

HOS 3020 – Principles of Horticultural Crop Production

3 credits

Fall Semester 2015

MWF Period 3, 9:35-10:25 AM

2316 Fifield

Course Description and Requirements

Instructors:

Dr. Xin Zhao	Dr. Mercy Olmstead
1235 Fifield Hall	2135 Fifield Hall
352-273-4773	352-273-4772
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Website: To be announced during the first week of class	

Prerequisites:

This introductory course is intended for students who have no prior coursework in fruits and vegetables, although participation by those with horticulture backgrounds is encouraged. It is desirable for students to have some background in plant science, but not necessary. Students from many different backgrounds have performed well in this course in the past.

Texts:

Some of the lectures will be presented in PowerPoint and will be available on the course website, or lecture outlines will be provided in class.

One textbook is recommended for both vegetable and fruit crops portions of the course:

- 1) Brian Capon. 2010. Botany for gardeners. Third edition. Timber Press.

Three textbooks (optional) are recommended for the vegetable portion of the course (on Course Reserve at Marston Science Library):

- 1) John M. Swiader and George W. Ware. 2002. Producing vegetable crops. Fifth edition. Interstate Publishers, Inc.
- 2) Vincent E. Rubatzky and Mas Yamaguchi. 2012. World vegetables: Principles, production and nutritive values. Second edition. Springer.
- 3) Donald N. Maynard and George J. Hochmuth. 2007. Knott's handbook for vegetable growers. Fifth edition. John Wiley & Sons, Inc.

One text for the fruit section of the class is **required**:

- 1) D. Jackson, N. Looney, M. Morley-Bunker and G. Thiele. 2011. Temperate and Subtropical Fruit Production. CABI International.

Course Content and Objectives:

The objective of this course is to provide the student with a basic understanding of the world, U.S. and Florida fruit and vegetable industries. Emphasis will be placed on production regions, biology, soils, nutrition, types of fruits and vegetables, site selection

and planting, fruit and vegetable quality factors, propagation, pruning, pollination, flowering and fruit set, horticultural production practices and career opportunities.

Learning Outcomes:

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

- Discuss growth and development patterns for fruit and vegetable species.
- Explain production conditions and practices for fruit and vegetable crops and compare the various cultural systems.
- Develop management plans for soil fertility, irrigation, and pest control in fruit and vegetable production.
- Critically analyze data from the fruit and vegetable industries at the regional, national, and global levels.
- Discuss and evaluate different marketing strategies for fruit and vegetable crops.

Grading and Attendance Policies:

We strongly urge students to attend class on a regular basis. Attendance will be considered at the end of the semester and may affect the final grade. Final grades will be based on the performance of each student relative to the following standard percentages (%):

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

The first and the second portions of the course will be evaluated separately and points added together to determine the final letter grade. There will be three exams throughout the semester covering lecture material prior to the exam (90 or 100 points each). There will also be a vegetable section CSA project that will be worth 70 points, as well as a fruit section media project that will be worth 60 points. In addition, there will be 8 unannounced, in-class quizzes in both sections (4 quizzes in the vegetable section and 4 for the fruit section).

The cumulative **final exam** (125 points) will be at 12:30 PM - 2:00 PM on December 17th, 2015.

	Points Possible
Exam #1	90
Exam #2	100

Exam #3	100
Final Exam	125
Vegetable Section CSA Project	70
Fruit Section Media Project	60
Quizzes (5 points x 8)	40
Attendance and Participation	50
TOTAL	635

Please feel free to discuss your grades with us at any time during the semester.

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

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>.

Exam Policy:

You must attend all exams. Students who miss exams will receive a zero for those exams. Under the circumstance of having a true emergency which does not allow the student to attend the original exams 1, 2, and 3 as scheduled, a make-up exam can therefore be requested. However, official written documents need to be provided to the instructors about the emergency situation. Each student can only request a make-up exam once during the semester. The format of the make-up exam is at instructors' discretion.

We encourage all of you to participate in the class whether you come from a fruit and vegetable background or not. Please feel free to ask questions at any time and to discuss any aspect of the course with us. **We are always available by appointment, phone or via email.**

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>.

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.

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.

- *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/*

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/

Tentative Lecture Schedule

**HOS 3020 – Principles of Horticultural Crop Production
Fall 2015**

Week No.	Date	Topic
1	Aug 24	Introduction and Course Requirements
	Aug 26	Vegetables and the Vegetable Industry; CSA Project Introduction
	Aug 28	Classifying Vegetables; CSA Project Work in the Teaching Garden
2	Aug 31	CSA Project Work in the Teaching Garden
	Sept 2	Vegetable Growing Conditions and Plant Growth and Development
	Sept 4	What to Grow and General Cultural Practices for Vegetables
3	Sept 7	<i>Labor Day (No Class)</i>
	Sept 9	Vegetable Seeds; CSA Project Work in the Teaching Garden
	Sept 11	Field Planting and Crop Establishment
4	Sept 14	Breeding and Improving Vegetables
	Sept 16	IPM and Weed Management (Dr. Peter Dittmar)
	Sept 18	Soil Management and Fertilization in Vegetable Production (I)
5	Sept 21	Soil Management and Fertilization in Vegetable Production (II)
	Sept 23	Exam 1
	Sept 25	Drip Irrigation and Fertigation in Vegetable Production
6	Sept 28	Mulch Use in Vegetable Production (Dr. Josh Freeman)
	Sept 30	Controlling Vegetable Diseases and Pests
	Oct 2	Vegetable Grafting Lab
7	Oct 5	Vegetable Teaching Garden Tour; CSA Project Discussion
	Oct 7	Greenhouse Crop Production; Extending the Production Season; Organic Crop Production
	Oct 9	CSA Project Presentations
8	Oct 12	World and U.S. Fruit Production
	Oct 14	Climate Effects on Fruit and Vegetable Production

	Oct 16	Perennial Plant Growth – Differences from Annual Systems
9	Oct 19	Juvenility and Flowering-What Happens Before Flowering?
	Oct 21	Hormones and Plant Growth Regulators
	Oct 23	Exam 2
10	Oct 26	Flowering and Pollination
	Oct 28	Fruit Growth and Development- Types of Fruit
	Oct 30	How to Propagate Fruit Crops; Rootstocks and Scions
11	Nov 2	Field Visit- Teaching Orchard- <i>Please dress appropriately.</i>
	Nov 4	Pruning, Training and Shaping Fruit Crops
	Nov 6	<i>Homecoming (No Class)</i>
12	Nov 9	Fruit Nutrition and Irrigation
	Nov 11	<i>Veterans Day (No Class)</i>
	Nov 13	Diseases and Pests of Fruit Crops
13	Nov 16	Fruit Quality Factors- What Makes a Good Fruit?
	Nov 18	Exam 3
	Nov 20	Harvesting and Postharvest Practices
14	Nov 23	Consumer-Driven Economics and Marketing (Dr. Thomas Colquhoun)
	Nov 25	<i>Thanksgiving (No Class)</i>
	Nov 27	<i>Thanksgiving (No Class)</i>
15	Nov 30	Cold Hardiness and Dormancy- How Fruit Crops Withstand Winter
	Dec 2	Biotechnology of Fruit Crops (Dr. Kevin Folta)
	Dec 4	FRUIT PROJECTS DUE - Presentations
16	Dec 7	Career Opportunities in Horticulture - Breeding, Research, Teaching, Extension
	Dec 9	Review Session

Cumulative Final Exam: Thursday, December 17, 2015, 12:30 PM – 2:30 PM