

# INSECT PEST AND VECTOR MANAGEMENT

## IPM 6021

3 CREDITS  
SUMMER C

### INSTRUCTOR INFORMATION

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#### Instructor

Dr. Tolulope Agunbiade

#### Contact Information & Hours

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Phone: (352) 294-6792

Office hours: by phone or email

### GENERAL INFORMATION

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#### Course Description

The course will cover the principles and practices used in insect pest and vector management and will also emphasize the arthropod pests affecting crops and ornamental plants, humans and livestock. The course will explore content using narrated PowerPoint presentations and assigned readings.

#### Learning Objectives

After completing this course, students will be able to:

- describe the philosophy of integrated pest management,
- evaluate the ecological and economic basis for the attainment of pest status,
- 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

#### Prerequisite

An introductory course in entomology

#### Course Website

The course content, including narrated lectures, assigned readings, examinations, quizzes, and discussions will be available through the course website in Canvas at <https://elearning.ufl.edu/>. Each week, students are required to view the lectures, and associated readings, participate in the discussion activities, and take the quizzes and examinations prior to the assigned due dates in order to complete the course requirements.

#### Course Communications

In addition to the assigned discussion activities, 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 questions should be sent to the instructor via email.

## COURSE MATERIALS

### Textbooks/Readings

The following textbooks are recommended 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 ebook through the UF libraries with your Gatorlink login*
- Pedigo L. P. and M. E. Rice. 2009. Entomology and pest management. Waveland Press Inc. 784 pp.

There are also assigned readings for the course. The PDF files of these readings will be made available on the course website.

## COURSE SCHEDULE

Week	Topic	Tasks
<b><i>Background to Insect Pest and Vector Management</i></b>		
1 May 11 – 15	Pests and humans	Read assigned readings <a href="#">Participate in Discussion 1 - Introductions</a> <a href="#">Participate in Discussion 2</a>
2 May 18 – 22	Causes of pest and vectored disease outbreaks	Read assigned readings <a href="#">Take Quiz 1</a> <a href="#">Participate in Discussion 3</a>
3 May 26 – 29	Sampling and monitoring of arthropods	Read assigned readings <a href="#">Participate in Discussion 4</a> <a href="#">Last week to submit topic of group project report</a>
<b><i>Approaches to Insect Pest and Vector Management</i></b>		
4 June 1 – 5	Insecticides, applications, and problems with using insecticides	Read assigned readings <a href="#">Take Quiz 2</a> <a href="#">Participate in Discussion 5</a>
5 June 8 – 12	Environmental and cultural control	Read assigned readings
6 June 15 – 19	Biological control	Read assigned readings <a href="#">Take Quiz 3</a> <a href="#">Participate in Discussion 6</a> <a href="#">Last week to submit group project report</a> <a href="#">Take Exam 1</a>
<i>June 22 – 26</i>	<i>No classes – summer break</i>	
7 June 29 – July 2	Insect pathogens	Read assigned readings <a href="#">Participate in Discussion 7</a> <a href="#">Last week to submit your peer review of group project report</a>
8 July 6 – 10	Genetic control and area-wide management	Read assigned readings <a href="#">Take Quiz 4</a> <a href="#">Participate in Discussion 8</a>

<b>Week</b>	<b>Topic</b>	<b>Tasks</b>
9 July 13 - 17	Attractants, repellents, and pheromones	Read assigned readings
10 July 20 - 24	Host plant resistance	Read assigned readings <a href="#">Participate in Discussion 9</a>
11 July 27 - 31	Physical measures/Emerging concepts and practices	Read assigned readings <a href="#">Take Quiz 5</a> <a href="#">Participate in Discussion 10</a>
12 August 3 - 7		<a href="#">Take Exam 2</a>

## **COURSE POLICIES**

### **Course Requirements**

There are 2 examinations, 10 graded discussions, 5 quizzes, and a project report to complete the course requirements.

### **Examinations**

There are two, non-cumulative exams (150 points each). The first and second exams will cover weeks 1 - 6 and 7 - 11, respectively. The exams are open-book and essay-based. Each exam will be made available and accessible in Canvas from Thursday 8:00 am EST to Friday 11:59 pm EST of the exam week. Once you begin the exam, you will have 3 hours to complete it in a single session, so do not open the exam until you are ready to complete it.

### **Quizzes**

There are five quizzes (40 points each) scheduled every other week throughout the semester. The quizzes will consist of 10 multiple choice, mix and match, and true/false questions and will cover the lectures and/or required readings. The quizzes are closed-book and will be made available and accessible in Canvas from Thursday 8:00 am EST to Friday 11:59 pm EST of the quiz week. Once you begin the quiz, you will have 15 minutes to complete it in a single session, so do not open the quiz until you are ready to complete it.

### **Discussions**

Every week, questions will be posted by the instructor in the Discussion forum in Canvas. Students are required to make at least one post in the discussion thread (20 points each). These questions are designed to generate discussions, provide opportunities for student engagement, and aid the students' understanding of pest management issues. Each discussion thread will be open for one week. You will not receive any grade if you do not post at all or if you simply post "I agree". Please note that there will be two discussions the first week – one is to introduce yourself and the other is based on course content.

### **Project Report**

For the project report (150 points), students will prepare an analysis of a pest management technique(s) for a pest or pest complex that is of medical or agricultural importance. The components of the project report should include:

1. An abstract – concise and not more than 250 words

2. A description of the insect pest problem, including the pest biology, history, monitoring techniques, and economic importance (pest impact)
3. The pest management options available, including the implications of each for pest management
4. List of references

Examples of topics for the project report include:

- Predatory fish for mosquito suppression
- Animal dung destruction by beetles for suppression of biting flies
- Nematodes for suppression of Japanese beetles
- The use of *Bacillus thuringiensis* for insect control
- Pheromones for codling moth management

The above are just examples of topics. You are not limited to them. You are to submit your topic to the instructor on or before the topic submission due date. The report should be between 8 - 10 pages in length (including the title page, references, tables and/or figures). It should be double-spaced, size 12 Times New Roman with 1 inch-margin. The references should be at least 5, from primary literature, and must be 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. Late submissions will be marked down by 5 points per day. Each report will also be peer-reviewed by two other students in the class. Overall, the project report evaluations will be as follows:

1. Evaluation by the instructor (70 points) - The instructor will evaluate each of the reports.
2. Evaluation of report by peers (40 points) - Each report will be evaluated by two other students in the class using a rubric. The scores from these two other students for that report will be averaged.
3. Submission of evaluations of peers' group reports (40 points) - Each student must read reports submitted by other students in the class and submit their evaluations.

## GRADING POLICIES

The course grade is based on performance on the exams, quizzes, participation in discussion activities, and a project report. The final grades will be converted to percentages. The final grade will be assigned as:

Course Requirement		Point Value	Points	Percentages
Discussions/participation		20 each	200	23.5%
Quiz 1		40	40	4.7%
Quiz 2		40	40	4.7%
Quiz 3		40	40	4.7%
Quiz 4		40	40	4.7%
Quiz 5		40	40	4.7%
Exam 1		150	150	11.8%
Exam 2		150	150	11.8%
Project report	Evaluation of report by instructor	70	70	8.2%

	Evaluations of report by peers	40	40	4.7%
	Submission of evaluations of peers' reports	40	40	4.7%
<b>Total</b>			<b>850</b>	<b>100%</b>

## 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

## 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/UGRD/academic-regulations/grades-grading-policies/>

### Attendance 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/UGRD/academic-regulations/attendance-policies/>

### Online Course Evaluation Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. 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, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### 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/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, <https://disability.ufl.edu/>

### **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](http://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/](http://www.umatter.ufl.edu/)

- *Career Connections Center*, First Floor JWRU, 392-1601, <https://career.ufl.edu/>.

Student Complaints:

- Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>