

HOS 3281C
Principles of Organic and Sustainable Crop Production
Fall 2016
(3 credits)

INSTRUCTOR: Dr. Xin Zhao
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CLASS MEETING TIMES AND LOCATION:

MWF Period 6, 12:50-1:40 pm, 2316 Fifield Hall

OFFICE HOURS: MW 1:40-2:30 pm. If you are unable to meet me at this time, feel free to email me to request an appointment.

COURSE DESCRIPTION: This course encompasses biological, social, and economic components of organic and sustainable farming systems. It emphasizes principles, concepts, and techniques of organic and sustainable production of crops, including agroecology, sustainability, biodiversity, soil quality, nutrient and water management, crop rotation, cover cropping and other cultural practices, pest control, postharvest handling, food quality and safety, marketing of organic products, and organic agriculture policy and regulation.

OBJECTIVES: The objective of this course is to provide students with comprehensive understandings of the science and technology of organic and sustainable crop production.

Primary Learning Outcomes

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

- Analyze how a farm functions as an agroecosystem and evaluate the sustainability of farming operations including organic production.
- Describe history of organic agriculture development nationally and globally and explain the growth of organic industry and consumer trend.
- Demonstrate a working knowledge of the regulatory procedures and requirements of certified organic production.
- Develop soil and nutrient management plans for organic and sustainable crop production that optimize nutrient cycling and minimize environmental degradation.
- Develop pest management plans that emphasize proactive systems approach and minimize curative control measures.
- Integrate various cultural practices such crop rotation and cover cropping into organic and sustainable farming systems.
- Evaluate critically opportunities and challenges for organic farming.
- Develop teamwork skills by designing and conducting field research project with peers.

CLASS FORMAT: Lectures, in-class discussion, demonstrations, videos, individual assignments, and class project.

TEXT: There are no required textbooks for this course. Book chapters, journal articles, websites, videos, and other materials will be collectively used. **E-learning** (<https://lss.at.ufl.edu/>) is also used in this course to post lectures, assignments, reading materials, useful websites, video clips, study

guides, and grades.

Please note that having access to the materials posted on E-learning is not an excuse for missing classes- YOU WILL BE RESPONSIBLE FOR ANY ADDITIONAL MATERIALS PRESENTED IN CLASS!

LECTURE FORMAT:

1. Invite announcements relating to student club activities and any other departmental, college or campus activities related to agriculture and the content of this course.
2. Invite students to share popular press clippings of current events, websites, and other readings related to organic and sustainable agriculture.
3. Briefly review previous lecture.
4. Present the current lecture.
5. In class questions and discussion are encouraged and expected.

ATTENDANCE AND CLASS PARTICIPATION: Students are required to be present for every class. Regular attendance is necessary in order to gain a complete understanding of course materials and practice your critical thinking skills. If you will have to miss a class due to an emergency, please notify the course instructor or TA as soon as possible. Class attendance and participation is counted in the final grade. If you are absent, it is your responsibility to obtain and learn the materials you missed.

ASSIGNMENTS: ALL the assignments should be submitted electronically to **E-learning**. They are expected to be in neat, legible format with grammar, punctuation, and spelling errors at a very minimum. Anything submitted after midnight of due date will NOT be acceptable and receive a score of zero.

EXAMS: Essays, matching, true/false, and multiple choice questions may be included in the #1, #2, and final exams. The exams will only cover materials directly presented or discussed during class unless otherwise noted. Under the circumstance of having a true emergency which does not allow the student to attend the original exam #1 or #2 as scheduled, a make-up exam can therefore be requested. Official written documents also need to be provided to the instructor about the emergency situation. **The format of the make-up exam is at my discretion.**

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>.

STUDY EXPECTATIONS: It is usually expected that students will spend approximately 2 hours of study time outside of class for every one hour in class. Since this is a **THREE (3)** credit course, you should expect to study an average of **SIX (6)** hours outside of class each week. Some students may need more outside study time and some less.

STUDENT EXPECTATIONS: Students are expected to be active, consistent, and respectful learners.

Active:

- Ask questions and participate in class discussion
- Review class materials outside of the classroom
- Reflect critical thinking in assignments
- If you miss a class, it is **YOUR RESPONSIBILITY** to obtain the material you missed

Consistent:

- Attend class
- Complete assignments by the due date
- Review class materials and readings regularly

Respectful:

- Turn off cell phones (or put them on vibrate mode if needed) and all other electronic devices (unless you are using them to take notes)
- No back row chatter ... classroom participation is encouraged, but private conversations between students will not be tolerated
- Be on time ... tardiness will not be tolerated; if you must leave class early, notify the instructor ahead of time and sit near the exit

GRADING:

Activity	Points possible
Exam #1	100
Exam #2	100
Cumulative Final Exam	150
Quizzes (10 x 10 points)	100
Assignments (5 x 20 points)	100
Class Project	120
Attendance and Participation	50

Total points = 720

100-93	A
92-90	A-
89-87	B+
86-83	B
82-80	B-
79-77	C+
76-73	C
72-70	C-
69-67	D+
66-63	D
62-60	D-
59-00	E

For information on current UF policies for assigning grade points, see:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

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/

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/honorcodes/honorcode.php>.

If you are not sure what constitutes **plagiarism**, please ask your instructor to clarify before starting your project. It is to be assumed that all work will be completed independently unless the assignment is defined as group project, in writing by the instructor. The policy will be vigorously upheld at all times in this course.

Plagiarism Detection: The Turnitin service will be used to identify student submissions that contain unoriginal material. Your written assignments may be submitted to Turnitin for plagiarism detection and for no other purpose.

STATEMENT APPEARING ON EXAMS: The following statement can be expected to appear on exams, followed by a space for the student’s signature – “On my honor, I have neither given nor received unauthorized aid on this examination.”

UF COUNSELING SERVICES: 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
- *Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/*

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.

Tentative Schedule
HOS 3281C – Principles of Organic and Sustainable Crop Production
Fall 2016

Week	Day	Date	Topic
1	M	Aug 22	Welcome, syllabus, course introduction and discussion
	W	Aug 24	The need for sustainable agriculture; Introduction of class project
	F	Aug 26	How do we define sustainable agriculture? Concepts, principles, and challenges; Class project discussion
2	M	Aug 29	Sustainable agriculture overview cont': indicators of sustainability Agroecology: science and foundation
	W	Aug 31	Applying agroecosystem concept to farming
	F	Sept 2	Organic agriculture overview: history, concepts, regulations, and growth. Is organic farming sustainable?
3	M	Sept 5	<i>No class (Labor Day)</i>
	W	Sept 7	What drives the foodies? (Dr. Mickie Swisher)
	F	Sept 9	<i>Class project</i>
4	M	Sept 12	Organic agriculture overview cont': consumer trend; industrial organic; beyond organic
	W	Sept 14	Organic farming transition and certification
	F	Sept 16	Organic system plan
5	M	Sept 19	<i>Update on class project</i>
	W	Sept 21	Organic product export and import; International organic agriculture movement
	F	Sept 23	International organic agriculture movement cont'; Breeding for organic production
6	M	Sept 26	The living soil. Soil properties and processes: physical
	W	Sept 28	The living soil. Soil properties and processes: chemical
	F	Sept 30	Review; <i>Class project</i>
7	M	Oct 3	Exam #1
	W	Oct 5	The living soil. Soil properties and processes: biological (I)
	F	Oct 7	The living soil. Soil properties and processes: biological (II)
8	M	Oct 10	Essential nutrients and soil and plant tissue testing; Organic fertilizers
	W	Oct 12	The nutrient cycle: N
	F	Oct 14	<i>No class (Homecoming)</i>
9	M	Oct 17	The nutrient cycle: C, P, and K

	W	Oct 19	Principles of soil quality and fertility management; NOP rules; Fertilization calculations
	F	Oct 21	Crop rotation and intercropping
10	M	Oct 24	Animal manure and compost
	W	Oct 26	Cover crop and green manure
	F	Oct 28	Organic agriculture: Opportunities and challenges (Marty Mesh from FOG)
11	M	Oct 31	Integrated pest management; NOP regulations on insect, disease, and weed control
	W	Nov 2	Case studies: Disease and pest management in organic crop production
	F	Nov 4	Organic and sustainable weed management
12	M	Nov 7	Review; <i>Class project</i>
	W	Nov 9	Exam #2
	F	Nov 11	<i>No class (Veterans Day)</i>
13	M	Nov 14	Marketing organics and local foods (Dr. Allen Wysocki)
	W	Nov 16	<i>Class Project</i>
	F	Nov 18	Biotechnology and sustainable agriculture (Dr. Kevin Folta)
14	M	Nov 21	Organic livestock production; Animal welfare; Food quality and safety
	W	Nov 23	<i>No class (Thanksgiving)</i>
	F	Nov 25	<i>No class (Thanksgiving)</i>
15	M	Nov 28	Harvest and postharvest handling and storage of fruits and vegetables
	W	Nov 30	Maintaining the organic integrity; Value-added agriculture
	F	Dec 2	Can organic agriculture feed the world?; Building sustainable food systems
16	M	Dec 5	<i>Class project</i>
	W	Dec 7	Review; <i>Class project</i>
	F	Dec 9	Reading day

Cumulative Final Exam: Thursday, Dec. 15, 2016, 12:30 - 2:30 pm