INSECT PEST AND VECTOR MANAGEMENT
ENY 4905/5236
3 CREDITS
SUMMER C 2019

INSTRUCTOR INFORMATION

Instructor
Dr. Tolulope Agunbiade

Contact Information & Hours
Location: 3212 Steinmetz Hall
Email: agunbiade@ufl.edu
Phone: (352) 294-6792
Office hours: by phone or email

GENERAL INFORMATION

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.
Textbooks/Readings

The following textbooks are recommended for this course.

  *This textbook is available free of charge as an ebook through the UF libraries with your Gatorlink login*

The following are required readings for the course. The PDF files of these readings will be made available on the course website.


### COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background to Insect Pest and Vector Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>May 13 – 17</td>
<td>Pests and humans</td>
</tr>
<tr>
<td>2</td>
<td>May 20 – 24</td>
<td>Causes of pest and vectored disease outbreaks</td>
</tr>
<tr>
<td>3</td>
<td>May 28 – 31</td>
<td>Sampling and monitoring of arthropods</td>
</tr>
<tr>
<td><strong>Approaches to Insect Pest and Vector Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>June 3 – 7</td>
<td>Insecticides, applications, and problems with using insecticides</td>
</tr>
<tr>
<td>5</td>
<td>June 10 – 14</td>
<td>Environmental and cultural control</td>
</tr>
<tr>
<td>6</td>
<td>June 17 – 21</td>
<td>Biological control</td>
</tr>
<tr>
<td><strong>June 24 – 28</strong></td>
<td>No classes – summer break</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>July 1 – 5</td>
<td>Insect pathogens</td>
</tr>
<tr>
<td>8</td>
<td>July 8 – 12</td>
<td>Genetic control and area-wide management</td>
</tr>
<tr>
<td>9</td>
<td>July 15 – 19</td>
<td>Attractants, repellents, and pheromones</td>
</tr>
<tr>
<td>10</td>
<td>July 22 – 26</td>
<td>Host plant resistance</td>
</tr>
<tr>
<td>11</td>
<td>July 29 – August 2</td>
<td>Physical measures</td>
</tr>
<tr>
<td>12</td>
<td>August 5 – 9</td>
<td>Legislation and Regulation/Emerging concepts and practices</td>
</tr>
</tbody>
</table>
COURSE POLICIES

Attendance Policy
This is an online class. Students are, therefore, required to view the weekly lectures and the associated readings each week. 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, 10 graded discussions, 5 quizzes, and a group project (for graduate students) to complete the course requirements.

Examinations
There are three, non-cumulative exams (100 points each). The first, second and third exams will cover weeks 1 - 5, 6 - 9, and 10 - 12, 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 10 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.

Group Project Report (required for graduate students only)
For the group project report (100 points), students will work in groups of 3 to 4 to 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 group 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, and the names of the members of your group 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 group member will be evaluated by other members of their group. The reports will also be peer-reviewed by other students in the class. You are, therefore, required to post your group project report in Canvas for the instructor and other student groups to read and evaluate. Overall, group project report evaluations will be as follows:

1. Evaluation by the instructor (50 points) - The instructor will evaluate each of the reports. The score that group report receives is also the score for each member of the group.
2. Evaluation of report by peers (20 points) - Each group report will be evaluated by other students in the class, except the members of that group, using a rubric. The scores from the other students for that group report will be averaged, and that average score is also the score each member of the group receives.
3. Evaluation of individual effort to group project (20 points) - The contribution of each member to the project will be evaluated by every other member of the group using a rubric. The scores from every other group member for each individual will be averaged, and the average score is also the score the individual student receives.
4. Submission of evaluations of peers’ group reports (10 points) - Each student must read group reports submitted by other groups 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 group project report (required for graduate students only). The final grades will be converted to percentages. The final grade will be assigned as:

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Point Value</th>
<th>Undergraduate Points</th>
<th>Undergraduate Percentages</th>
<th>Graduate Points</th>
<th>Graduate Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussions/participation</td>
<td>20 each</td>
<td>200</td>
<td>29%</td>
<td>200</td>
<td>25%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>40 each</td>
<td>200</td>
<td>29%</td>
<td>200</td>
<td>25%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>100</td>
<td>100</td>
<td>14%</td>
<td>100</td>
<td>12.5%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>100</td>
<td>100</td>
<td>14%</td>
<td>100</td>
<td>12.5%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>100</td>
<td>100</td>
<td>14%</td>
<td>100</td>
<td>12.5%</td>
</tr>
<tr>
<td>Group project report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation of report by instructor</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>6.25%</td>
</tr>
<tr>
<td>Evaluations of report by peers</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>2.5%</td>
</tr>
<tr>
<td>Evaluation of individual effort to group project</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>2.5%</td>
</tr>
<tr>
<td>Submission of evaluations of peers’ group reports</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>10</td>
<td>1.25%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>700</td>
<td>100%</td>
<td>800</td>
<td>100%</td>
</tr>
</tbody>
</table>
Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 – 100</td>
</tr>
<tr>
<td>A-</td>
<td>90 – 92.9</td>
</tr>
<tr>
<td>B+</td>
<td>87 – 89.9</td>
</tr>
<tr>
<td>B</td>
<td>83 – 86.9</td>
</tr>
<tr>
<td>B-</td>
<td>80 – 82.9</td>
</tr>
<tr>
<td>C+</td>
<td>77 – 79.9</td>
</tr>
<tr>
<td>C</td>
<td>73 – 76.9</td>
</tr>
<tr>
<td>C-</td>
<td>70 – 72.9</td>
</tr>
<tr>
<td>D+</td>
<td>67 – 69.9</td>
</tr>
<tr>
<td>D</td>
<td>63 – 66.9</td>
</tr>
<tr>
<td>D-</td>
<td>60 – 62.9</td>
</tr>
<tr>
<td>E</td>
<td>&lt;59.9 and below</td>
</tr>
</tbody>
</table>

Online Course Evaluation Process
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 feedback on the quality of instruction in this course using a standard set of university and college criteria. 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 of the specific times when they are open. 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
    o Counseling Services
    o Groups and Workshops
    o Outreach and Consultation
    o Self-Help Library
    o Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, https://career.ufl.edu/