional readings (available through the UF Library or on SAKAI)

Anderson, G.S. and N.R. Hobischak. 2004. Decomposition of carrion in the marine environment in British Columbia, Canada. *Int. J. Legal Med.* 118: 206-209.

Archer, M.S. 2003. Annual variation in arrival and departure times of carrion insects at carcasses: Implications for succession studies in forensic entomology. *Aust. J. Zool.* 51: 569-576.

Archer, M.S. and M.A. Elgar. 2003. Effects of decomposition on carcass attendance in a guild of carrion-breeding flies. *Med. Vet. Entomol.* 17: 263-271.

- Beneke, M., E. Josephi and R. Zwiehoff. 2004. Neglect of the elderly: Forensic entomology cases and considerations. *Forensic Sci. Int.* 146S: 195-199.
- Bergant, K. and S. Trdan. 2006. How reliable are thermal constants for insect development when estimated from laboratory experiments? *Entomol. Exper. Applic.* 120: 251-256.
- Byrd, J.H. and J.F. Butler. 1996. Effects of temperature on *Cochliomyia macellaria* (Diptera: Calliphoridae) development. *J. Med. Entomol.* 33: 901-905.
- Byrd, J.H. and J.C. Allen. 2001. The development of the black blow fly, *Phormia regina* (Meigen). *Forensic Sci. Int.* 120: 79-88.
- Day, D.M. and J.F. Wallman. 2006. Width as an alternative measurement to length for post-mortem interval estimations using *Calliphora augur* (Diptera: Calliphoridae) larvae. *Foren. Sci. Int.* 159: 158-167.
- Higley, L.C. and N.H. Haskell. 2001. Insect development and forensic entomology. pp. 287-302. *In Forensic Entomology: The Utility of Arthropods in Legal Investigations.* (J.H. Byrd and J.L. Castner eds.). CRC Press, Boca Raton, FL.
- Lockwood, J.A., R. Kumar and D.G. Eckles. 1994. Mystery of the slaughtered horse: Solving a 400-year-old death with forensic entomology. *American Entomol. Winter* 1994.
- Oliveira-Costa, J. and C. Antunes de Mello-Patiu. 2004. Application of Forensic Entomology to estimate the postmortem interval (PMI) in homicide investigations by the Rio de Janeiro Police Department in Brazil. *Aggrawal's Internet Journal of Forensic Medicine and Toxicology.* 5: 40-44.
- Payne, J.A. 1965. A summer carrion study of the baby pig *Sus scrofa* Linnaeus. *Ecology.* 46: 592-602.
- Wells, J.D. and D.W. Williams. 2007. Validation of a DNA-based method for identifying Chrysomyinae (Diptera: Calliphoridae) used in a death investigation. *Int. J. Legal Med.* 121: 1-8.

Additional journal articles will be assigned and posted on SAKAI.

Requirements in excess of ENY4701: This course is occasionally co-taught with ENY6706. When this occurs, students registered for ENY6706 have requirements in excess of those for ENY4701 students. These include: A rigorous expectation for Featured Creatures and other writing exercises, additional and more difficult questions on exams, in addition to greater expectations in all work provided for grading.

Grading: This course does NOT utilize “minus” grades. Information on UF’s grading policies can be found at: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

The grading scale for this course is as follows:

Grading scale (%): (I do not round up)

90-100	A
88-89.999	B+
80-87.999	B
78-79.999	C+
70-77.999	C
60-69.999	D
<60	E

ENY 4701	Point Value	Total
Tests (2)	100 each	200
Structural Entomology write-up	10	10
Lab write-up’s (2)	10 each	20
Molecular Techniques write-up	20	20
Pig write-up	10	10
ENY and the Law	20	20
Scientific paper write-up’s (2)	40 each	80
Total		360

Grading is based on a total point value of 360.

Grading Policy: Tests will consist of multiple choice, short answer and essay questions. Make-up tests must be requested by the student in writing and approved by the instructor scheduled **prior to the test** and are given only under special circumstances. The final test is a comprehensive examination of the topics covered in the course.

Attendance: Attendance is expected. The concepts taught in this class and the interaction with the other attendees facilitates learning. Students that miss multiple classes do not do well in this course. You cannot acquire all points in this class without being present and participating in discussions. Quizzes or other attendance incentives that will count toward your grade will be administered at the instructor’s discretion should attendance diminish.

"In general, acceptable reasons for absence from class include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, professional conferences), military obligation, severe weather conditions (if 3/4 of the class is unable to make it to class due to weather, the absence is excused), religious holidays and participation in official university activities such as music performances, athletic competition or debate. Obligations for court imposed legal obligations (i.e., jury duty, subpoena) must be excused. Other reasons may also be approved."

***Documentation is required for ALL excused absences and must be submitted to instructor within one week of absence. See the "Absence Form" for specific information.

Funerals: will be excused when provided with an obituary or prayer card. (P. I-17 of catalog)

Illness: will be excused by a doctor's completion of the attached form. Medical excuses provided by a parent or other family members are **NOT** acceptable.

University Sponsored Events, Military Obligation, and Religious Holidays: documentation must be submitted at least **ONE WEEK PRIOR** to the absence. The documentation must contain the exact dates the student will be gone.

Information on Required Write-ups:

Statement on the importance of writing: "Forensic" anything is about debate. We engage in debate nearly every day, however, in this course you will utilize oral and written communication skills to debate on specific topics of Forensic Entomology relevance. To effectively debate (and be taken seriously), you must present your "side" of an issue using proper English. As such, 160 points of this class are related to your written skill set. I cannot stress enough the importance of sentence structure, including the use of proper grammar and syntax. Yes, your ideas are important, but your delivery of these ideas is as critical a part of our debate as are your ideas. I strongly suggest that you learn from the errors you make early in your writings, as the bar is raised with each submission.

In the past, a few students have taken issue with the shortness of these assignments. After your college careers, you will be asked for short reports or summarizations – this approach is more common than you think and as such, we will adopt this feature. Be concise and accurate in your writing. Spend time with the paper before submitting and do not wait until the last minute to submit. These are to be considered professional documents and you should write them as such.

Formatting and Submission of Electronic Documents: All documents are to be double-spaced, in Times Font size 12 with 1-inch margins. Your name must be included in the header space, along with the topic (e.g. "Structural Write-up"). Do NOT quote components of the papers/talks/videos, etc. The information in these documents are to be your own words. Page lengths differ for various write-ups, so check specifics below. All electronic document filenames MUST begin with the student's last name, followed by an identifiable description of the enclosed document. Examples include: [Smith_Paper_Analysis_of_Beneke.doc](#) Failure to submit in this format will result in lowered marks. Files must be saved in *.doc or *.docx format. Other formats (.wpt, .pdf, etc.) are not acceptable. Submit all written exercises via email to Dr. Kaufman pkaufman@ufl.edu DO NOT SUBMIT THROUGH SAKAI. **All documents are due at NOON on the day they are due.** Documents are docked 5 points from the final score for each 24 h deadline missed.

Structural Forensics: Each student will submit a 1-page analysis of the lecture delivered by Dr. Faith Oi on **January 28, 2013**. Some questions to ponder: What did you think of the concept of

using forensics in relation to structural entomology? How realistic is this approach? Are there flaws in the approach? The written document is **due on January 30, 2013**.

Laboratory Exercises: Each student will submit two (2) laboratory reports. These are to be 1-page documents that describe your efforts in the laboratories that occur on **February 04, 2013** and **March 20, 2012**. What are your expectations with the various preservation schemes? These write-up's are due on **February 06, 2013** and **March 22, 2012**, respectively.

Molecular Techniques in Forensics: Each student will attend the lecture delivered by Ginger Clark on **February 13, 2012** and provide a 2-page write-up that must include a summary of the presentation and an extension of what you learned as it could apply to forensic entomology (including information from other aspects of this course). Student participation in the discussion also will be a component of the grade. The written document is **due on February 15, 2013**.

Pig Scene: During this course, a pig carcass will be used to illustrate the decomposition process through hands-on experiences. Students are required to observe, and collect, if necessary, samples from these carcasses. Students will prepare a 1-page "scene" report based on the class visitation of the pig on **February 25, 2013**. What did you observe? How does this meet with your expectations based on the course so far? Describe your views on use of this pig for a potential timeline of death. This report will be prepared and submitted by Noon on **February 27, 2013**.

Entomology and the Law: Students will be provided a reading to review and understand PRIOR TO class on **March 11, 2013**. This reading will be discussed in class and students will provide a 2-page write-up that must include a summary of the article and a synopsis of the discussion. Student participation in the discussion also will be a component of the grade. The written document is **due on March 13, 2013**. The article "Chapter 7: Entomology and the Law" will be placed on the SAKAI web site.

Scientific Paper/Testimony and Discussion: Near the conclusion of this course we will be reading scientific papers. These papers will be posted on SAKAI. Students are expected to have read and to understand the content to a level that they can participate in the *in-class* discussions. Two (2) reports will be completed, each in two parts – a *paper/testimony analysis* and a *discussion synopsis*. To facilitate this, the paper analysis component will be prepared and submitted before the *in-class* discussion. Completing the *paper/testimony analysis* component of the reports will aid the student in their participation in the discussion. The *discussion synopsis* will be **due 24 hr following the completion of the discussion**.

As stated above, students will prepare two (2) reviews of assigned scientific papers using the format and procedures provided. *Paper/testimony analysis* components must be e-mailed to Dr. Kaufman (pkaufman@ufl.edu) prior to the appropriate class period. The *discussion synopsis* must be emailed to Dr. Kaufman within 24 hr of the conclusion of the discussion. Submissions received after the listed due date and time will be penalized 5 points for each 24 hr. Reports are unique documents and overt similarities between reports will receive poor marks and are subject to referral to Judicial Affairs. An overview of how to prepare these reports "*How to write summaries.docx*" has been posted on SAKAI. Student scores will reflect their written analysis, grammar, depth of thought AND their participation in the classroom.

Tentative course calendar:

Lecture	Date	Topic
1	Jan. 07	What is Forensic Entomology (Chapter 1.1 through 1.4) Accidental vs. Intentional food contamination
2	Jan. 09	No class.
	Jan. 14	Conflict in Science: Discussion of <i>Myth's Busted</i> and <i>Myth's Busted Rebuttal</i> Articles (<u>Read articles before class</u>). Role of insects in decomposition - Flies I (Chapter 3.1 and 4.1-4.4)
3	Jan. 16	Role of insects in decomposition - Flies II
4	Jan. 21	Dr. Martin Luther King Jr. Holiday – No Class
5	Jan. 23	Role of insects in decomposition - Beetles (Chapter 6.1 through 6.4)
6	Jan. 28	Structural Entomology – <u>Guest Lecturer: Dr. Faith Oi</u> Structural Entomology in practice Structural write-up due Noon - Wed. Jan 30
7	Jan. 30	Insect life cycles. (Chapter 4.2 and 6.2) Animal decomposition (Chapter 3.2 through 3.4)
8	Feb. 04	Encounters with the flesh eaters: Meet in Room 2216, ENY bldg.
9	Feb. 06	Animal decomposition, Insect succession (Chapter 10 & 11) Lab 1 write-up due Noon - Wednesday Feb. 06
10	Feb. 11	Molecular Techniques in Forensics. Guest lecturer: Ginger Clark (Chap 2 and 6.5) Molecular techniques write-up due Noon FRIDAY Feb. 15
11	Feb. 13	Estimating post-mortem interval (Chapter 9)
	Feb. 18	Test 1
12	Feb. 20	Entomology in human death: Recovering buried bodies and surface scatter: Crime Scene (Chapter 7).
13	Feb. 25	Field Trip: Collection, processing and rearing your own samples. Meet at the pig..., then in Room 2216 Pig scene write-up due Noon - Wednesday Feb. 27
14	Feb. 27	Field Trip - Specimen recovery at a “crime scene” – <u>Guest Lecturer Sue Gruener</u> . Meet at the pig.... (Chapter 7 and 8). You can collect, as well....
	Mar. 4-8	Spring Break – No Class
15	Mar. 11	Directed discussion of <i>Entomology and the Law</i> Insects in abuse cases
16	Mar 13	Insects in crime solving and legal proceedings (Chapter 13) ENY and the law write-up due Noon - Wed Mar 13
17	Mar 18	Field Trip – Dry decay evaluation. Meet at the pig first. Follow-up of the pig process. (back in 1031).
18	Mar. 20	Determination of your earlier collections. Meet in Rm. 2216. Lab 2 write-up due Noon - Friday Mar. 22
19	Mar. 25	Crime scene and courtroom experiences - <u>Guest Lecturer: Sue Gruener</u>
20	Mar. 27	Role of water, drugs and toxins. Aquatic insects in forensics. (Chapter 12)
21	Apr. 01	Examples from the past: Case Studies. Scenarios. You solve the riddle.
22	Apr. 03	Examples from the past: Case Studies. Scenarios. You solve the riddle.
23	Apr. 08	Current trends in forensic entomology: Case studies. More scenarios.
24	Apr. 10	Directed discussion See “Scientific Paper/Testimony and Discussion” (SP/T&D) above for due dates.
25	Apr. 15	Directed discussion See SP/T&D above for due dates.
26	Apr. 17	Directed discussion See SP/T&D above for due dates.
	Apr. 22	Test 2
27	Apr. 24	Future of forensic entomology?

Grades and Grade Points

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities

Academic Honesty

In 1995 the UF student body enacted an [honor code](#) and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

The Honor Pledge: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."**

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean, Student Honor Council, or Student Conduct and Conflict Resolution in the Dean of Students Office.

(Source: 2012-2013 Undergraduate Catalog)

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously upheld at all times in this course.

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/*
 Counseling Services
 Groups and Workshops
 Outreach and Consultation
 Self-Help Library
 Training Programs
 Community Provider Database
- *Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/*

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Plagiarism

Plagiarism is a serious problem in academia today, especially with the ease of obtaining information from the World Wide Web. Plagiarism is defined as representing the words or ideas of another person as one's own, without attribution to the source. All words and ideas must be attributed to a source unless they are considered common knowledge (i.e., widely known by many people and found in many different sources). There are many kinds of plagiarism, as you will read on the Guide to Plagiarism website referenced below.

Plagiarism is unethical, unacceptable in science, and prohibited by the UF Student Honor Code (<http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php>). The consequences for plagiarism while at the University of Florida range from receiving a grade of zero for the plagiarized assignment or a failing grade for the course, to, for repeated offenses, expulsion from the university. Plagiarism after graduate training calls into question one's scientific integrity and can lead to banning of publication in journals and the loss of jobs/careers.

In some countries, it is an acceptable practice to write in a manner that faculty members at the University of Florida consider to be plagiarism. Students studying in our university and with plans to publish their research in the English language need to know what plagiarism is and how to avoid it.

Students who plagiarize will be caught and consequences will be applied. Many faculty in our department check all written assignments using an anti-plagiarism software called Turnitin® (<http://www.at.ufl.edu/~turnitin/about.html>).

For further information and examples of plagiarism, I **strongly suggest** that you please read the George Smathers' Library Guide to Plagiarism at http://www.uflib.ufl.edu/msl/services/tutorials/plagiarism/student_intro.html

Please understand that our purpose in bringing to your attention the matter of plagiarism is to help train you to be ethical scientists, not to impugn your character.