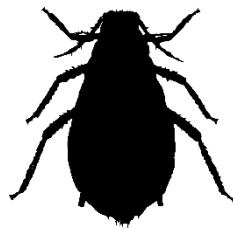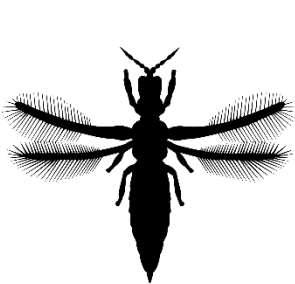# Turf and Ornamental Entomology

3 Credit Hours | Online Asynchronous Format

Office Hours

Foor office hour meetings, please use the following booking link to schedule meetings. Also, please feel free to direct any questions about the course through email (lee.t1@ufl.edu) with subject line: "ENY3510/5116- *Your Name*".

Couse Description

This course covers the identification, biology, and ecology of common arthropods inhabiting turfgrass and ornamental plants in nurseries, greenhouses, and urban environment. Throughout this course emphasis will be placed on integrated pest management (IPM). This course is intended for students with some plant and insect background, or those pursuing pesticide certification.
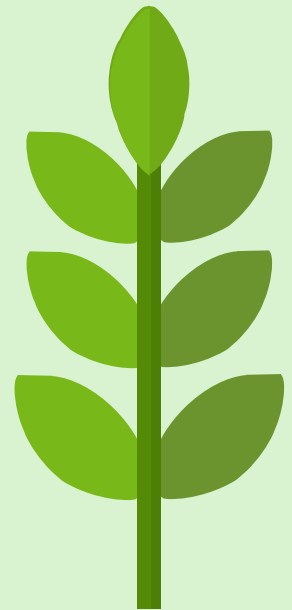
Instructor

Dr. Tae Young Lee

OFFICE:

Steinmetz Hall Rm. 3101

1881 Natural Area Dr.

Gainesville, FL 32611

PHONE:

352-273-3953

EMAIL:

lee.t1@ufl.edu

Email

Each student must have an active email account. The University of Florida requires that you obtain a student ID# and a Gatorlink email account as part of your registration process. The instructor may post class notices to your Gatorlink email account. While many of you already have independent email accounts, you must also obtain a University of Florida Gatorlink email account for use as a registered student.

Instructional Methods

This course will be presented to students in asynchronous online format. There will be 7 online modules that will be released either on weekly or bi-weekly basis (please see course schedule at the end of syllabus). Each module contains lectures and assignments pertaining to various topics of turf and ornamental entomology. Students can complete module activities independently on their own schedule, but please note that exams and assignments will have set deadlines.

The course schedule is available both on the Canvas eLearning site and at the end of the syllabus. Please be sure to regularly consult the course schedule and be aware of upcoming deadlines. The instructors will send regular announcements as reminder of upcoming assignments and weekly expectations.

Course Projects

Insect Collection

Identification is the most important step to proper management of insect pests. For a successful IPM, professionals must be able to locate and identify the insects based on collected specimen. To practice finding and identifying insects, students will be expected to create a collection of and/or photographically documentation of insects related to turf and ornamental plants. found around them. Collected/documented insects should be identified from Order to Species and submitted with collection data. Lastly, the students will provide justification for the pest status of the photographed arthropods. Please consult with instructor if you are unable to create and send a physical collection.

LEARNING OBJECTIVES

This course has several purposes:

Through completing the course students will be expected to:

1. Identify major pest of turf and ornamental plants

2. Differentiate arthropod pest signs and symptoms in turf and ornamental plants

3. Identify and explain how to promote arthropods that are beneficial to turf and ornamental plants

4. Explain rationale behind different IPM tactics

5. Anticipate pest activity, impact on plant health, and create IPM plan

IPM Project

Integrated pest management (IPM) requires thorough diagnostics of the problem and planning of a solution to be successful. IPM has many steps to complete, and each has a purpose that contributes to the eventual reduction of pest population. Insect pests are all around us, so the students will be assigned with finding an arthropod pest problem in turf grass or ornamental plants. The students will then formulate an IPM plan to manage the pest, explaining each step in detail.

## T&O Pest "Featured Creatures" Article (ENY5516)

Once a pest problem has been identified, professionals must be able to communicate to the public about the various aspects of the pest, i.e. general biology, necessary resources, route of entry, cause of infestation, etc. To practice communication skills, students will write a short article on one of the urban arthropods they have documented. The article is to be designed similar to a "Featured Creatures" article published by IFAS. The article should be designed for a typical homeowner to learn about the turf & ornamental arthropod of interest.

Optional Textbook

There is no required textbook for this course. No assignments or exams will be based on the optional textbook. Each module will have suggested reading assignment to supplement lectures.
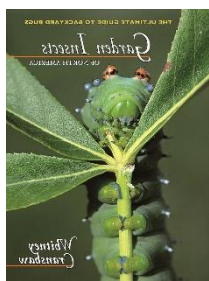
Garden Insects of North America- The ultimate guide to backyard bugs, 2nd edition, 2018, Princeton University Press
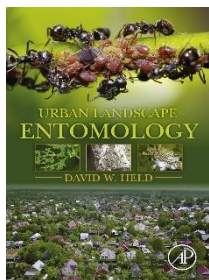
Urban Landscape Entomology, 2019 Edition, Elsevier Academic Press

Course Format and Requirements

This course is offered as pre-recorded lectures delivered by the eLearning course management system Canvas. Students must have reliable connection to the internet to complete this course.

Course materials will be gradually released over the semester to help with pacing. All assignments must be submitted online.
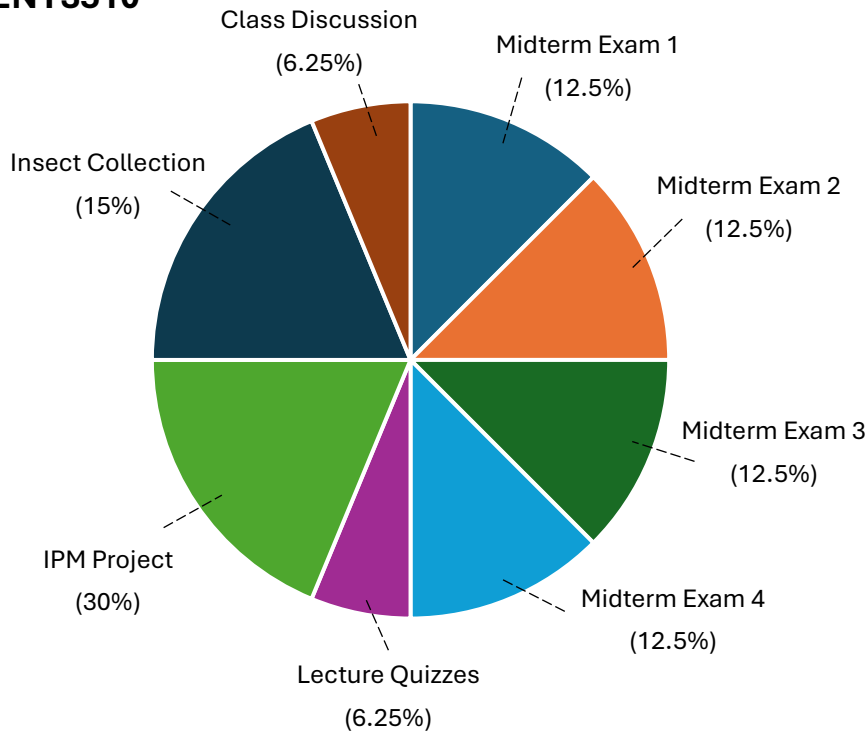
E-book available through UF Library

Must be on the UF VPN. Once on the UF VPN, access the book at http://jstor.org/stable/j.ctt1qft28g

Course Grading

This course uses a point system for grading. The anticipated maximum that can be earned in the course is 1000 points**

ENY3510
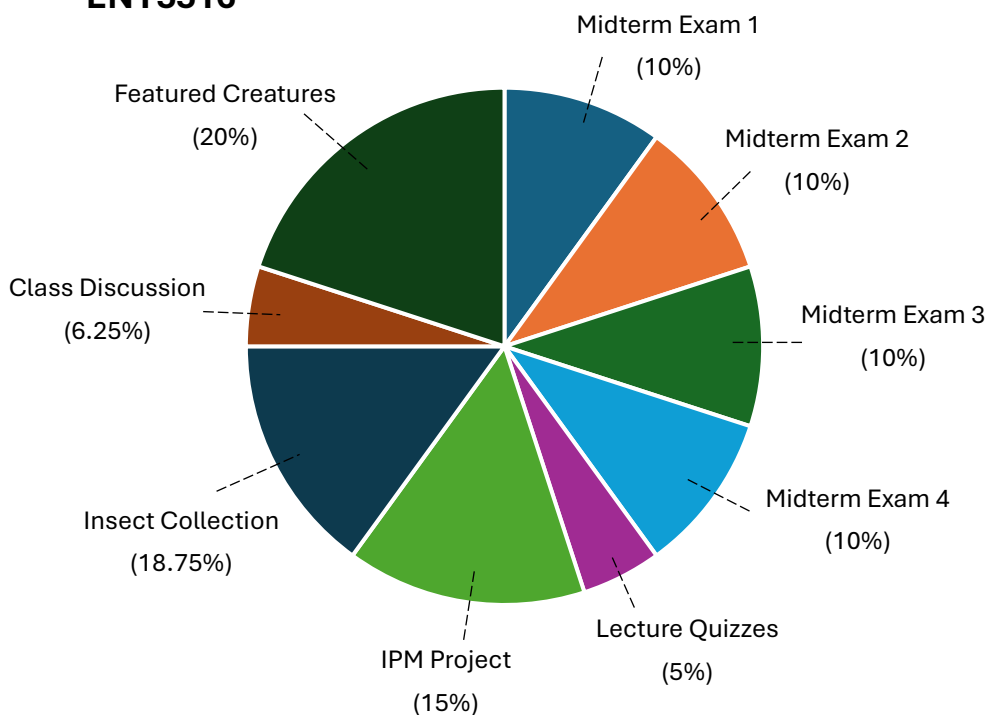
Class Discussion (6.25%)
Midterm Exam 1 (12.5%)
Insect Collection (15%)
Midterm Exam 2 (12.5%)
Midterm Exam 3 (12.5%)
IPM Project (30%)
Midterm Exam 4 (12.5%)
Lecture Quizzes (6.25%)

ENY5516

Featured Creatures (20%)
Midterm Exam 1 (10%)
Midterm Exam 2 (10%)
Class Discussion (6.25%)
Midterm Exam 3 (10%)
Insect Collection (18.75%)
Midterm Exam 4 (10%)
IPM Project (15%)
Lecture Quizzes (5%)

**Grade distribution

Midterm Exam 1	100 pts
Midterm Exam 2	100 pts
Midterm Exam 3	100 pts
Midterm Exam 4	100 pts
Lecture Quizzes	50 pts
Class Discussion	50 pts
Insect Collection	150 pts
IPM Project	150 pts
ENY5516 only	
Featured Creatures	200 pts

At the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% = **A**	80 – 82.$\overline{9}$% = **B-**	67 – 69.$\overline{9}$% = **D+**
90 – 92.$\overline{9}$% = **A-**	77 – 79.$\overline{9}$% = **C+**	63 – 66.$\overline{9}$% = **D**
87 – 89.$\overline{9}$% = **B+**	73 – 76.$\overline{9}$% = **C**	60 – 62.$\overline{9}$% = **D-**
83 – 86.$\overline{9}$% = **B**	70 – 72.$\overline{9}$% = **C-**	Below 60% = **E**

Online submissions

Students are responsible for verifying that assignments are successfully uploaded/submitted into Canvas. The instructor is not responsible for failed submissions due to internet issues. Locating a hard-wired connection (UF or public library) greatly reduces the instance of technical issues.

Contact the instructor early if you foresee difficulty with maintaining a hard-wired connection (e.g. military service or living abroad). Please also consult UF Helpdesk if you are having internet connection issues: https://helpdesk.ufl.edu/ | 352-392-4357

UF Policies

Absences and Make-Up Work

Since this is an asynchronous online course there are no attendance requirements; however, requirements for 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/

Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, Course Format and Requirements. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF regulation.

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.

Online 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. 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.

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/cwc/

  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Training Programs
  Community Provider Database

- U Matter We Care, www.umatter.ufl.edu/

- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

- Student Success Initiative, http://studentsuccess.ufl.edu.

- Student Complaints:

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

Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 https://helpdesk.ufl.edu/ or via e-mail at helpdesk@ufl.edu.
- Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center: 1317 Turlington Hall, 352-392-2010. General study skills and tutoring.

- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Student Concern: [Report Student Concerns or Conduct](#)

Course Calendar

* Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. These changes will be communicated clearly via Canvas.

Week	Module	Topics	Assignment Due Dates
1	Monday-Friday	**Module 1 Open** Introduction to Entomology	
2	Monday-Friday	Collecting and Preserving Insects Arthropods & Relatives Seminar lecture by Dr. Adam Dale	**Friday: Discussion 1**
3	Monday-Friday	**Module 2 Open** Characteristics of Insects Insect Biology & Physiology	**Friday: Quiz 1**
4	Monday-Friday	Classifying Horticulturally Important Order **Exam 1 Open (Monday 8:00AM-Friday 11:59PM)**	**Friday: Discussion 2**
5	Monday-Friday	**Module 3 Open** Concepts of Insect Ecology Insect Communication	
6	Monday-Friday	Plant-Insect Interaction Ecology of Herbivorous Insects in Urban Landscapes	
7	Monday-Friday	**Module 4 Open** Strategies of Integrated Pest Management (IPM) Monitoring tools & Techniques	**Friday: Quiz 2**
8	Monday-Friday	Biological Control & ID of Common Natural Enemies Non-chemical Control of Pests **Exam 2 Open (Monday 8:00AM-Friday 11:59PM)**	
9	Monday-Friday	**Module 5 Open** History of Insecticide Use Insecticide chemical classes, MoA & Formulations	
10	Monday-Friday	Biorational Insecticides Insecticide Application Technologies	**Friday: Discussion 3**

Week	Module	Topics	Assignments
11	Monday-Friday	**Module 6 Open** Ornamental Plant Pest ID Insect Borers Common Defoliators	**Friday: Quiz 3**
12	Monday-Friday	**Exam 3 Open (Monday 8:00AM-Friday 11:59PM)**	**Friday: Discussion 4**
13	Monday-Friday	**Module 7 Open** Common Leaf-miners Common gall-makers Sap-feeding arthropods: bugs & mites	**Friday: Quiz 4** **Friday: IPM Project**
14	Monday-Friday	**Module 8 Open** Turfgrass IPM & Turf Foliage Feeders Turfgrass stem & Thatch Feeders	**Friday: Featured Creatures**
15	Monday-Friday	**Thanksgiving Holidays**	
16	Monday-Friday	Turfgrass Root Feeders	**Wednesday: Quiz 5** **Wednesday: Discussion 5** **Friday: Insect Collection**
Finals Week		**Exam 4 Open: Thursday (8:00AM)- Saturday (11:59PM)**	

**Assignment for ENY5516 only