

**OLERICULTURE**  
**Horticulture 320 – (UI PISc 451/551)**  
**SYLLABUS**

Fall 2017

**Course Description: (3 credits)** Science, business, and art of vegetable crop production: culture, fertility, growth, physiology, handling, marketing; garden, commercial, greenhouse, tropical, specialty vegetables. Recommended preparation: BIOLOGY 106, BIOLOGY 107, BIOLOGY 120, or HORT 202. Cooperative: Open to UI degree-seeking students.

**Class Time:**

Tues. & Thurs. 9:10pm – 10:25pm

**Meeting Location(s):**

Clark Hall 149

Tri-Cities: Wine Science Center

**Office:**

Johnson Hall 143 (on demand only)

**Instructor:**

Jeremy S. Cowan, Ph.D.

jeremy.cowan@wsu.edu

509-477-2145

**Office Hours:**

**By request.** Call or email any time; or talk after class.

**Student Learning Goals & Outcomes**

<b>WSU Learning Goal</b>	<b>Outcome: By the end of the semester, you will be able to:</b>	<b>Topic or activity to advance LG</b>	<b>How Evaluated</b>
<b>1</b> Critical & creative thinking	Determine vegetable crops can and/or should be grown in Washington and how they are produced in our climate	Lectures/readings on environmental factors and crops	Exams; crop proposal; group activity
<b>2</b> Quantitative reasoning	Develop enterprise budget, calculate fertility needs, explain production planning for a vegetable crop	Lectures/readings on production systems and crops	Exams; crop proposal
<b>3</b> Scientific literacy	Describe the taxonomic, botanical, growth, and nutritional characteristics of vegetable crops	Lectures/readings on nutrition, botany, and production	Exams, crop proposal, group activity
<b>4</b> Information literacy	Find and evaluate the usefulness of different resources on vegetable crops	Term paper and presentation research	Crop proposal, group activity
<b>5</b> Communication skills	Meaningfully contribute to group discussion; and, prepare and present scientific and crop production information	Class and group activities	Crop proposal, group activity/presentation
<b>6</b> Diversity	Recognize and compare the values of working effectively alone and in groups	Class and group activities	In-class participation, group activity
<b>7</b> Depth of learning	Demonstrate thorough understanding of vegetable crops, their importance economically, nutritionally, and their varied uses	Lectures/readings on vegetable crops, group activities, term paper research	Exams, class discussion, crop proposal, group activity

**Horticulture 320 – OLERICULTURE  
FALL 2017 COURSE CALENDAR**

<b>Date</b>	<b>Lect. #</b>	<b>Topic of Discussion</b>
Aug. 22	1	Course introduction, vegetable cropping systems
24	2	Vegetable nutritional value
29	3	Origin, domestication, general classification
31	4	Botanical classification, growth & development
Sept. 5	5	Environmental factors, propagation
7	6	Soils, fertility, fertilizer calculations
12	7	Irrigation, pest management
14	8	Harvest, post-harvest, storage
<b>19</b>	<b>**</b>	<b>Farm Tour ***</b>
21	9	Organic production – history, certification & methods (Carpenter-Boggs)
<b>26</b>	10	Organic production, cont'd – materials, pest control (Carpenter-Boggs) <b>Crop proposal topics due</b>
<b>28</b>	11	Marketing, enterprise budgets <b>Discussion groups finalized</b>
Oct. 3	12	Root and tuber crops – potatoes (Knowles)
5	13	Sweet corn
<b>10</b>	<b>**</b>	<b>MIDTERM EXAM #1</b> <b>Crop proposal outlines due</b>
12	14	Legumes – beans, peas, lentils
17	15	Asparagus & Cassava (Fellman?)
19	16	Hops & mint
24	17	Root and tuber crops – carrots, table beets, other
26	18	Solanaceous fruits – tomatoes, peppers, eggplant
31	19	Alliums – onions, garlic, shallots, leeks, other
Nov. 2	20	Cucurbits – melons, cucumbers, squash
<b>7</b>	21	Greens – lettuce, celery, spinach <b>Group project written reports due</b>
9	22	Cole crops – cabbage, broccoli, etc.
14	23	Culinary herbs
<b>16</b>	24	Medicinal herbs <b>Crop proposals due</b>
<b>21, 23</b>	<b>--</b>	<b>Thanksgiving Break – NO CLASS</b>
28	24	Other interesting crops (Miles)
30	25	Topic TBD
Dec. 5	<b>**</b>	<b>Group project presentations</b>
<b>7</b>	<b>**</b>	<b>Group project presentations</b>
<b>12</b>	<b>**</b>	<b>10:10am - 12:10pm – FINAL EXAM – Location TBD</b>

## Textbooks

### Optional – required readings will be provided

Title: Vegetable Production and Practices  
Author: Gregory E. Welbaum  
Publisher: CAB International, 2015  
ISBN: 978-1-84593-802-4 (Paperback); 978-1-78064-534-6 (Hardbound)

Title: Knott's Handbook for Vegetable Growers  
Authors: Donald N. Maynard and George J. Hochmuth  
Publisher: Wiley, 2006  
ISBN: 978-0471738282

## Exams

There will be one midterm exam, 75 minutes, and one final exam, 120 minutes. Expect the final exam to be comprehensive and primarily made up of short answer and essay questions. There may be multiple guess or true-false questions at my option.

## Class Participation/Quizzes

Attendance is NOT explicitly tracked or required in this class; however, participation is. As such, there will be frequent quizzes during class. These quizzes will be administered digitally on your internet-enabled laptop, tablet, or smartphone (if you do not have one of these devices, accommodations will be made) using the app Socrative Student available on Android, iOS, or online at <http://b.socrative.com> using the Teacher's Room Code: **UUJ2WIJN**. The points awarded for participation and quizzes will be allocated based upon number of questions answered (50%), and number of correct answers (50%). So, if you take all of the quizzes and get all of the answers wrong, you will earn 20 points out of 40, for the semester. If you take half of the quizzes and get all of the questions correct, you will 20 points out of 40, for the semester.

## Farm Tour

We will have the opportunity to tour a vegetable production operation this semester (arrangements will be made for students who are not on the Pullman campus). The farm tour should give you an idea of how a commercial-scale vegetable farming operation could be run. The farm tour is not optional (i.e. attendance at the farm tour is worth 5% of your grade). Accommodations can be made for extenuating circumstances.

## Crop Proposal Project

Each student will select a unique, minor vegetable crop (including herbs, spices, or medicinal crops) that can be grown in Washington state and prepare a written proposal [not more than 4 pages, 12pt. font, with references (not included in the page count)] to produce that crop. Your proposal will be written as though you are a farm manager proposing a new enterprise to a farm owner. Your proposal should cover the basic taxonomy, propagation, disease and production issues, harvest and post-harvest handling, use and/or economic importance, and marketing of the crop. Integral to the proposal will be an enterprise budget (not included in the page count) for the crop to be produced in a region of Washington of your choosing. Your enterprise budget must be realistic given the crop and potential market, and it should specify the scale at which you propose to produce the crop. The crop proposal will be [primarily] peer-graded.

## Group Activity

Students will be divided into groups (4-5 people per group) and participate in a discussion activity. Each group will select [or be assigned] a major vegetable crop and explore a **current production**

**or marketing issue** of statewide importance facing that crop **in Washington State**. The group will submit a written report (3 pages), and all members of each group will participate in a verbal or video presentation to the class (8 – 10 minutes). Upon completion, each member of the group will submit a form indicating the relative contribution of all group members to the project, and points will be allocated accordingly.

### Extra Credit

Extra credit may be earned by submitting a 1 – 2 page (12pt. font, single-spaced) report on a news article about vegetables. The article must have been published in a mainstream news source, not in a specialty publication or blog. The article may be on any aspect of vegetables from growing to end-uses. You may submit up to two (2) reports for up to five (5) extra credit points each. Each report will be graded on novelty (1 pts.; more credit for articles with unusual stories), spelling and grammar (1 pt.), presentation (1 pt.; did you accurately portray the story?), and analysis (2 pts.; did you demonstrate that you understood the story and made some connection with the topics or discussion in this class?).

### Grading

Task	Value
Midterm Exam	40
Final Exam	40
Class Participation/Quizzes	30
Farm Tour	10
Crop Proposal	40
Group Activity – Report	25
Group Activity - Presentation	15
<b>TOTAL</b>	<b>200</b>

Grade	Points	Grade	Points
<b>A</b>	≥ 187	<b>C</b>	138 – 146
<b>A-</b>	180 – 186	<b>C-</b>	130 – 137
<b>B+</b>	172 – 179	<b>D+</b>	120 – 129
<b>B</b>	163 – 171	<b>D</b>	110 – 119
<b>B-</b>	155 – 162	<b>F</b>	< 110
<b>C+</b>	147 – 154		

### Expectations

You are expected to be a **positive, respectful, contributing member** of the class. Come to class prepared. Assist other students when you can. Do not disrupt or prevent learning by others. Students who do not meet these expectations may be expelled from a class or from the entire course.

#### Attendance

If you miss class, you are still responsible for the material covered. Either get notes from a classmate or do not miss class.

#### Electronic Devices

I recognize that we live in the 21<sup>st</sup> Century and that everything is digital today. Thus, I welcome you to take notes or look for resources on your laptop or tablet, but ask that you do everything in your power to prevent your device from disrupting class. This includes the drama involved in finding an outlet, plugging it in, turning it on, and the annoying start up sounds, as well as the beeps, buzzes, and funny quips indicating that you have mail, a new comment or post, or an IM waiting for your attention. And please, keep your cell phones silenced and put away (unless you are taking a quiz on it). Class is only an hour and a quarter and most things can wait.

## Students with Disabilities

Reasonable accommodations are available for students with documented disabilities or chronic medical conditions. If you have a disability and need accommodations to fully participate in this class, please visit the Access Center website to follow published procedures to request accommodations: <http://www.accesscenter.wsu.edu>. Students may also either call or visit the Access Center in person to schedule an appointment with an Access Advisor. Location: Washington Building 217; Phone: 509-335-3417. All disability related accommodations **MUST** be approved through the Access Center. Students with approved accommodations are strongly encouraged to visit with instructors early in the semester during office hours to discuss logistics.

For more information contact a Disability Specialist on your home campus:

- **Pullman or WSU Online:** 509-335-3417 <http://accesscenter.wsu.edu>, [access.center@wsu.edu](mailto:access.center@wsu.edu)
- **Tri-Cities:** <http://www.tricity.wsu.edu/disability/>

## Academic Integrity

WSU expects all students to behave in a manner consistent with its high standards of scholarship and conduct. Students are expected to uphold these standards both on and off campus and acknowledge the university's authority to take disciplinary action. The purpose of these standards and processes is to educate students and protect the welfare of the community. The standards of Conduct for Students can be found at <http://conduct.wsu.edu>. University instructors have the authority to intervene in all situations where students are suspected of academic dishonesty. In such instances, responsible instructors retain the authority to assign grades to students considering, from an academic standpoint, the nature of the student action. More information regarding responding to academic integrity violations can be found at <http://academicintegrity.wsu.edu/>. Feel free to contact the Office of Student Standards and Accountability (509-335-4532) if you would like more specific information about the process. Writing Programs (509-335-7959) can assist with proactive assignment design that minimizes intentional or unintentional academic dishonesty.

## Safety

Classroom and campus safety are of paramount importance at Washington State University, and are the shared responsibility of the entire campus population. WSU urges students to follow the “Alert, Assess, Act” protocol for all types of emergencies, and the “Run, Hide, Fight” response for an active shooter incident at <http://police.wsu.edu/activeshooter.html>. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able). Please sign up for emergency alerts on your account at MyWSU. For more information on this subject, campus safety, and related topics, please view the FBI’s Run, Hide, Fight video and visit the safety portal <https://faculty.wsu.edu/classroomsafety/>.