

**HOS 3281C/HOS 6932 Syllabus**  
**Principles of Organic and Sustainable Crop Production**  
**Fall 2012**  
**(3 credits)**

**INSTRUCTOR:** Dr. Xin Zhao  
1235 Fifield Hall (first floor, west side of building)  
(352) 273-4773  
Email: zxin@ufl.edu  
**Teaching Assistant:** Ruhiyyih Dyrdaahl-Young (ruhiyyihamelia@gmail.com)

**CLASS MEETING TIMES AND LOCATION:**

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

**OFFICE HOURS:** MW 1:40-2:40 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!***

**OTHER RESOURCES STUDENTS WILL NEED:** 1) A three-ring notebook to keep notes, handouts, and other course materials, and 2) access to an internet-ready computer.

**LECTURE FORMAT:** At the beginning of every class, the instructor will:

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. However, each student can only request once. **The format of the make-up exam is at my discretion.**

**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 and all other electronic devices
- 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:**

<b>Activity</b>	<b>Points possible</b>
Exam #1	100
Exam #2	100
Cumulative final exam	120
Quizzes	30
Assignments	120
Class project	80
Attendance and participation	50

**Total points = 600**

90-100% = A

87-89% = B+

80-86% = B

77-79% = C+

70-76% = C

67-69% = D+

60-66% = D

<60% = E

Assignment #1: Case study of commercial farms: How do they function as an agro-ecosystem and what will you suggest to improve their sustainability?

Assignment #2: Compare the USDA-NOP standards with organic agriculture regulations in other countries.

Assignment #3: Literature search on soil organic matter management and soil quality in sustainable and organic cropping systems.

Assignment #4: Organic fertilization calculation.

Assignment #5: Search OMRI lists for pesticides allowed in organic crop production.

Assignment #6: Conduct a SWOT analysis of organic farming.

Class project: Organic vegetable variety trial. Various cultivars of different vegetables will be tested under organic farming conditions by teams of students. This is a group project and a research report will be submitted by each group by the end of the semester.

Graduate students are required to complete additional assignments which will be announced during the semester.

**STUDENTS WITH DISABILITIES:** Students requesting classroom accommodation must first register with the Dean of Students Office (202 Peabody, 392-1261). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor when requesting accommodation. Further information is available from the Disability Resource Center at <http://www.dso.ufl.edu/drc/>.

**ACADEMIC HONESTY:** As a result of completing the registration form at the University of Florida, every student has signed the following statement: “I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.” We agree to comply with the new Honor Code, which specifies that “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” University policy regarding “Standard of Ethical Conduct” is available from the UF Student Guide at: <http://www.dso.ufl.edu/studenthandbook/studentrights.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:** Resources are available on campus for students having personal problems or lacking clear career and academic goals which interfere with their academic performance. These resources include:

- 1) University Counseling & Wellness Center, 3190 Radio Road, 392-1575; student mental health, personal and career counseling: <https://www.counseling.ufl.edu/cwc/>;
- 2) Student Health Care Center, 392-1161, personal counseling: <http://www.shcc.ufl.edu/>;
- 3) Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual assault counseling;
- 4) Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

**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 against University policies and rules, disciplinary action will be taken as appropriate.

**Tentative Schedule**  
**HOS 3281C – Principles of Organic and Sustainable Crop Production**  
**Fall 2012**

Week	Day	Date	Topic
1	W	Aug 22	Welcome, syllabus, course introduction and discussion
	F	Aug 24	The need for sustainable agriculture
2	M	Aug 27	How do we define sustainable agriculture? Concepts, principles, and challenges
	W	Aug 29	Sustainable agriculture overview cont': indicators of sustainability Agroecology: science and foundation
	F	Aug 31	Applying agroecosystem concept to farming; a look at Au Naturel Farm
3	M	Sept 3	<i>No class (Labor Day)</i>
	W	Sept 5	Organic agriculture overview: history, concepts, regulations, and growth. Is organic farming sustainable?
	F	Sept 7	Organic agriculture overview cont': consumer trend; industrial organic; beyond organic. Introduction of class project
4	M	Sept 10	Transgenics and organic farming
	W	Sept 12	Organic farming transition and certification; organic system plan. Class project: design the organic vegetable variety trial
	F	Sept 14	What drives the local/organic food movement? (Dr. Mickie Swisher)
5	M	Sept 17	Organic farming transition and certification cont'; Class project cont'
	W	Sept 19	Organic product export and import; International organic agriculture movement
	F	Sept 21	The organic industry: past, present, and future (Jos éP érez from FOG)
6	M	Sept 24	International organic agriculture movement cont'
	W	Sept 26	Seeds and varieties for organic production
	F	Sept 28	The living soil. Soil properties and processes: physical
7	M	Oct 1	The living soil. Soil properties and processes: chemical
	W	Oct 3	The living soil. Soil properties and processes: biological
	F	Oct 5	<b>Exam #1</b>
8	M	Oct 8	The living soil. Soil properties and processes: biological cont'
	W	Oct 10	Essential nutrients and soil and plant tissue testing
	F	Oct 12	Essential nutrients and soil and plant tissue testing cont'; Update on class project: organic vegetable variety trial
9	M	Oct 15	The nutrient cycle: N

	W	Oct 17	The nutrient cycle: C
	F	Oct 19	Class project: plant the organic vegetable variety trial
10	M	Oct 22	P and K cycles
	W	Oct 24	Principles of soil quality and fertility management; NOP rules
	F	Oct 26	Crop rotation and intercropping
11	M	Oct 29	Crop rotation and intercropping cont'; Cover crop and green manure
	W	Oct 31	Cover crop and green manure cont'; Conservation tillage; Update on class project: organic vegetable variety trial
	F	Nov 2	Animal manure and compost. Movie on composting
12	M	Nov 5	Animal manure and compost cont'; Fertilization calculations
	W	Nov 7	<b>Exam #2</b>
	F	Nov 9	<i>No class (Homecoming)</i>
13	M	Nov 12	<i>No class (Veterans Day)</i>
	W	Nov 14	Integrated pest management; NOP regulations on insect, disease, and weed control
	F	Nov 16	NOP regulations on insect, disease and weed control cont'
14	M	Nov 19	Best management practices
	W	Nov 21	<i>No class (Thanksgiving)</i>
	F	Nov 23	<i>No class (Thanksgiving)</i>
15	M	Nov 26	Organic livestock production; animal welfare
	W	Nov 28	Marketing organics and local foods in the U.S. food systems (Dr. Allen Wysocki)
	F	Nov 30	Harvest and postharvest handling, storage and shipping of fruits and vegetables
16	M	Dec 3	Food quality and safety; Maintaining the organic integrity; value-added agriculture;
	W	Dec 5	Review: can organic agriculture feed the world?; the organic debate; challenges and opportunities for organic farming; building sustainable food systems

Cumulative final exam: Thursday, Dec. 13, 2012, 7:30-9:30 am