

**University of Florida
Institute of Food and Agricultural Sciences**

Course Title: Nematode Management - Spring 2023

Course ID: NEM6934

INSTRUCTOR:

Dr. Abolfazl Hajihassani, Assistant Professor
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University of Florida/IFAS
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Office Hours: Drop-in M/Th 8:00-10:00 PM, or by appointment

ABOUT THE COURSE:

Course type: This semi-synchronous course is offered through the University of Florida E-learning in Canvas and via Zoom. The class materials, including narrated lectures, reading materials, and examinations, are available on canvas. In addition, interactive activities and critically analyzing of the literature will be performed through zoom.

Credit Hours: 3 credits

Prerequisite: Plant Nematology (NEM5707)

Course Time / Location:

Lectures and readings are available on canvas (<https://elearning.ufl.edu/>) on Mondays.

Debates/Discussions/Presentations: Wednesdays, 9:30-11:00 AM. Attendance is mandatory. Use the link to zoom:

Join Zoom Meeting

<https://ufl.zoom.us/j/91237080774>

Meeting ID: 912 3708 0774

COURSE PHILOSOPHY

Why this course is useful? Plant-parasitic nematodes are one of the important constraints in crop production, and without appropriate controls, they can cause significant losses in crop yield and quality. This course covers applied concepts of management of nematode pests, including cultural, chemical, and biological control strategies and host plant resistance. Integrated control approaches for plant-parasitic nematode management will also be covered.

Who should take this course? Students interested in Agriculture and Pest Management are encouraged to take this course.

Students' Learning Responsibilities: Students are required to attend each debate/discussion session. Students are responsible for reading the assigned readings provided before class and being prepared to discuss them in class.

COURSE DESCRIPTION AND OBJECTIVES

Instructional Methods: The class is based on weekly readings of scientific literature, and debates and discussions of those readings. Presentations will be provided by the instructor or students responsible for specific topics of nematode management.

Course Objectives:

- 1) Learn the fundamentals of plant-parasitic nematode management.
- 2) Learn and understand nematode management practices, including cultural, physical, biological, chemical, and crop resistance, and the science behind them.
- 3) Learn and understand scientific control methods and concepts for integrated nematode management.

Learning outcomes:

At the end of this course, students will:

- Critically evaluate current nematode problems in agricultural landscapes and learn how to properly select and utilize appropriate control strategies for managing nematode pests.
- Summarize conventional and newly developed applied methods and technologies used to manage nematodes.
- Enhance professional skills, including establishing and developing a scientific concept, reading scientific literature, and communicating ideas and thoughts.
- Learn skills to prepare presentations to communicate scientific research findings of nematode management concepts, proficient application of academic language, and the ability to lead constructive discussions.

Course Outline:

Module 1. Fundamentals of nematode management

Module 2. Cultural control of nematodes

Module 3. Control of nematodes with chemical and natural nematicides

Module 4. Biological control of nematodes

Module 5. Host plant resistance to control nematodes

Module 6. Site-specific and integrated nematode management

Module 7. Management of nematode diseases in different crops

TECHNOLOGY:

Students will need to have access to a personal computer, web camera, and microphone. Your internet bandwidth **needs to be enough for video conferencing** or other in-class activities. **Your camera must be turned on during the session on zoom.** Please be mindful of your background and appearance.

COURSE MATERIALS

Textbooks: There is no required textbook for this course. Required paper readings will be available on Canvas.

Additional reading resources:

- Plant Parasitic Nematodes in Subtropical and Tropical Agriculture (3rd Edition), Sikora, Coyne, Hallmann, and Timper (ISBN 978-1786391247).
- Integrated nematode management: state-of-the-art and visions for the future, Sikora et al. (ISBN 978-1-78924-755-8)
- Plant Nematology, (3rd Edition), Perry and Moens (ISBN 978-1780641539)

COURSE SCHEDULE OF TOPICS AND ASSIGNMENTS

Week	Class date	Topic	Instructor/student/all
1	Jan. 9	Course overview	Instructor
	Jan. 11	Student introduction and course pre-assessment	All
2	Jan. 16	Holiday	...
	Jan. 18	Fundamentals of nematode management & Debate	Instructor
3	Jan. 23	Crop rotation and land management practices	Instructor
	Jan. 25	Debate	All

4	Jan. 30	Cover and trap crops, anaerobic soil disinfestation	Instructor
	Feb. 1	Debate	All
5	Feb. 6	Nematicides and chemical fumigants	Instructor
	Feb. 8	Debate	All
6	Feb. 13	Nematode antagonistic fungi and bacteria	Instructor
	Feb. 15	Debate	All
7	Feb. 20	Host plant resistance	Instructor
	Feb. 22	Debate	...
8	Feb. 27	Site-specific and integrated nematode management	Instructor
	Mar. 1	Debate	All
9	Mar. 6	Entomopathogenic nematodes for control of insect & nematode pests	Invited speaker
	Mar. 8	Preparation for presentation challenge	...
10	Mar. 11-18	Spring break	...
11	Mar. 20	Nematode management in fruit trees	Student - TBD
	Mar. 22	Discussion	All
12	Mar. 27	Nematode management in turfgrass & ornamentals	Student - TBD
	Mar. 29	Discussion	All
13	Apr. 3	Nematode management in vegetables & strawberry	Invited speaker
	Apr. 5	Discussion	All
14	Apr. 1	Nematode management in field crops	Student - TBD
	Apr. 12	Discussion	All
15	Apr. 17	Nematode management in cereal crops	Student - TBD
	Apr. 19	Discussion	All
16	Apr. 24	Nematode management in sugarcane & sugar beet	Instructor
	Apr. 26	Course post-assessment	All
17	May 3	Final exam	...

Disclaimer: This syllabus represents the current goals and plans of this course. However, the instructor might need to change the plans and schedules to enhance the learning opportunity for students. Students should expect such changes that will be communicated to them in advance.

ASSESS STUDENT LEARNING

Journal club: This club will be done over weeks 2-8 of the class. Assignments will include the weekly reading of two published papers on nematode management in peer-reviewed scientific journals. Assignments on readings are to include (i) a summary of each paper, (ii) providing two positive and two negative aspects of each paper, and (iii) two discussion questions (may have multiple parts) of your own (total 400 words).

Components of (i), (ii), and (iii) have 2%, 1%, and, 1% values, respectively. Assignments are to be conducted on an individual basis unless otherwise indicated. Assignments will always be **due on Tuesday by midnight**. An extension to submit assignments is accepted upon request, but 10% of points will be deducted. A detailed grading rubric will be provided.

In-class Debate: The debate will target communication and critical thinking skills and follow academic debating principles on the strengths and weaknesses of papers provided in the journal club. Students will be divided into two groups and debate opposing sides. Discussion questions from reading papers in the journal club will be used to initiate the discussion. Arguments need to be supported by evidence. Additional readings may be required for students to familiarize themselves with the topic. The instructor will lead the debate.

Presentation challenge: Each student will select a topic and date to prepare a 15-20-minute presentation on nematode management in specific crops. Students should record the presentation to be uploaded on the CANVAS and reviewed by other students in the class. Presentations will always be **due on Saturday by midnight**. In addition, the presenter should provide three discussion questions that will be used to lead the discussion in the class. Student presentations will be graded on content, their ability to communicate ideas, and presentation style (visual aids, effectiveness, mannerism). A detailed grading rubric will be provided. No extension is accepted for this assignment.

In-class Discussion: Students will be graded on the quantity and quality of input into the discussion. Emphasis will be placed on analytical thinking, innovative concepts and ideas, and additional knowledge of the topic. Students will be provided with a grade for each discussion section by the beginning of the discussion session of the following class.

Examination: There will be a final exam only. This exam aims to evaluate student ability to integrate and synthesize course contents. The exam in the format of essay (long-answer) questions will be open 24 hours on the day they are assigned. It is closed books, notes, and internet resources. Time limits are imposed, and only the content entered in the canvas will be graded.

GRADE EVALUATION

Activity	# of activity	Point value (%)	Total % of grade
Pre- and post-course assessment	2	1	2
Journal club	7	4	28
Debate	7	1	7
Presentation challenge	2	18	36
Discussion	6	1	6
Final exam	1	22	21
Total			100

In accordance with the current University of Florida policy (<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>), grade points will be assigned as follows:

Grade Letter	Percentage
A	92-100
A-	<92-90
B+	<90-87
B	<87-83
B-	<83-80
C+	<80-77
C	<77-73
C-	<73-70
D+	<70-67
D	<67-63
D-	<63-60
E	<60

Important Dates (e.g., voluntary withdrawal date): Refer to the academic calendar for the voluntary withdrawal date.

Texts, Readings, Materials: Textbook(s) are not required. Supplementary reading will be assigned as necessary.

Use of Third-Party Detection and Submission Tools: Electronic detection tools may be used to screen assignments in cases of suspected plagiarism.

Absences and Make-Up Work: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies.

<https://catalog.ufl.edu/UGRD/previous-catalogs/2021-2022/UGRD/academic-regulations/attendance-policies/#:~:text=The%20university%20recognizes%20the%20right%20of%20the%20instructor,subsequently%20assign%20a%20failing%20grade%20for%20excessive%20absences>

Challenging a grade: All discrepancies in grading must be resolved within 7 days of the grade being posted in canvas. Thus, please contact the instructor to modify the potential error in grades.

In-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 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, newspaper, leaflet, or third-party note/tutoring services. 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 4.040 Student Honor Code and Student Conduct Code.”

Academic Honesty:

In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

The Honor Pledge: We, the University of Florida community members, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean, Student Honor Council, or Student Conduct and Conflict Resolution in the Dean of Students Office.

(Source: 2012-2013 Undergraduate Catalog)

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously always upheld in this course.

Software Use: All faculty, staff, and students at 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.

Academic 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: <https://counseling.ufl.edu/>
- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu
- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring
- Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services
- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Library Support: Various ways to receive assistance concerning using the libraries or finding resources
- On-Line Students Complaints: <https://distance.ufl.edu/state-authorization-status/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/process/student-conduct-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.

<https://www.ufl.edu/?s=Services%20for%20Students%20with%20Disabilities%20>