

# Advanced Medical and Veterinary Entomology Laboratory 6665L

Fall 2018 Syllabus

**Instructor:** Dr. Phil Kaufman, [pkaufman@ufl.edu](mailto:pkaufman@ufl.edu) Tel: 352-273-3975

**Meeting time and place:** 2nd – 4<sup>th</sup> Period Tuesday (8:30 – 11:30 AM), 2218 Entomology Nematology Building

## **Course description:**

Advanced Medical and Veterinary Entomology Laboratory is a 1-credit class that provides students the opportunity to observe and handle the specimens discussed in the companion lecture of this course. Laboratory exercises are designed to reinforce concepts introduced during the companion lecture and provide hands-on viewing of arthropods for future identification. Some students may be making pest management decisions in the future; it is therefore essential that they be able to properly identify the pest that they are attempting to manage. This is increasingly important as the ecological and social pressures increase for control of non-specific arthropod pests with minimal effects on human health and the environment. Students will be given the opportunity to learn about evolving relationships that many of the species have developed in order to survive as an ectoparasite and/or serve as an efficient vector. Several evaluation methods including laboratory quizzes, laboratory exams and a collection will be administered so that students can demonstrate their knowledge of arthropod identification, pest importance to human and animal health and effective management tactics. We will take several trips to local sites during the laboratory session where students will have the opportunity to examine issues on site and to obtain specimens for their collections. Transportation will be provided.

**Learning Objectives:** Students who have completed this course will be able to:

1. Identify the major pests of veterinary entomology and provide pest management solutions.
2. Learn to recognize the diversity of arthropods of medical and veterinary importance.
3. Learn the biology and ecology of the primary pests of importance
4. Compare and contrast the life-history strategies used by major vector and pest species of medical and veterinary importance.
5. Compare the variety of taxa and recognize that this is but an example of the diversity in the world.

**Textbook: Lab manual:**

Required - Furman, D.P and E. P. Catts. Manual of Medical Entomology. 4<sup>th</sup> edition. Cambridge University Press, London. (**Provided via loan** from Dr. Kaufman).

Additional insect keys for use in class and in your take home practical and insect collection can be found here.

Manual on livestock ticks

Whitworth blow fly key

Immature Coleoptera

CDC Keys

Orange “Keys to FL Mosquitoes”

Websites: <http://fmel.ifas.ufl.edu/key/>

[http://fmel.ifas.ufl.edu/key/id\\_tables/idtables\\_adult.shtml](http://fmel.ifas.ufl.edu/key/id_tables/idtables_adult.shtml)

**CANVAS**

This course utilized the CANVAS system at the University of Florida.

<https://elearning2.courses.ufl.edu/portal> Course materials, including PowerPoints (as PDF's), will be placed on this site for full student access. The instructor reserves the right to remove these files at his discretion and will do so if attendance is poor. Additionally, student scores on quizzes and other evaluative measures will be posted as they are finalized.

**Office Hours:** Dr. Kaufman is available to students by appointment in Room 3213. Please email him with dates and times of your availability to speed the process. [pkaufman@ufl.edu](mailto:pkaufman@ufl.edu) You may also call him during business hours at 352-273-3975.

**Grading:** All graded material remains the property of the teacher, and any unreturned exam or assignment will result in a grade of zero. Grading criteria are specific for each course listing. This course does NOT utilize “minus” grades. Although the following link is for the undergraduate catalog, it applies to graduate students. The information on UF’s grading policies can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

The grading scale for this course is as follows:

**Grading scale (%):**

Points to Achieve Grade	Percentage	Grade
270	90-100	A
264	88-89.999	B+
240	80-87.999	B
234	78-79.999	C+
210	70-77.999	C
180	60-69.999	D
<180	<60	E

<b>ENY 6665L</b>	<b>Point Value</b>	<b>Total</b>
Lab Practical	50	50
Individual Practical Collection	50	50
Lab weekly quizzes (10)	10 each	100
Syllabus quiz	5	5
Discussion posts	5/10	15
Paper analysis (2)	15 each	30

**Specific Laboratory Evaluations:** Identification of arthropods of medical and veterinary entomology is paramount to their successful management. Therefore, students are provided a variety of opportunities to demonstrate their capabilities in specimen identification. **Students in the laboratory component of this class are evaluated through four measures.** Total points for this course are 300. Your grade is determined according to the scale provided earlier.

1. Insect Collection. The collection consists of 24 specimens of medical and veterinary importance and is required of all students in ENY 4660. An initial description is provided below and additional instruction is provided in a separate handout provided in laboratory. Collections are due at **Noon on November 19, 2018.**
2. Standard Laboratory Practical. This exam will consist of a time-monitored, sight identification test of each student’s skills and will be administered in your assigned laboratory section on **October 16, 2018.** Due to the difficulty in setting up this exam, a make-up exam **must** be approved by the instructor, must be scheduled **prior to the exam**

and are given only under special circumstances. The make-up exam will be administered with the other section's exam.

3. Individual Practical. Each student will be provided with 25 unknown specimens that they are responsible for providing identifications and a Microsoft Excel sheet to insert their answers (also provided). This "Individual Practical" will occur on **December 04, 2018**.

Students are responsible for identifying specimens to the level required for class. All specimens are from the "multi-colored" insect specimen sheet. Students should have this document with them on the exam date and are welcome to use any keys or notes that they have acquired during this class. Each collection is unique and students are required to complete this alone and during the 3-hr laboratory period. Hand-written Excel sheets are to be turned in. No electronic devices are allowed during this evaluation. Prepare yourself accordingly.

4. Weekly Quizzes. Ten (10) weekly laboratory quizzes will be administered. Unlike the lecture quizzes (ENY 6665), all laboratory quizzes directly impact the student's grade and are NOT bonus points. Generally, quizzes will be given during the 30 minutes before class ends and will last no longer than 30 min.
5. Syllabus Quiz. One syllabus quiz is offered online during the first week of class.
6. Discussion posts. Two discussion posts are required during this course. The first occurs during Week 1 and the second following the trip to the HTU and BTU farms. Each requires a post and a reply to another student posting.
7. Scientific Paper Analysis. Prior to the Biological control experiment and the blood meal analysis laboratory exercises, students must submit a written assignment. Each of these is worth 15 points and are submitted online.

Collection Requirements: Students in ENY 6665L are required to develop and submit an insect collection containing at least 24 different species of medical or veterinary importance. Students must be prepared to defend the inclusion of the specimens and are required to provide a listing of all specimens and their importance. Collections are due no later than **NOON** on **MONDAY November 19, 2018**. Additional and specific instructions are provided on the Collection Requirements document. For each business day that collections are late, 10 points will be deducted from the possible score. Late collections, with penalty, must be delivered to room 3213 or 3237 and handed to Dr. Kaufman before Noon of each day. The MS Excel template that must be used and the grading rubric are provided (See Canvas Home page).

**Attendance**: Students are expected to attend each class period and stay for the entire period. The laboratory is several periods long and students are allowed to leave at their leisure. Considerable material is provided in the laboratory session and students who do the best in this course are those that utilize this unique opportunity to study specimens in depth. Additionally, students that do stay for the entire period are welcome to examine specimens outside of the laboratory periods in Dr. Kaufman's research laboratory in room 3237 (provided certain limitations discussed in class). Access is a privilege, not a right.

**Tentative Laboratory calendar:**

<b>Laboratory</b>	<b>Date</b>	<b>Topic</b>
1	Aug. 28	Arthropod morphology, taxonomy, insect orders, mouthparts, fly feeding <a href="#">Syllabus quiz</a> , <a href="#">Discussion 1 post</a>
2	Sept. 04	Dichotomous keys, collection instructions, collection materials, Insect identification to Order ( <a href="#">Quiz 1</a> )
3	Sept. 11	ID Hemiptera, lice, spiders, Hymenoptera, cockroaches & others. ( <a href="#">Quiz 2</a> )
4	Sept. 18	Field trip - BTU & HTU - surveillance and sampling mosquitoes <a href="#">Discussion 2 post</a>
5	Sept. 25	Identification of fleas, Nematocera and Brachycera ( <a href="#">Quiz 3</a> )
6	Oct. 02	Identification of mosquito larvae <a href="#">Quiz 4 (Nema, Brachy)</a>
7	Oct. 09	Identification of mosquito adults <a href="#">Quiz 5 (Mosquito larvae)</a>
<b>8</b>	<b>Oct. 16</b>	<b>Lab Practical 1 (Labs 1-7)</b> Forensic Entomology
9	Oct. 23	Biological Control I ( <a href="#">Scientific paper 1 assignment</a> ) Identification of muscoid fly adults and immature Diptera
10	Oct. 30	Identification of ticks <a href="#">Quiz 6 (Mosquito adults)</a>
11	Nov. 06	Identification of mites <a href="#">Quiz 7 (Muscoid flies)</a>
12	Nov. 13	Blood meal analysis I <a href="#">Quiz 8 (Immature Diptera)</a> ( <a href="#">Scientific paper 2 assignment</a> )
13	Nov. 20	Blood meal analysis II <a href="#">Quiz 9 (Ticks)</a> <b>Collections due Monday, Nov. 19, 2018 before NOON</b>
14	Nov. 27	Biological control II <a href="#">Quiz 10 - (Mites and Labs 8-13)</a>
<b>15</b>	<b>Dec. 04</b>	<b>Individual Practical</b>

**Additional General Information:** The following information applies to all courses at the University of Florida.

### **Absences and Make-Up Work**

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

### **Academic Honesty**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following 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.”* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

### **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/](http://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/](http://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. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://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](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.**