

HOS 3020 – Principles of Horticultural Crop Production

3 credits

Fall Semester 2016

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

2316 Fifield

Course Description and Requirements

Instructors:

Dr. Xin Zhao

1235 Fifield Hall

352-273-4773

Email: zxin@ufl.edu

Dr. Rebecca L. Darnell

1131 Fifield Hall

352-273-4789

Email: rld@ufl.edu

Course 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.

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:

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 four exams throughout the semester covering lecture material prior to the exam (100 points each). There will also be a vegetable section CSA project that will be worth 80 points, as well as a fruit section media project that will be worth 80 points. In addition, there will be 8 unannounced, in-class quizzes during the semester including 4 quizzes in the vegetable section and 4 for the fruit section.

	Points Possible
Exam #1	100
Exam #2	100
Exam #3	100
Exam #4	100
Vegetable Section CSA Project	80
Fruit Section Media Project	80
Quizzes (10 points x 8)	80
Attendance and Participation	50
TOTAL	690

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>

We strongly urge students to attend class on a regular basis. Attendance and participation will be considered at the end of the semester and may affect the final grade. Self assessment of class attendance and participation as well as self and peer assessment of participation in class projects will be conducted during the semester. 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

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 exams as scheduled, a make-up exam can therefore be requested. Official written documents need to be provided to the instructors about the emergency situation. 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.**

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>

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 2016

Week No.	Date	Topic
1	Aug 22	Introduction and Course Requirements
	Aug 24	Vegetables and the Vegetable Industry; CSA Project Introduction
	Aug 26	Classifying Vegetables
2	Aug 29	Assessing Vegetable Quality Attributes
	Aug 31	Vegetable Seeds; CSA Project Work in the Teaching Garden
	Sept 2	Vegetable Growing Conditions and Plant Growth and Development
3	Sept 5	<i>Labor Day (No Class)</i>
	Sept 7	What to Grow and General Cultural Practices for Vegetables
	Sept 9	CSA Project Work in the Teaching Garden
4	Sept 12	Breeding and Improving Vegetables
	Sept 14	IPM and Weed Management (Dr. Peter Dittmar)
	Sept 16	Soil Management and Fertilization in Vegetable Production (I)
5	Sept 19	Fertilization calculations; CSA Project Work in the Teaching Garden
	Sept 21	Exam 1
	Sept 23	Soil Management and Fertilization in Vegetable Production (II)
6	Sept 26	Drip Irrigation and Fertigation in Vegetable Production
	Sept 28	Mulch Use in Vegetable Production (Dr. Josh Freeman)
	Sept 30	Controlling Vegetable Diseases and Pests
7	Oct 3	Vegetable Grafting Lab
	Oct 5	Vegetable Teaching Garden Tour; CSA Project Discussion
	Oct 7	Extending the Production Season; Organic Crop Production

8	Oct 10	CSA Project Presentations and Awards
	Oct 12	Exam 2
	Oct 14	<i>Homecoming (No Class)</i>
9	Oct 17	World and U.S. Fruit Production
	Oct 19	Climate Effects on Fruit Production
	Oct 21	Perennial Plant Growth – Differences from Annual Systems
10	Oct 24	Juvenility and the Ability to Flower
	Oct 26	Flower Morphology; Flowering and Pollination
	Oct 28	Fruit Morphology; Fruit Growth and Development
11	Oct 31	Fruit Maturation and Harvest
	Nov 2	Postharvest Handling/Fruit Quality
	Nov 4	Exam 3
12	Nov 7	Dormancy and Cold Hardiness
	Nov 9	Pruning, Training and Shaping Fruit Crops
	Nov 11	<i>Veterans Day (No Class)</i>
13	Nov 14	How to Propagate Fruit Crops
	Nov 16	Field Visit- Teaching Orchard- <i>Please dress appropriately.</i>
	Nov 18	Nutrition and Irrigation of Fruit Crops
14	Nov 21	Diseases and Pests of Fruit Crops
	Nov 23	<i>Thanksgiving (No Class)</i>
	Nov 25	<i>Thanksgiving (No Class)</i>
15	Nov 28	Plant Growth Regulator Use in Fruit Production
	Nov 30	Using Biotechnology in Fruit Crops (Dr. Kevin Folta)
	Dec 2	Fruit Media Project Presentations
16	Dec 5	Career Opportunities in Horticulture - Breeding, Research, Teaching, Extension
	Dec 7	Exam 4