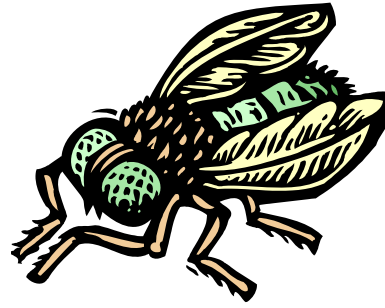


BIO 530 FORENSIC ENTOMOLOGY Fall 2007
Course Explanation and Syllabus



GENERAL INFORMATION:

Instructor
Sibyl Rae Bucheli
Email: Bucheli@shsu.edu
Office: LDB 142
Phone Number: (o) 936-294-1550; (c) 936-581-3359
Office Hours: Monday 2-5 pm

Lecture: Tu,TH 11:00 a.m. – 12:20 p.m.
Laboratory: Arranged
LDB Room 136

COURSE DESCRIPTION:

1. The methods and materials necessary for use of insects as forensic evidence in legal investigation will be discussed. Credit 3. This course describes the various ways insects can and have been used as evidence in court and explains how they can assist in solving crimes. The emphasis is on how insects and related arthropods are used to determine postmortem intervals and estimate time of death in murder investigations. Some material presented in this course are graphic in nature (photographs and video of crime scenes and bodies in various stages of decomposition; an up close and personal experience with a decomposing animal, most likely a pig).
2. There will be a laboratory component included. The laboratory will deal primarily with identification of forensically significant insects and how they can be used to determine the postmortem interval. You will be required to retrieve from a decomposing animal arthropod fauna, determine the postmortem interval and then prepare an official report. See below for details.
3. Prerequisite: Introductory Entomology course and graduate standing.

COURSE OBJECTIVES:

The goal for this course is for every participant to finish with a greater understanding for how insects are used to solve crimes. Upon completion of this course, each student is expected to understand:

- HOW INSECTS ARE USED DURING LEGAL INVESTIGATIONS
- WHY AND WHEN INSECTS BECOME VALUABLE EVIDENCE
- RECOGNIZING INSECTS OF FORENSIC IMPORTANCE
- HOW INSECTS CAN BE USED TO ESTIMATE TIME OF DEATH

COURSE STRUCTURE:

1. **Lecture** will cover topics of forensic entomology.
2. **Laboratory** will provide you with hands on experience of insect identification and determination of postmortem interval.
3. **Attendance** is not mandatory, but I will NOT post **Lecture notes or slides** on the internet or blackboard. It is your responsibility to attend Lecture and lab and to take the appropriate notes. I will post some images.

COURSE RESOURCES:

Course Text

**REQUIRED: Forensic Insect Identification Cards (\$25 from www.felinepress.com)

**ON CLOSED RESERVE AT THE LIBRARY: Forensic Entomology: The Utility of Arthropods in Legal Investigations (new SHSU bookstore or \$160 from www.amazon.com)

Other Media

I will use **Blackboard** to communicate with you about any assignments, the readings, syllabus changes, alerts regarding the “cadaver”, and any other necessary information.

EVALUATION METHODS:

Course Grades and Scoring

◆ Exams (100 points each)	200 points	33.33%
◆ Short Answer/Essay sets:	200 points	33.33%
◆ Final Report:	<u>200 points</u>	<u>33.33%</u>
Total:	600 points	100%

Exams

You will have 2 lecture exams worth 100 points each. All exams are comprehensive in that you must understand and be able to build on concepts presented in previous lectures. The format for all exams will consist of matching, true/false, labeling diagrams, fill in the blank, short answer, and essay questions. All essay questions will be graded based on comprehension of the question and articulation of the answer, and must be answered in complete sentences. Spelling will count on all answers.

Homework

There will be an ongoing homework project using the actual entomological evidence from a late-stage decomposition skeleton recovered from Galveston Island, TX. You are required to sort and identify all entomological evidence and use this information, along with weather data and anthropological evidence, to determine the postmortem interval.

Ongoing Lab Project and Final Report: Virtual Forensic Entomologist

The final test for the course was designed to assess your knowledge with regard to making accurate entomological observations at a crime scene, identifying what and where to look for entomological evidence, how to properly collect entomological evidence, how to analyze entomological evidence, and how to prepare and submit a final report that includes a postmortem interval and estimate of death.

At the start of the course and at specific time intervals, you will be required to collect and identify insects from a “cadaver” located at the field station. This “cadaver” will be of a known postmortem interval. Towards the end of the semester, you will be required to investigate a virtual crime and determine the post mortem interval for the “cadaver” based on your applied knowledge of the known situation.

Each student will process the crime scene and prepare a report using the tools provided during the course. This project will be broken down into two 100 point sections: 100 points for processing the scene (including insect identification) and 100 points for the analysis and conclusion within the final report.

COURSE SCHEDULE: You will be notified via Blackboard of any changes.

WEEK		LECTURE	ASSIGNMENTS
Week 1	Aug 21, 23	Topic 1: Introduction to Forensic Entomology and Entomology and the Law	
Week 2	Aug 28, 30	Topic 2: Tour of the Insects	
Week 3	Sept 4, 6	Topic 3: Insect and Arthropod Basics: Morphology, Integument, The Head, The Thorax, The Abdomen	
Week 4	Sept 11, 13	Topic 4: Insect and Arthropod Basics: Digestion, Excretion, Circulation, Respiration, Muscles	
Week 5	Sept 18, 20	Topic 5: Insect and Arthropod Basics: Sensory Perception, Reproduction, Life Histories & Development	
Week 6	Sept. 25, 27	Topic 6: Insect and Arthropod Basics: Distribution, Diversity & Ecology	
Week 7	Oct. 2, 4	Topic 7: Insects of Forensic Importance: The Flies (Diptera)	
Week 8	Oct 9, 11	Topic 8: Insects of Forensic Importance: The Beetles (Coleoptera) and The Others	
Week 9	Oct 16 18	Exam 1 Tuesday OCT 16 Topic 9: Procedures in Collecting and Preserving Insect Specimens and Procedures in Rearing Insect Specimens	Exam 1
Week 10	Oct 23, 25	Topic 10: Human Decomposition and Insect Succession Topic 11: Factors that Influence Decomposition and Succession	
Week 11	Oct 30 Nov 1	Topic 12: PMI Estimates & Insect Development Topic 13: Computer Modeling of Insect Growth	
Week 12	Nov 6, 8	Topic 14: Aquatic Situations Topic 15: Entomological Alteration of Blood Evidence	
Week 13	Nov 13, 15	Topic 16: Entomotoxicology Topic 17: DNA Techniques for Forensic Entomology	Homework Due
Week 14	Nov 20, 22	Thanksgiving Break	
Week 15	Nov 27, 29	Topic 18: Court Cases and Testimony of the Insect Expert	
Week 16	Dec 4 Dec 6	EXAM 2 Tuesday DEC 04 Topic 19: Interpreting and Writing Entomological Case Reports	Exam 2
Week 17	Dec 13	FINAL REPORTS Due THURSDAY DECEMBER 13 at 1:00 pm	FINAL REPORTS Due

FALL 2007 IMPORTANT DATES:

August 20	MONDAY. Daytime on-campus classes begin. <u>Late Registration</u> . Process class schedule changes. Refer to the <u>Schedule of Classes</u> for details and deadlines. Monday Night (MN) classes begin (on-campus and off-campus).
August 27	MONDAY. Late Registration closes at 4:00 p.m. Payment for Late Registration due by 4:00 p.m.
September 3	MONDAY. Labor Day Holiday for students and faculty.
September 5	WEDNESDAY. Twelfth Class Day. Deadline for notification by students to the faculty members of the student's intent to be absent on religious holy days. Last day to drop with 100% refund. Must drop by 5:00 p.m.
September 6	THURSDAY. Drop Fall Semester courses online and receive a "Q". Resign from university with a mark of "W" through the day before student's first final exam is taken.
September 14	FRIDAY. Last day for dropping half-semester courses without grade of F.
October 10	WEDNESDAY. Half-semester courses end. Last day to drop Fall Semester courses without grade of F. (Drops must be processed by 5:00 p.m.) Degree applications to be filed in Registrar's Office by students graduating in May, 2006.
November 16	FRIDAY. Deadline for submission of theses and dissertations to the appropriate academic dean's office.
November 20	TUESDAY. Thanksgiving holidays for students and faculty begin at 9:00 P.M. Residence halls close at 10:00 P.M.
November 21,22,23	WEDNESDAY, THURSDAY, FRIDAY. Thanksgiving holidays for students and faculty.
December 6	THURSDAY. Last class day.
December 10,11, 12, 13	MONDAY, TUESDAY, WEDNESDAY, THURSDAY. Final examinations [includes Monday Night (MN), Tuesday Night (TuN), Wednesday Night (WN) and Thursday Night (ThN) final examinations].
December 15	SATURDAY. TENTATIVE . Commencement, Bernard G. Johnson Coliseum.
December 17	MONDAY. 9:00 A.M. Deadline for filing grades with the Registrar's Office. Fall Semester ends.

SAM POLICY

www.shsu.edu/syllabus/ for additional documentation.

Academic Honesty: All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The university and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

Visitors in the classroom: Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

Students with Disabilities: It is the policy of the university that no otherwise qualified disabled student shall, solely by reason of his/her handicap, be excluded from participation in, or denied benefits of, or be subject to discrimination under any academic or Student Life program or activity. Disabled students may request help with academically related problems stemming from individual disabilities by contacting their instructor, school/department chair, or by contacting the university Chair of the Committee for Continuing Assistance for Disabled Students/ Director of Counseling Center (located in Lee Drain Annex, phone 936-294-1720). A student with a disability is encouraged to register with the university Counseling Center, as well as contacting their instructor about assistance needs.

Accommodation cannot be made until the student has initiated the request with the Counseling Center. Every semester that the student desires accommodations, it is the student's responsibility to complete a Classroom Accommodation Request Form at the Counseling Center and follow the stated procedure in notifying faculty. Accommodations for disabled students are decided upon documentation and need on a case-by-case basis by the Counseling Center. All requests are handled with confidentiality according to university procedures.

Religious Holy Days Policy: Section 51.911(b) of the Texas Education Code requires that the university excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. University Policy 861001 provides procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). This request must be made in the first 15 days of the semester or the first 7 days of a summer session in which the absence(s) will occur. The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

Class Attendance

<http://www.shsu.edu/catalog/scholasticrequirements.html>

1. Regular and punctual class attendance is expected of each student at Sam Houston State University.
2. Each faculty member will keep a record of student attendance.
3. Each faculty member will announce the policies for accepting late work or providing makeup examinations. Students are expected to show appropriate cause for missing or delaying major assignments or examinations.
4. A student shall not be penalized for three or fewer hours of absences when examinations or other assigned class work has not been missed; however, at the discretion of the instructor, a student may be penalized for more than three hours of absences.
5. Each instructor is obligated to clarify in writing to each student enrolled in class at the beginning of the semester or summer session the instructor's classroom policy regarding absences.
6. Class absences will be recorded and counted only from the actual day of enrollment for the individual student in that specific class.