

ENY 6821 – INSECT MICROBIOLOGY

Fall 2014 Syllabus

Online

Graduate Level Credits: 3 (honor level undergraduate students will be accepted)

Part I: Course Information

Instructor

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Course Description

Insect Microbiology ENY 6821 will cover the diverse associations that exist between insects and microorganisms. These associations include symbioses, , vector biology, and insect-pathogen interactions. Insects from a wide range of orders as well as a diverse array of microbes will serve as theoretical models for the students to learn about developmental biology, physiology, behavior, and ecology involved in interactions between insects and microbes. In addition, various methods in scientific research will be presented and discussed. The course is composed of lectures, student presentations, and journal club discussions in order to build a comprehensive understanding of insect microbiology.

Prerequisites

There are no formal prerequisites, however introductory coursework in entomology and microbiology are suggested.

Textbooks and Course Materials

Recommended Textbooks

- There is no single textbook available covering the various aspects of insect microbiology addressed in this class. Therefore, no textbook is required; however, selected chapters from the following textbooks will be recommended for additional reading:
Boucias, D.G. and Pendland, J.C. (1998) Principles of Insect Pathology, 537 pp. Kluwer Academic Publishers, Boston.
Bourtzis, K. and Miller, T.A. (2003) Insect Symbiosis (Contemporary Topics in Entomology), Vol. I-III, CRC Press, Boca Raton.
Nation, J.L. (2002) Insect Physiology and Biochemistry, 485 pp. CRC Press, Boca Raton.
Tortora, G.J., Funke, B.R. and Case, C.L. (2004) Microbiology: an Introduction, 944 pp. Benjamin/Cummings, Redwood City, CA.

Other Readings

- A series of assigned research and review articles covering lecture topics will be provided. Additional readings for the course will be posted online via the Sakai course website at: <https://elearning2.courses.ufl.edu/portal>

Course Requirements

Hardware/Internet Requirements

- All students should have dedicated access to a computer using a modern operating system such as Windows 7 or Mac OS X. Students should make sure to have access to a back-up computer (work, friend or relative's computer) in case of equipment failure.
- A high-speed Internet connection is highly recommended for all courses. We cannot guarantee multimedia components will work on slower connections. Some wireless connections might also present a problem. Unfortunately, we cannot distribute hard copies (e.g., cd-rom, dvd-rom) of multimedia items.
- This course requires audio-video presentations. Students will need speakers and/or headphones, and a microphone for the presentations.

Software Requirements

This software is available at no cost (the one exception is the MS Office suite, however there is a free alternative). It is recommended that you download the software even if you already have it on your computer. Many technical problems you might encounter can be resolved by installing the latest version of the following software. Click on the logo(s) to download.

- [Firefox Web Browser](#) – In order to simplify compatibility issues, students should access their courses using Firefox (Chrome, Internet Explorer or Safari have limited functionality)
- [Adobe Flash Player](#)
- [Adobe Reader](#) – This course includes .pdf documents which require Adobe Reader.
- MS Office or Open Office – Courses require updated business suite applications. Open Office is a free alternative to the MS Office suite. You can [get Open Office here](#).

Contact the UF Computing Help desk immediately with any technological issues:

Ph: 352-392-4357; helpdesk@ufl.edu

Distance Learning

This course will be delivered entirely online through the Sakai course management website. Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://distance.ufl.edu/student-complaints> for more details. 0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Please Note: This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check the Sakai website for corrections or updates to the syllabus. Changes will be clearly noted in a course announcement or through Sakai email.

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Part II: Course Objectives

Students who will have completed this course will be able to:

- Define and classify the major groups of microorganisms associated with insects.
- Identify and differentiate between symbioses as beneficial, neutral, and pathogenic interactions.
- Describe how evolutionary and physiological processes contribute to and/or maintain the relationships between insects and microorganisms
- Explain and discuss vector biology and implement the concept of vector control for disease prevention in various agricultural systems.
- Analyze and critique research publications.

You will meet the objectives listed above through a combination of the following activities in this course:

- View all lectures posted online
- Complete reading and writing assignments and class presentations
- Participate in course discussion boards and peer evaluation of class presentations

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Part III: Topic Outline/Schedule

Week	Date	Topic
1	25-Aug	Introduction to insect microbiology
		Diversity and significance of microbe interactions
		Basic entomology and microbiology
2	1-Sep	Mutualistic associations between insects and microbes
		Homework Reading/Writing Assignment 1 due before noon (12 p.m. EST) 9/7
3	8-Sep	Insect nutrition and the importance of microbes
		Homework Reading/Writing Assignment 2 due before noon (12 p.m. EST) 9/14
4	15-Sep	Gut symbionts
		Homework Reading/Writing Assignment 3 due before noon (12 p.m. EST) 9/21
5	22-Sep	Fungal symbioses:
		Ant fungal gardens
		Termites
		Ambrosia beetles
		Homework Reading/Writing Assignment 4 due before noon (12 p.m. EST) 9/28
6	29-Sep	Non-nutritional functions of intra- and extracellular symbionts
		Homework Reading/Writing Assignment 5 due before noon (12 p.m. EST) 10/5
7	6-Oct	Wolbachia
		Online Discussion Board
8	13-Oct	Class presentations
		Exam 1: Covers course material from first half of semester, including reading assignments. Available October 13 due by October 16 at 5 p.m. EST

9	20-Oct	Microorganisms and insect behavior
		Homework Reading/Writing Assignment 6 due before noon (12 p.m. EST) 10/26
10	27-Oct	Entomopathogenic nematodes
		Homework Reading/Writing Assignment 7 due before noon (12 p.m. EST) 11/2
11	3-Nov	Entomopathogens
		Homework Reading/Writing Assignment 8 due before noon (12 p.m. EST) 11/9
12	10-Nov	Insects as Vectors of Plant pathogens
		Homework Reading/Writing Assignment 9 due before noon (12 p.m. EST) 11/16
13	17-Nov	Insects as Vectors of Animal pathogens Part I
		Homework Reading/Writing Assignment 10 due before noon (12 p.m. EST) 11/23
14	24-Nov	Insects as Vectors of Animal pathogens Part II
		Thanksgiving Holiday 11/26-11/30
15	1-Dec	Integrated pest management for vector control
		Online Discussion Board
16	8-Dec	Class presentations
	15-Dec	Exam 2: Covers course material from second half of semester, including reading assignments. Available December 15 due by December 18 by noon (12 p.m. EST)

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Part IV: Course Policies

Graded Activities for ENY 6821

Grades will be based on a percentage of total points earned, as outlined below:

Tests (2 written tests at 50 pts each)	100
Class presentation (2 x 50 pts each), incl. peer evaluation	100
Discussion Boards (2 x 25 pts each)	50
Writing Assignment (10 x 10 pts each)	100
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Total Points Possible	350

Grading policy

Tests will be composed of multiple choice, short answer and essay questions. To be fair to all students, there will be no extra credit opportunities. Class presentations will be graded according to the evaluation criteria of the Entomological Society of America for oral presentations at scientific meetings. These and the evaluation criteria for writing assignments and group discussions will be available in the assignment section of Sakai.

Writing assignments are due by the date posted and must be submitted using the Sakai Assignments feature as an unlocked MS Word document (*.doc or *.docx). Writing assignments will be evaluated for grammar, content, style, and adherence to topic. Assignments should be completed independently, and will be evaluated using Turnitin® to check for plagiarism. Grades will be available on the Gradebook section of Sakai.

Late Work Policy

Late submissions will be reduced 10% of the total grade for each 24h past the scheduled deadline. All graded material remains the property of the instructors, and any unreturned test or assignment will result in a grade of zero. For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Attendance and Make-up Policy:

Students are encouraged to participate in Sakai Discussions and in the Sakai chat room. The course is entirely online; however, because exams will consist of materials covered in lectures and paper assignments, students that do not participate will not do well on these assessments.

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>.

Letter Grade Assignment

Letter grades will be based on a percentage of total points earned, as outlined in the scale below:

A	93-100% of 300 points	B-	80-82%	D+	67-69%
A-	90-92%	C+	77-79%	D	63-66%
B+	87-89%	C	73-76%	D-	60-62%
B	83-86%	C-	70-72%	E	<60%

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

University of Florida Course Policies

Additional General Information

The following information applies to all courses at the University of Florida and is copied here from the indicated sources:

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/

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. 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/

Plagiarism:

The UF Science and Engineering policy about plagiarism is located [here](#). **Please read it.**

The following information applies to all courses taught at the UF Entomology and Nematology Department and can be found in all class syllabi.

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, or, 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 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.

Plagiarism will not be tolerated in this course. Students who plagiarize will be caught and consequences will be applied. I will 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://web.uflib.ufl.edu/msl/subjects/Physics/StudentPlagiarism.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.

NETIQUETTE GUIDE FOR ONLINE COURSES

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. These guidelines for online behavior and interaction are known as netiquette.

Security

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone
- Change your password if you think someone else might know it
- Always logout when you are finished using the system

General Guidelines

When communicating online, you should always:

- Treat instructor with respect, even in email or in any other online communication
- Always use your professors' proper title: Dr. or Prof., or if you in doubt use Mr. or Ms.
- Unless specifically invited, don't refer to them by first name.
- Use clear and concise language
- Remember that all college level communication should have correct spelling and grammar
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you"
- Use standard fonts such as Times New Roman and use a size 12 or 14 pt. font
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING
- Limit and possibly avoid the use of emoticons like :) or ☺
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or offensive
- Be careful with personal information (both yours and other's)
- Do not send confidential patient information via e-mail

Email Netiquette

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line
- Be brief
- Avoid attachments unless you are sure your recipients can open them
- Avoid HTML in favor of plain text
- Sign your message with your name and return e-mail address
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply all"
- Be sure that the message author intended for the information to be passed along before you click the "forward" button

Message Board Netiquette and Guidelines

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material
- Take your posts seriously and review and edit your posts before sending
- Be as brief as possible while still making a thorough comment
- Always give proper credit when referencing or quoting another source
- Be sure to read all messages in a thread before replying
- Don't repeat someone else's post without adding something of your own to it
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point
- Always be respectful of others' opinions even when they differ from your own
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way
- Do not make personal or insulting remarks
- Be open-minded