

Cover Sheet: Request 12981

HOS 4XXX Organic Weed Management

Info

Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Carlene Chase cachase@ufl.edu
Created	8/30/2018 4:33:29 PM
Updated	10/10/2018 4:21:48 PM
Description of request	HOS6932 - Weed Management for Organic and Sustainable Cropping Systems has been taught for many years in alternate years in spring for graduate students. For interested undergraduate students it has been made available as HOS4932 - Organic Weed Management. A permanent course number is being requested as part of a proposed undergraduate curriculum revision by the Horticultural Sciences Department to allow inclusion as a core course for the Specialization in Organic Horticultural Systems (BS Horticultural Science).

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Horticultural Sciences 514923000	Christine Chase		8/31/2018
No document changes					
College	Approved	CALS - College of Agricultural and Life Sciences	Joel H Brendemuhl	Corrections requested by the CALS CC have been addressed. The graduate level course is also pending at the GCC.	10/10/2018
Organic Weed Management_Syllabus HOS4XXX_Oct 3.docx					10/3/2018
Letter_Undergrad-Grad Differences_Chase.pdf					10/3/2018
Email Response from Greg MacDonald.pdf					10/3/2018
Sustainable Weed Management_Syllabus HOS6XXX_Oct 3.docx					10/3/2018
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/10/2018
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 12981

Info

Request: HOS 4XXX Organic Weed Management

Description of request: HOS6932 - Weed Management for Organic and Sustainable Cropping Systems has been taught for many years in alternate years in spring for graduate students. For interested undergraduate students it has been made available as HOS4932 - Organic Weed Management. A permanent course number is being requested as part of a proposed undergraduate curriculum revision by the Horticultural Sciences Department to allow inclusion as a core course for the Specialization in Organic Horticultural Systems (BS Horticultural Science).

Submitter: Joel H Brendemuhl brendj@ufl.edu

Created: 10/10/2018 4:21:01 PM

Form version: 5

Responses

Recommended Prefix

Enter the three letter code indicating placement of course within the discipline (e.g., POS, ATR, ENC). Note that for new course proposals, the State Common Numbering System (SCNS) may assign a different prefix.

Response:
HOS

Course Level

Select the one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).

Response:
4

Number

Enter the three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles. For new course requests, this may be XXX until SCNS assigns an appropriate number.

Response:
XXX

Category of Instruction

Indicate whether the course is introductory, intermediate or advanced. Introductory courses are those that require no prerequisites and are general in nature. Intermediate courses require some prior preparation in a related area. Advanced courses require specific competencies or knowledge relevant to the topic prior to enrollment.

Response:
Advanced

- 1000 and 2000 level = Introductory undergraduate
- 3000 level = Intermediate undergraduate
- 4000 level = Advanced undergraduate
- 5000 level = Introductory graduate
- 6000 level = Intermediate graduate
- 7000 level = Advanced graduate

4000/5000 and 4000/6000 levels = Joint undergraduate/graduate (these must be approved by the UCC and the Graduate Council)

Lab Code

Enter the lab code to indicate whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

Response:
None

Course Title

Enter the title of the course as it should appear in the Academic Catalog.

Response:
Organic Weed Management

Transcript Title

Enter the title that will appear in the transcript and the schedule of courses. Note that this must be limited to 21 characters (including spaces and punctuation).

Response:
Organic Weed Mgt

Degree Type

Select the type of degree program for which this course is intended.

Response:
Baccalaureate

Delivery Method(s)

Indicate all platforms through which the course is currently planned to be delivered.

Response:
On-Campus

Co-Listing

Will this course be jointly taught to undergraduate, graduate, and/or professional students?

Response:
Yes

Co-Listing Explanation

Please detail how coursework differs for undergraduate, graduate, and/or professional students. Additionally, please upload a copy of both the undergraduate and graduate syllabus to the request in .pdf format.

Response:

The weighting of quizzes for undergraduate students is double that for graduate students. Undergraduate students prepare a written laboratory report based on an experiment conducted over an 8-week period. Graduate students are required to serve as discussion moderators. Graduate students develop a grant proposal on a sustainable and/or organic weed management problem formatted for submission to the Southern Sustainable Agriculture Research and Education graduate student grant program. A ten-minute PowerPoint presentation is also required.

Effective Term

Select the requested term that the course will first be offered. Selecting "Earliest" will allow the course to be active in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's best projection. Courses cannot be implemented retroactively, and therefore the actual effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires 2 to 6 weeks after approval of the course at UF.

Response:
Spring

Effective Year

Select the requested year that the course will first be offered. See preceding item for further information.

Response:
Earliest Available

Rotating Topic?

Select "Yes" if the course can have rotating (varying) topics. These course titles can vary by topic in the Schedule of Courses.

Response:
No

Repeatable Credit?

Select "Yes" if the course may be repeated for credit. If the course will also have rotating topics, be sure to indicate this in the question above.

Response:
No

Amount of Credit

Select the number of credits awarded to the student upon successful completion, or select "Variable" if the course will be offered with variable credit and then indicate the minimum and maximum credits per section. Note that credit hours are regulated by Rule 6A-10.033, FAC. If you select "Variable" for the amount of credit, additional fields will appear in which to indicate the minimum and maximum number of total credits.

Response:
3

S/U Only?

Select "Yes" if all students should be graded as S/U in the course. Note that each course must be entered into the UF curriculum inventory as either letter-graded or S/U. A course may not have both options. However, letter-graded courses allow students to take the course S/U with instructor permission.

Response:

No

Contact Type

Select the best option to describe course contact type. This selection determines whether base hours or headcount hours will be used to determine the total contact hours per credit hour. Note that the headcount hour options are for courses that involve contact between the student and the professor on an individual basis.

Response:

Regularly Scheduled

- Regularly Scheduled [base hr]
- Thesis/Dissertation Supervision [1.0 headcount hr]
- Directed Individual Studies [0.5 headcount hr]
- Supervision of Student Interns [0.8 headcount hr]
- Supervision of Teaching/Research [0.5 headcount hr]
- Supervision of Cooperative Education [0.8 headcount hr]

Contact the Office of Institutional Planning and Research (352-392-0456) with questions regarding contact type.

Weekly Contact Hours

Indicate the number of hours instructors will have contact with students each week on average throughout the duration of the course.

Response:

3

Course Description

Provide a brief narrative description of the course content. This description will be published in the Academic Catalog and is limited to 50 words or fewer. See course description guidelines.

Response:

Ecological principles can be applied in agroecosystems to manage weeds sustainably. Alternative weed management approaches that are less dependent on herbicides and utilize ecological processes detrimental to weeds and their propagules will be emphasized. Students will learn actively by critically analyzing pertinent literature and participating in discussions of supplemental reading.

Prerequisites

Indicate all requirements that must be satisfied prior to enrollment in the course. Prerequisites will be automatically checked for each student attempting to register for the course. The prerequisite will be published in the Academic Catalog and must be formulated so that it can be enforced in the registration system. Please note that upper division courses (i.e., intermediate or advanced level of instruction) must have proper prerequisites to target the appropriate audience for the course.

Response:

HOS 3020C or ALS 3153

Completing Prerequisites on UCC forms:

- Use "&" and "or" to conjoin multiple requirements; do not use commas, semicolons, etc.
- Use parentheses to specify groupings in multiple requirements.
- Specifying a course prerequisite (without specifying a grade) assumes the required passing grade is D-. In order to specify a different grade, include the grade in parentheses immediately after the course number. For example, "MAC 2311(B)" indicates that students are required to obtain a grade of B in Calculus I. MAC2311 by itself would only require a grade of D-.
- Specify all majors or minors included (if all majors in a college are acceptable the college code is sufficient).
- "Permission of department" is always an option so it should not be included in any prerequisite or co-requisite.

Example: A grade of C in HSC 3502, passing grades in HSC 3057 or HSC 4558, and major/minor in PHHP should be written as follows:

HSC 3502(C) & (HSC 3057 or HSC 4558) & (HP college or (HS or CMS or DSC or HP or RS minor))

Co-requisites

Indicate all requirements that must be taken concurrently with the course. Co-requisites are not checked by the registration system.

Response:

None.

Rationale and Placement in Curriculum

Explain the rationale for offering the course and its place in the curriculum.

Response:

Students need an understanding of plant biology and knowledge of crop production to perform at a high level in this course. Reading and discussion of journal articles can be better appreciated by upper-division undergraduate students.

Course Objectives

Describe the core knowledge and skills that student should derive from the course. The objectives should be both observable and measurable.

Response:

Students will learn how ecological approaches can be utilized to manage weeds in a sustainable manner. In addition, students will develop or improve skills for critically analyzing scientific literature by participating in discussions of current weed science journal article with peers. Students will polish their research and writing skills by preparing a laboratory report based on a field or greenhouse weed science experiment.

Course Textbook(s) and/or Other Assigned Reading

Enter the title, author(s) and publication date of textbooks and/or readings that will be assigned. Please provide specific examples to evaluate the course.

Response:

Recommended Texts

Chauhan, B.S. and G. Mahajan. 2014. Recent Advances in Weed Management. Springer, New York Heidelberg Dordrecht London.

Hatcher, P.E. and R.J. Froud-Williams. 2017. Weed Research: Expanding Horizons. John Wiley&

Sons, Hoboken, NJ.

Liebman, M., C.L. Mohler, and C.P. Staver. 2001. *Ecological Management of Agricultural Weeds*. Cambridge University Press, Cambridge.

Upadhyaya, M.K. and R.E. Blackshaw. 2007. *Non-chemical Weed Management: Principles, Concepts and Technology*. CABI, Wallingford.

Supplemental Materials

Booth, B.D., S.D. Murphy, and C.J. Swanton. 2010. *Invasive plant ecology in natural and agricultural systems*. Second edition. CABI Publishing.

Bowman, G. 2001. *Steel in the field: a farmer's guide to weed management tools*. Sustainable Agriculture Network, Beltsville.

Håkansson, S. 2003. *Weeds and weed management on arable land: an ecological approach*. CABI Publishing.

Radosevich, S.R., J.S. Holt, and C.M. Ghera. 2007. *Ecology of Weeds and Invasive Plants: Relationship to Agriculture and Natural Resource Management*, 3rd Edition. John Wiley & Sons, New York.

Ross, M.A. and C.A. Lembi. 2008. *Applied Weed Science: Including the Ecology and Management of Invasive Plants*. Prentice Hall, Upper Saddle River.

Weekly Schedule of Topics

Provide a projected weekly schedule of topics. This should have sufficient detail to evaluate how the course would meet current curricular needs and the extent to which it overlaps with existing courses at UF.

Response:

Week 1

1. Introduction and Orientation
2. Weeds – Ecological Definition, Adverse Effects and Utility
3. Ecological Weed Management

Week 2

1. Weed Life History
2. Preventive Measures

Week 3

1. The National Organic Rule - Permitted Practices
2. Herbicides permitted in organic cropping systems
3. Weed-Crop Interactions, Competition

Week 4

1. Weed-Crop Competition Greenhouse Experiment Initiated
2. Students assigned to independently view for in-class discussion: What Plants Talk About – <https://www.youtube.com/watch?v=CrrSAC-vjG4>
3. Allelopathy

Week 5

1. Biofumigation
2. Cultural Weed Management
3. Examination 1

Week 6

1. Cultural Weed Management
2. Quiz. Cultural Weed Management (Student-Moderated Discussion)

3. Cultural Weed Management

Week 7

1. Physical Weed Control – Mulches
2. Quiz. Physical Weed Control – Soil Solarization (Student-Moderated Discussion)
3. Physical Weed Control – Thermal methods

Week 8

1. Physical Weed Control – Grits
2. Anaerobic Soil Disinfestation
3. Mechanical Weed Control – Tillage

Week 9 NO CLASS – Spring Break

Week 10

1. Mechanical Weed Control – Cultivation
2. Quiz. Automated Weed Control (Student-Moderated Discussion)
3. Examination 2

Week 11

1. Introduction to Biological Control of Weeds
2. Quiz. Weed Seed Predation (Student-Moderated Discussion)
3. Biological Control Using Microorganisms/Bioherbicides

Week 12

1. Final data collection from Weed-Crop Competition experiment
2. Livestock for Weed Management
3. Quiz. Livestock for Weed Management (Student-Moderated Discussion)

Week 13

1. Chemical Weed Control – Soil fumigants (Proposal Drafts and Lab Introduction are due)
2. Chemical Weed Control – Synthetic Herbicides

Week 14

1. Herbicide resistance
2. Quiz. Sustainability of Herbicide-Resistant Crops (Student-Moderated Discussion)
3. Unmanned aerial vehicle use for weed management

Week 15

1. Integrated Weed Management vs Ecological Weed Management
2. Assess Graduate Student Grant Proposal Presentations
3. Submit laboratory report

Week 16

1. Review for Exam
2. Examination 3

Links and Policies

*Consult the syllabus policy page for a list of required and recommended links to add to the syllabus. Please list the links and any additional policies that will be added to the course syllabus.
Please see: syllabus.ufl.edu for more information*

Response:

Additional information on current UF grading policies for assigning grade points can be found here:

- Grading policy, <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

COURSE POLICIES

Attendance and Make-up Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

- UF Attendance policy, <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

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: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-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 when appropriate.

Services for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting an accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Disability Resource Center, 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 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.

- Counseling and Wellness Center, 3190 Radio Road, 392-1575, 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
- Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161.
- University Police Department, 392-1111 (or 9-1-1 for emergencies), www.police.ufl.edu

Additionally, if you would like orientation on choosing a major, finding an internship, or planning your career, I encourage you to use the university's on-campus resources.

- Career Resource Center, CR-100 Reitz Union, 392-1601, www.crc.ufl.edu/next-level

Course Evaluation Process

Student assessment of instruction is an important part of the effort to improve teaching and learning. At the end of the semester, you 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:

- Course evaluations, www.evaluations.ufl.edu

Evaluations are typically open during the last two or three weeks of the semester. You will be notified of the specific times when evaluations for this course are open. Summary results of these assessments are available to students at:

- Evaluations summary, www.evaluations.ufl.edu/results

Student Complaints

You can file and resolve any complaints about your experience in this course at the following site:

- Student complaints in residential courses, <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

Grading Scheme

List the types of assessments, assignments and other activities that will be used to determine the course grade, and the percentage contribution from each. This list should have sufficient detail to evaluate the course rigor and grade integrity. Include details about the grading rubric and percentage breakdowns for determining grades.

Response:

COURSE GRADE

Assignment Points

Examinations: Three examinations, essay type and short answer responses.

600

Quizzes: Students will complete quizzes based on journal articles assigned for discussion.

200

Laboratory report: Students will prepare a laboratory report based on a field or greenhouse weed science experiment. The report will include: title, objective, procedure, results and discussion, and references (Minimum of 5). 200

TOTAL 1000

GRADING SCALE

Score PercentGrade

900 to 1000 90 to 100

A

850 to 899 85 to 89.9

B+

800 to 849 80 to 84.9

B

750 to 799 75 to 79.9

C+

700 to 749 70 to 74.9

C

650 to 699 65 to 69.9

D+

600 to 649 60 to 64.9

D

0 to 599

0 to 59.9

E

Instructor(s)

Enter the name of the planned instructor or instructors, or "to be determined" if instructors are not yet identified.

Response:

Carlene A. Chase

From: [Macdonald, Gregory E](#)
To: [Darnell, Rebecca L](#); [Chase, Carlene A](#)
Cc: [Nunez, Gerardo](#)
Subject: RE: Organic weed management
Date: Tuesday, October 2, 2018 12:13:16 PM

Rebecca and Carlene,

While there is some overlap with my PLS 4601 – Principles of Weed Science course, I think this course differs enough to be considered permanent.

Sorry for the delay – I was checking with colleagues.

Greg

Greg MacDonald
Professor of Weed Science and Agronomy
2059 McCarty Hall, P.O. Box 110500
University of Florida
Gainesville, FL 32611-0500
Office - (352) 294-1594
Cell – (352) 262-8393
Email - pineacre@ufl.edu

From: Macdonald, Gregory E
Sent: Tuesday, October 2, 2018 12:05 PM
To: Darnell, Rebecca L <rld@ufl.edu>
Cc: Nunez, Gerardo <g.nunez@ufl.edu>
Subject: RE: Organic weed management

Greg MacDonald
Professor of Weed Science and Agronomy
2059 McCarty Hall, P.O. Box 110500
University of Florida
Gainesville, FL 32611-0500
Office - (352) 294-1594
Cell – (352) 262-8393
Email - pineacre@ufl.edu

From: Darnell, Rebecca L
Sent: Monday, September 17, 2018 10:51 AM
To: Macdonald, Gregory E <pineacre@ufl.edu>
Cc: Nunez, Gerardo <g.nunez@ufl.edu>
Subject: Organic weed management

Hi Greg,

Carlene Chase is requesting a permanent course number for her Organic Weed Management course, that she has taught as a special topics course previously. We want to be sure there is minimal overlap with your Weed Management course. If agreeable to you, we would need an email to confirm your approval. The due date for materials to submit to the CALS curriculum committee is Oct. 3. I've attached the proposed syllabus. Please let me know if there are any questions or concerns.

Thanks
Rebecca

October 3, 2018

CALS Curriculum Committee
2020 McCarty Hall D
PO Box 110270
Gainesville, FL 32611

Dear Committee Members,

RE: Differences between Undergraduate Offering – Organic Weed Management and Graduate Offering – Weed Management for Organic and Sustainable Cropping Systems

The differences between the undergraduate and graduate offerings are as follows:

- The weighting of quizzes based on journal article assigned readings for undergraduate students is double that for graduate students.
- Undergraduate students prepare a written laboratory report based on an experiment conducted over an 8-week period.
- Only the graduate students are required to serve as moderators for the discussion of assigned journal article readings.
- Graduate students develop a grant proposal on a sustainable and/or organic weed management problem formatted for submission to the Southern Sustainable Agriculture Research and Education graduate student grant program. A ten-minute PowerPoint presentation is also required.

The differences in the student deliverables and the weighting of the quizzes result in the differences in grading shown in Table 1 on page 2.

Sincerely,

Carlene A. Chase

Carlene A. Chase
Associate Professor

Table 1. Grading schemes for Undergraduate Offering – Organic Weed Management and Graduate Offering – Weed Management for Organic and Sustainable Cropping Systems

Assignment	Points	
	Undergraduate	Graduate
Examinations	600	600
Discussion moderator	–	100
Quizzes	200	100
Grant Proposal & Presentation	–	200
Laboratory report	200	–
TOTAL	1000	1000



HOS4XXX – Organic Weed Management

3 CREDITS

Spring Semester 20XX

MWF Period 2, 8:30 to 9:20 AM

2316 Fifield Hall

INSTRUCTOR

Dr. Carlene A. Chase
1245 Fifield Hall
(352) 273-4770
Email: cachase@ufl.edu

OFFICE HOURS

Thursdays 10 am -12 pm
Fridays 1 pm - 3 pm or by appointment.

COURSE DESCRIPTION

Ecological principles can be applied in agroecosystems to manage weeds sustainably. Alternative weed management approaches that are less dependent on herbicides and utilize ecological processes detrimental to weeds and their propagules will be emphasized. Students will learn actively by critically analyzing pertinent literature and participating in discussions of supplemental reading.

LEARNING OBJECTIVES

Upon successful completion of this course, students will be able to:

- Describe how ecological approaches can be utilized to manage weeds in a sustainable manner
- Select and recommend ecological weed management practices that are approved for use in organic cropping systems.
- Critically analyze and discuss weed science journal articles.
- Prepare a laboratory report based on a field or greenhouse weed science experiment.

PREREQUISITE

HOS 3020C - Principles of Horticultural Crop Production or ALS 3153 Agricultural Ecology.

TEXTBOOKS: There is no required textbook.

Recommended Texts

Chauhan, B.S. and G. Mahajan. 2014. Recent Advances in Weed Management. Springer, New York Heidelberg Dordrecht London.

Hatcher, P.E. and R.J. Froud-Williams. 2017. Weed Research: Expanding Horizons. John Wiley & Sons, Hoboken, NJ.

Liebman, M., C.L. Mohler, and C.P. Staver. 2001. Ecological Management of Agricultural Weeds. Cambridge University Press, Cambridge.

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Booth, B.D., S.D. Murphy, and C.J. Swanton. 2010. Invasive plant ecology in natural and agricultural systems. Second edition. CABI Publishing.

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COURSE GRADE

Assignment	Points
<u>Examinations</u> : Three examinations, essay type and short answer responses.	600
<u>Quizzes</u> : Students will complete quizzes based on journal articles assigned for discussion.	200
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TOTAL	1000

GRADING SCALE

Score	Percent	Grade
900 to 1000	90 to 100	A
850 to 899	85 to 89.9	B+
800 to 849	80 to 84.9	B
750 to 799	75 to 79.9	C+
700 to 749	70 to 74.9	C
650 to 699	65 to 69.9	D+
600 to 649	60 to 64.9	D
0 to 599	0 to 59.9	E

Additional information on current UF grading policies for assigning grade points can be found here:

- *Grading policy*, <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

COURSE POLICIES

Attendance and Make-up Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

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Services for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

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Campus Helping Resources

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- *Counseling and Wellness Center*, 3190 Radio Road, 392-1575, 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
- *Sexual Assault Recovery Services (SARS)*, Student Health Care Center, 392-1161.
- *University Police Department*, 392-1111 (or 9-1-1 for emergencies), www.police.ufl.edu

Additionally, if you would like orientation on choosing a major, finding an internship, or planning your career, I encourage you to use the university's on-campus resources.

- *Career Resource Center*, CR-100 Reitz Union, 392-1601, www.crc.ufl.edu/next-level

Course Evaluation Process

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COURSE SCHEDULE

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Week 5	<ol style="list-style-type: none">1. Biofumigation2. Cultural Weed Management3. Examination 1
Week 6	<ol style="list-style-type: none">1. Cultural Weed Management2. Quiz. Cultural Weed Management (<i>Graduate Student-Moderated Discussion</i>)3. Cultural Weed Management
Week 7	<ol style="list-style-type: none">1. Physical Weed Control – Mulches2. Quiz. Physical Weed Control – Soil Solarization (<i>Graduate Student-Moderated Discussion</i>)3. Physical Weed Control – Thermal methods
Week 8	<ol style="list-style-type: none">1. Physical Weed Control – Grits2. Anaerobic Soil Disinfestation3. Mechanical Weed Control – Tillage
	<i>NO CLASS – Spring Break</i>
Week 9	<ol style="list-style-type: none">1. Mechanical Weed Control – Cultivation2. Quiz. Automated Weed Control (<i>Graduate Student-Moderated Discussion</i>)3. Examination 2
Week 10	<ol style="list-style-type: none">1. Introduction to Biological Control of Weeds2. Quiz. Weed Seed Predation (<i>Student-Moderated Discussion</i>)3. Biological Control Using Microorganisms/Bioherbicides
Week 11	<ol style="list-style-type: none">1. Final data collection from Weed-Crop Competition experiment2. Livestock for Weed Management

	3. Quiz. Livestock for Weed Management (<i>Graduate Student-Moderated Discussion</i>)
Week 12	1. Chemical Weed Control – Soil fumigants (Lab Report Introductions are due) 2. Chemical Weed Control – Synthetic Herbicides
Week 13	1. Herbicide resistance 2. Quiz. Sustainability of Herbicide-Resistant Crops (<i>Graduate Student-Moderated Discussion</i>) 3. Unmanned aerial vehicle use for weed management
Week 14	1. Integrated Weed Management vs Ecological Weed Management 2. Assess Graduate Student Grant Proposal Presentations 3. Submit laboratory report
Week 15	1. Review for Exam 2. Examination 3



**HOS6XXX –Weed Management for Organic
and Sustainable Cropping Systems**

3 CREDITS

Spring Semester 20XX

MWF Period 2, 8:30 to 9:20 AM

2316 Fifield Hall

INSTRUCTOR

Dr. Carlene A. Chase
1245 Fifield Hall
(352) 273-4770
Email: cachase@ufl.edu

OFFICE HOURS

Thursdays 10 am -12 pm
Fridays 1 pm - 3 pm or by appointment.

COURSE DESCRIPTION

Ecological principles can be applied in agroecosystems to manage weeds sustainably. Alternative weed management approaches that are less dependent on herbicides and utilize ecological processes detrimental to weeds and their propagules will be emphasized. Students will learn actively by critically analyzing pertinent literature and participating in discussions of supplemental reading.

LEARNING OBJECTIVES

Upon successful completion of this course, students will be able to:

- Describe how ecological approaches can be utilized to manage weeds in a sustainable manner
- Select and recommend ecological weed management practices that are approved for use in organic cropping systems.
- Critically analyze and discuss weed science journal articles.
- Lead the discussion of refereed journal articles.
- Develop and write a grant proposal for the Southern Sustainable Research and Education (Southern SARE) graduate student grant program.

PREREQUISITE

HOS 3020C - Principles of Horticultural Crop Production or ALS 3153 Agricultural Ecology.

TEXTBOOKS: There is no required textbook.

Recommended Texts

Chauhan, B.S. and G. Mahajan. 2014. Recent Advances in Weed Management. Springer, New York Heidelberg Dordrecht London.

Hatcher, P.E. and R.J. Froud-Williams. 2017. Weed Research: Expanding Horizons. John Wiley & Sons, Hoboken, NJ.

Liebman, M., C.L. Mohler, and C.P. Staver. 2001. Ecological Management of Agricultural Weeds. Cambridge University Press, Cambridge.

Upadhyaya, M.K. and R.E. Blackshaw. 2007. Non-chemical Weed Management: Principles, Concepts and Technology. CABI, Wallingford.

Supplemental Materials

Booth, B.D., S.D. Murphy, and C.J. Swanton. 2010. Invasive plant ecology in natural and agricultural systems. Second edition. CABI Publishing.

Bowman, G. 2001. Steel in the field: a farmer's guide to weed management tools. Sustainable Agriculture Network, Beltsville.

Håkansson, S. 2003. Weeds and weed management on arable land: an ecological approach. CABI Publishing.

Radosevich, S.R., J.S. Holt, and C.M. Ghera. 2007. Ecology of Weeds and Invasive Plants: Relationship to Agriculture and Natural Resource Management, 3rd Edition. John Wiley & Sons, New York.

Ross, M.A. and C.A. Lembi. 2008. Applied Weed Science: Including the Ecology and Management of Invasive Plants. Prentice Hall, Upper Saddle River.

COURSE GRADE

Assignment	Points
<u>Examinations</u> : Three examinations, essay type and short answer responses.	600
<u>Discussion moderator</u> : Select a current journal article (published within the past 5 years) on the assigned topic and share the selected article with the class at least 1 week in advance of the scheduled discussion. Prepare a 15-minute presentation to provide background information on the topic using the article, other related journal articles, text books etc. Prepare 4 to 6 questions to stimulate the discussion.	100
<u>Quizzes</u> : Students will complete quizzes based on journal articles assigned for discussion.	100
<u>Grant proposal and presentation</u> : Students will develop a grant proposal on a sustainable and/or organic weed management problem formatted for submission to the Southern SARE Graduate Student grant program.	200
TOTAL	1000

GRADING SCALE

Score	Percent	Grade
900 to 1000	90 to 100	A
850 to 899	85 to 89.9	B+
800 to 849	80 to 84.9	B
750 to 799	75 to 79.9	C+
700 to 749	70 to 74.9	C
650 to 699	65 to 69.9	D+
600 to 649	60 to 64.9	D
0 to 599	0 to 59.9	E

Additional information on current UF grading policies for assigning grade points can be found here:

- *Grading policy*, <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

COURSE POLICIES

Attendance and Make-up Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

- *UF Attendance policy*, <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

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: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-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 when appropriate.

Services for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Disability Resource Center, 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 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.

- *Counseling and Wellness Center*, 3190 Radio Road, 392-1575, 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
- *Sexual Assault Recovery Services (SARS)*, Student Health Care Center, 392-1161.
- *University Police Department*, 392-1111 (or 9-1-1 for emergencies), www.police.ufl.edu

Additionally, if you would like orientation on choosing a major, finding an internship, or planning your career, I encourage you to use the university's on-campus resources.

- *Career Resource Center*, CR-100 Reitz Union, 392-1601, www.crc.ufl.edu/next-level

Course Evaluation Process

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Grant Proposal Format

Project Abstract: Limited to no more than 250 words.

Statement of Problem, Rational and Justification: Statement of the problem being addressed, rationale and justification for objectives and the impact of the anticipated project. Begin the statement of the problem as: *"The purpose of this project is to"* ... Limited to 500 words.

Project Relevance to Sustainable Agriculture: State how the project and the expected results contribute to agricultural sustainability. Don't simply tell us that your project addresses an element of sustainable agriculture, tell us HOW your project will address it and make it more sustainable. Make sure that your work -- even though it is making a part of a system more sustainable -- does not make the whole system or another part of it, less sustainable. Does your project use genetically engineered varieties or organisms? If so, state how their use will contribute to your project and make agriculture more sustainable. No more than 500 words.

Objectives: A numbered list of concise project objectives limited to no more than 500 words.

Approach and Methods: A brief description of the methods to be used for each objective, numbered according to their corresponding objective. **There must be a direct relationship between the approach and methods and the project relevance to sustainable agriculture.** Approach and Methods is limited to no more than 1000 words.

Timetable: Limited to no more than 500 words.

Literature Cited: A minimum of 8 refereed journal articles is required.

Grant Proposal Presentation

Students will make a 10-minute PowerPoint presentation of their grant proposals.