

INSECT PEST AND VECTOR MANAGEMENT

IPM 4114/6021

3 Credits

Summer C 2023

INSTRUCTOR

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OFFICE LOCATION

3212 Steinmetz Hall

OFFICE HOURS

Fridays at 1-2 pm

COURSE PREREQUISITES

ENY 3005 (Principles of Entomology), or any introductory course in entomology.

COURSE DELIVERY MODE

The course is delivered 100% online and asynchronously. The course content is available through the course website in Canvas. Each week, students are required to view the module content, and complete the required assessments prior to the assigned due dates in order to complete the course requirements. Weekly modules will be available by 8:00 am on Monday of the module week.

COURSE WEBSITE IN CANVAS

<https://ufl.instructure.com/courses/454868>

COURSE DESCRIPTION

This course covers the principles and practices used in insect pest and vector management and emphasizes the arthropod pests affecting crops and ornamental plants, humans, and livestock.

STUDENT LEARNING OBJECTIVES

After completing this course, students will be able to:

- Describe the philosophy of integrated pest management.
- Assess the management approaches available to pest managers, including the advantages and disadvantages of each.
- Formulate the most appropriate pest management tactic for each pest situation.
- Develop critical thinking skills for decision making in pest management.
- Communicate pest management issues in written and oral formats.

REQUIRED COURSE MATERIALS

Textbook

The following textbook is required for this course:

- van Emden H. F. and M. W. Service. 2004. Pest and vector control. Cambridge University Press. 349 pp.
This textbook is available free of charge as an e-book through the UF libraries with your Gatorlink login.

Computer Requirements

All students are required to have regular access to a computer with a reliable internet connection in order to access the course materials and complete the course assessments.

COURSE SCHEDULE

| WEEK | TOPIC | REQUIRED READING | TASK/ASSIGNMENT |
|-------------------|---|---------------------------------------|---|
| 1/May 15 – 19 | Course orientation and introductions | | <ul style="list-style-type: none">• Introduce yourself!• Syllabus quiz |
| 2/May 22 – 26 | Module 1 – Insects and humans | van Emden and Service, Chapter 1 | <ul style="list-style-type: none">• Discussion 1• Quiz 1 |
| 3/May 29 – June 2 | Module 2 – Causes of pest and vectored disease outbreaks | van Emden and Service, Chapter 2 | <ul style="list-style-type: none">• Discussion 2• Quiz 2 |
| 4/June 5 – 9 | Module 3 – Sampling and monitoring of arthropods | PDF file available in Canvas | <ul style="list-style-type: none">• Discussion 3• Quiz 3• Exam 1 |
| 5/June 12 – 16 | Module 4 – Insecticides: Applications, and problems with using insecticides | van Emden and Service, Chapters 3 - 5 | <ul style="list-style-type: none">• Discussion 4• Quiz 4• Pest Management Report Assignment 1 due |
| 6/June 19 – 23 | Module 5 – Environmental and cultural control | van Emden and Service, Chapters 6 | <ul style="list-style-type: none">• Discussion 5• Quiz 5 |

7/June 26 - 30

Summer break

| | | | |
|-----------------------|---|---------------------------------------|---|
| 8/July 3 - 7 | Module 6 - Biological control and insect pathogens | van Emden and Service, Chapters 7 - 8 | <ul style="list-style-type: none">• Discussion 6• Quiz 6• Exam 2 |
| 9/July 10 - 14 | Module 7 - Genetic control and area-wide management | van Emden and Service, Chapter 9 | <ul style="list-style-type: none">• Discussion 7• Quiz 7 |
| 10/July 17 - 21 | Module 8 - Attractants, repellents, and pheromones | van Emden and Service, Chapter 10 | <ul style="list-style-type: none">• Discussion 8• Quiz 8 |
| 11/July 24 - 28 | Module 9 - Host plant resistance | van Emden and Service, Chapter 11 | <ul style="list-style-type: none">• Discussion 9• Quiz 9• Pest Management Report• Assignment 2 due |
| 12/July 28 - August 4 | Module 10 - Physical control | van Emden and Service, Chapter 12 | <ul style="list-style-type: none">• Discussion 10• Quiz 10• Pest Management Report• Assignment 3 due |
| 13/August 7 - 11 | Module 11 - Concepts of pest and vector management | van Emden and Service, Chapter 13 | <ul style="list-style-type: none">• Discussion 11• Quiz 11• Exam 3 |

Disclaimer: This syllabus represents current course plans and objectives. It is subject to change as necessary. Such changes will be communicated clearly to students, and the necessary adjustments to the course schedule and deadlines will be made.

COURSE POLICIES

Attendance Policy

This is an online class. Students are, therefore, required to view the weekly narrated lectures and the associated readings each week in Canvas. 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>

Course Requirements

There are 3 examinations, 11 graded discussions, 11 quizzes, and a pest management report (required for graduate students only) to complete the course requirements. The deadlines for assignments are firm. Exceptions will be considered ONLY for valid reasons (see below under Assignment Make-Up Policy).

Examinations: There are 3 close-book examinations throughout the course. Notes are not to be consulted for exams. Your browser will be locked, and browser activity will be limited to exam content only. All examinations are 50 questions, multiple-choice, and each is worth 50 points. Each exam will be made available and accessible in Canvas from 8:00 am EST on Sundays till 11:59 pm EST on Wednesdays of the exam week. The exams are proctored using HonorLock. Students are, therefore, required to have stable internet connection to be able to take the exams. The computer being used must have a camera. There is a time limit for the exams, and once you begin the exam, you will have 90 minutes to complete it in a single session. So, do not open the exam until you are ready to complete it.

Quizzes: There are 11 close-book quizzes (5 points each) throughout the course. The quizzes consist of 5 multiple-choice questions. The quizzes will be made available and accessible in Canvas from 8:00 am EST on Thursdays till 11:59 pm EST on Sundays of the quiz week. Once you begin the quiz, you will have 10 minutes to complete it in a single session. So, do not open the quiz until you are ready to complete it. There are 11 quizzes throughout the semester but your lowest quiz score for the semester will be dropped, and your grade for the quiz component will be based on the best 10 of 11 quizzes.

Discussions: There are 11 discussion assignments (10 points each) throughout the course. Articles/publications relevant to each module will be posted every week. Students are required to read and review the articles in Perusall. Some of the quiz and exam questions will be derived from these articles. Students may, in addition, cite educated and reliable sources such as opinions, technical reports, websites, and press releases to support their reasoning. Students are also required to respond to at least two of the comments/posts made by other students for each discussion. You will not receive any grade if you do not comment/post at all or if you simply post "I agree". Each discussion assignment will be open for one week. There will be more information on using Perusall for the discussion on the assignment page in Canvas.

Pest Management Report (required for graduate students only): For the report (100 points), students will select a pest or pest complex that is of medical or agricultural importance, and present an analysis of the pest biology, surveillance and monitoring techniques, economic importance, and pest management technique. If it is a pest of agricultural importance, it should be focused on a crop or cropping system. Students are also required to focus on just ONE management technique. The report will be submitted in 3 stages:

- Assignment 1 (20 points) - this assignment involves providing a background information about the pest or pest complex. Students are required to present a 3-page description of the biology, economic importance (pest impact), and surveillance and monitoring methods for their selected pest species. The report should be double-spaced, size 12 Times New Roman with 1 inch-margin. Students should also provide a list of, at least, 5 references from primary literature. The references must be cited according to the Journal of Integrated Pest

Management style. Instructions on how to structure the report and the rubrics for evaluation will be posted in Canvas. The reports are due by 11:59 pm of the due date.

- Assignment 2 (40 points) – this assignment involves a 3-page description of a pest management strategy against the selected pest or pest complex in Assignment 1. It should also provide information on the implications of adopting this management technique. The report should be double-spaced, size 12 Times New Roman with 1 inch-margin. Students should also provide a list of, at least, 5 references from primary literature. The references must be cited according to the Journal of Integrated Pest Management style. Instructions on how to structure the report and the rubrics for evaluation will be posted in Canvas. The reports are due by 11:59 pm of the due date.
- Assignment 3 (40 points) – this assignment involves synthesizing details from assignments 1 and 2. Students are required to submit a presentation on the selected pest or pest complex. This should be targeted at a stakeholder audience for the selected pest or pest complex. Students can get creative with their presentation. It could be a PowerPoint presentation (not longer than 10 minutes), a blog, a vlog, news bulletin, newspaper article etc.

Extra Credit: There is no extra credit offered for the course, but the points for the Discussion posts do add up. Students are advised to submit their posts even if they are late for at least a few points.

Assignment Make-Up Policy: Make-up for an assignment will be allowed only for illness, emergencies, or prescheduled reasons. In the event of a missed assignment, you must provide the necessary written documentation such as a note from a doctor in case of severe illness or a funeral notice/obituary in case of the death of a close relative. Any other kind of conflicting commitment should be communicated to the instructor at least a week in advance. Requests to take an assignment late WITHOUT one of the reasons listed above will be considered but will automatically result in points being deducted from the test score (10 points for each examination, 1 point for each quiz, 2 points for each discussion, and 5 points for each of the pest management report assignments).

Technical Difficulty Policy: In the event of a technical difficulty with the exam, students should contact the UF IT help desk (<http://helpdesk.ufl.edu/>) and/or Honorlock support BEFORE contacting the instructor. Request to re-take an exam from a student without first contacting the UF IT Help Desk and/or Honorlock will not be considered.

COURSE COMMUNICATION

Questions About the Course

Students are encouraged to post general questions on topics taught in the class under the “General Questions” thread. The instructor will respond to the questions. Other students are also encouraged to respond to the questions. Private or personal questions should be sent to the instructor via e-mail. Students will be notified by Canvas e-mail if the instructor will be unavailable for office hours. Make sure to check your Gatorlink e-mail and/or the announcements page of the course in Canvas on a regular basis for messages sent to the class.

Online Netiquette

For all online class engagements, it is required that students:

- Do not use offensive language.
- Present ideas appropriately.
- Respect one another and the opinions of others in class.
- Act professionally.

GRADING POLICIES

The course grade is based on performance in the exams, quizzes, participation in discussion activities, and the pest management report (for graduate students only). The final grade will be assigned as follows:

| Course Requirements | Undergraduate | | Graduate | |
|--------------------------------|---------------|--------------------|-------------|--------------------|
| | Point Value | Total Grade Points | Point Value | Total Grade Points |
| Introduce Yourself! Discussion | 5 | 5 | 5 | 5 |
| Syllabus Quiz | 5 | 5 | 5 | 5 |
| Discussions | 10 each | 110 | 10 each | 110 |
| Quizzes | 5 each | 50 | 5 each | 50 |
| Exams | 50 each | 150 | 50 each | 150 |
| Pest Management Report | n/a | n/a | 100 | 100 |
| Total | | 320 | | 420 |

Grading Scale

| Grade | Percentages |
|-------|-----------------|
| A | 93 - 100 |
| A- | 90 - 92.9 |
| B+ | 87 - 89.9 |
| B | 83 - 86.9 |
| B- | 80 - 82.9 |
| C+ | 77 - 79.9 |
| C | 73 - 76.9 |
| C- | 70 - 72.9 |
| D+ | 67 - 69.9 |
| D | 63 - 66.9 |
| D- | 60 - 62.9 |
| E | <59.9 and below |

ONLINE COURSE EVALUATION

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide professional and respectful feedback on the quality of instruction in this course using a standard set of university and college criteria. Guidance on how to give feedback in a professional and respectful manner is available at: <https://gatorevals.aa.ufl.edu/students/>. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals in their Canvas course menu under GatorEvals. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

UNIVERSITY OF FLORIDA POLICIES AND ASSISTANCE

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

The university requires all members of its community to be honest in all endeavors. Cheating, plagiarism, and other acts diminish the process of learning. When students enroll at UF, they commit themselves to honesty and integrity. Your instructor fully expects you to adhere to the academic honesty guidelines you signed when you were admitted to UF.

Plagiarism is the use of ideas or writings produced by someone else. You should not use the writings of another person, including material from the internet (WWW), without putting the ideas in your own words, or placing the copied material in quotes and attributing authorship. In the scientific literature, quotations are rarely used. You should use your own words for answering questions on exams, and in your class project.

As a result of completing the registration form at the University of Florida, every student has signed the following statement:

"I understand the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University. "Furthermore, on work submitted for credit by UF students, 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 to be assumed that all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor. This policy will always be vigorously upheld in this course.

Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to the 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/process/student-conduct-honor-code>

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.

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/

Campus Helping Resources

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

- The University Counseling and Wellness Center, 3190 Radio Road, 352-392-1575
www.counseling.ufl.edu
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>