IPM 5305

Principles of Pesticides

Spring 2026 (online, asynchronous) 3 credits

Course Schedule Hours and Location

This is an online course, but NOT a go-at-your-own-pace course. Students are expected to watch the lectures and complete the accompanying assignments (quizzes, discussion posts, etc.) during their assigned week. Course material and communication will be provided through the Canvas site.

Instructor

Dr. Greg MacDonald
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Office Hours: By appointment, message through canvas or email

Teaching Assistant

There will not be a teaching assistant associated with this course this semester

Course Description

Pesticides protect our crops, homes and health. Emphasis is placed on why and how pests are managed; the process of pesticide registration and regulation; and how pesticides work to control and manage pests.

Course Learning Objectives

After completion of this course, you will be able to:

1. Describe the history of pest management and how pesticides have shaped the development of modern pest management strategies.
2. Explain how pesticides are used to control different types of pests and their modes of action.
3. Analyze and evaluate pest scenarios involving arthropods, nematodes, pathogens, and weeds in order to design appropriate pesticide management strategies.
4. Interpret and apply the laws and regulations governing the safe and proper use of pesticides.
5. Demonstrate knowledge of pesticide application equipment, including proper calibration.
6. Assess the potential hazards of pesticide use to humans, wildlife, and the environment.

Course Overview and Purpose

This 3-credit course will provide opportunities for students to gain a basic knowledge of pesticides and their use. The course is not designed for students to memorize chemical structures, but to gain practical working knowledge of all types of pesticides used primarily in agricultural and horticultural production and urban/landscape and structural settings. Emphasis will be placed upon the major classes of pesticides used in Florida. Students are expected to be able to associate common names of pesticide active ingredients with chemical families, modes of action, and use patterns. Students will also know and understand and the process of pesticide registration and regulation in the U.S. and Florida.

Course Prerequisites

Principles of Plant Science (PLS 3004c) or background in plant biology or related biological science discipline; or consent of instructor.

Textbooks, Learning Materials, and Supply Fees

No textbook required but students will be provided with assigned readings from various sources including websites, journal articles, and extension publications. There will not be a lab fee.

Course Communication

Announcements related to the course will be made through the Canvas page under Announcements. Direct communication with the instructor can be made through canvas email or Gatorlink and I will respond to emails within 24 hours. All course material including presentations, reference materials, assignments, and quizzes will be posted on the canvas page. Quizzes are closed book and will be timed. Due dates for quizzes and assignments can be found in the weekly topics table posted at the end of this syllabus.

AI – Artificial Intelligence Policy

The use of AI is not allowed when taking quizzes (quizzes are closed book) or for use in discussion posts. The use of artificial intelligence is allowed, but not required, for assisting in completing assignments and the management plan, however any written submission must be in your own words. You must also cite how you used AI to assist in each assignment. For assistance in using AI please see this link https://ai.ufl.edu/for-our-students/guidance-for-students/. You must also adhere to UF polices regarding AI usage and a list of AI provided and approved tools can be found here - https://it.ufl.edu/ai/

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

Assignment Type*	Point Value	Percent of Final Grade
Topic quizzes (10)	7 quizzes at 75 points each (7 x 75) = 525 points 3 quizzes at 50 points each (3 x 50) = 150 points **Total points for quizzes = 675 points**	56.25%
Discussions (2)	25 + 50 points = 75 points	6.25%
Registration, Training and Calibration Assignments (3)	125 + 50 + 25 points = 200 points	16.7%
Crop/Pest Management Assignments (5)	75 + 50 + 50 + 50 + 25 = 250 points	20.8%
	1200 points total	**100%**

**There will be 10 points per day deducted for late submission of assignments and quizzes. Students must be present for zoom presentations.*

Assignment Details

****note – all due dates can be found on the weekly outline table at the end of this syllabus***

1. Quizzes – will be given for selected modules on specific topics covered during presentations and associated materials. Quizzes will be timed (30 minutes) and will open on Friday and close the following Monday evening. Format for the quizzes will be discussed in the introductory presentation. There are 7 quizzes at 75 points and 3 quizzes at 50 points, totaling 675 points.
2. Discussions – there are 2 discussion posts (25 + 50 = 75 points) at the beginning of the semester. Students are expected to post at least twice and provide meaningful dialog and feedback to receive full credit. Details will be posted on the canvas page, including grading rubric.
3. Pesticide Regulatory Assignments – there are 3 assignments related to pesticide label development (100 points), pesticide licensing in Florida (50 points) and 2 pesticide calibration problem sets (20 + 30 points); for a total of 200 points associated with pesticide registration and regulation. Instructions on how to complete the assignments will be posted on the canvas page a minimum of one week prior to the due date. Assignment details, including grading rubric will be posted on canvas.
4. Crop/Pest Management Assignments – there are 5 assignments associated with the cultivation and pest management of a crop and location (this is chosen by the student). These are related to agronomic practices (75 points), weed management (50 points), insect management (50 points), disease management (50 points) and other pest management (25 points); for a total of 250 points. This is a cumulative project during the last 7 weeks of the semester. Instructions on how to complete the assignments will be posted on the canvas page a minimum of one week prior to the due date. Assignment details, including grading rubric will be posted on canvas.

Grading Scale

Grade	Points	Percentage
A	≥ 1116	93.0 - 100
A-	1080-1115	90.0 – 92.9
B+	1044 – 1079	87.0 – 89.9
B	960 - 1043	80.0 – 86.9
C+	924 - 959	77.0 - 79.9
C	840 – 923	70.0 – 76.9
D+	804 - 839	67.0 – 69.9
D	720 - 803	60.0 – 66.9
E	< 720	< 60

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

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.

Privacy and Accessibility Policies

[required for online courses, list all technology used]

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

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Weekly Course Schedule

Week	Topic	Assessment	Due Dates	Points*
January 12 - 16	Introductions, History, Defining Pests	Self-Intro, Discussion post	January 16, 20	25, 50
January 21 – 23	Principles Pest Management	Quiz 1	January 26	75
January 26 – 30	Pesticide Registration, Labeling	Assignment – Label Dev.	February 6	100
February 2 – 6	Pesticide Compliance, Training	Assignment - Licenses	February 13	50
February 9 – 13	Pesticide Safety, Storage, etc.	Quiz 2	February 16	75
---	Crop Production System – Agronomic Practices	Assignment (see canvas)	February 20	75
February 16-20	Pesticide Application, Calibration Problems (2 sets)	Quiz 3, Assignments	February 23 February 19, 25	75 20 + 30
February 23 – 27	Intro Weed Management, Herbicide Use Practices	Quiz 4	March 2	50
March 2 – 6	Herbicide Activity and Mode of Action	Quiz 5	March 9	75
---	Crop Production System – Weed Management	Assignment (see canvas)	March 6	50
March 9 – 13	Intro Disease Management, Fungicide Use Practices	Quiz 6	March 13	50
March 16 -20	***SPRING BREAK – no class***	***No assessment***	----	----
March 23 – 27	Fungicide Activity and Mode of Action	Quiz 7	March 30	75
---	Crop Production System – Disease Management	Assignment (see canvas)	March 27	50
March 30 – April 3	Intro Insect Management, Insecticide Use Practices	Quiz 8	April 6	50
April 6 – 10	Insecticide Mode of Action	Quiz 9	April 13	75
---	Crop Production System – Insect Management	Assignment (see canvas)	April 10	50
April 13 – 17	Other Pest Management and Pesticides	Quiz 10	April 20	75
---	Crop Production System – Other Pest(s) Management	Assignment (see canvas)	April 22	25

** 1200 points total*