

Introduction to Cultivated Plants

Crop Science/Horticulture 102 (3 credits) - Fall 2015

Class Time and Place

MWF 11:10 – 12:00

Pullman - Food Science & Human Nutrition (FSHN) T101

Tri-Cities (via AMS) - West Bldg Tri-Cities 210

<https://learn.wsu.edu/>

Instructor

James Lewis

Johnson Hall 133

Office Hours: Mon and Wed 8:30 – 11:00am

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Teaching Assistant (Pullman)

Thiel Lehmann

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Teaching Assistant (Tri-Cities)

Gretchen Graber

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Course Overview

This course introduces the principles of plant science with an emphasis on plants and management practices for crops grown in Washington State. Topic areas include plant classification, plant anatomy and physiology, soil science, weed science, climatic influences on plants, plant biochemistry, the heredity of traits, crop breeding, cropping systems, and management practices. Faculty from the Crop and Soil Science, Horticulture, and Agriculture and Food Systems departments will present lectures in their area of expertise. Students will be exposed to multiple perspectives in the diverse field of integrated plant sciences while learning about the scientific and technological pursuit of crop production. Students are encouraged to relate their ideas, identity, and experiences to their learning in order to gain an understanding of their academic major, 200- and 300-level courses they might wish to take, and their careers.

Classes will be mostly lecture-based, with space for discussion, collaborative learning, and small group work. Students are expected to work alone on quizzes, but are encouraged to collaborate on and discuss all other coursework.

Student Learning Outcomes

1. Illustrate the diversity and importance of cultivated plants.
2. Morphologically identify roots, stems, leaves, flowers, fruits, and seeds.
3. Classify cultivated species with taxonomical and scientific language.
4. Identify and explain abiotic and biotic influences on plant growth.
5. Compare and contrast the processes of plant growth for multiple species.
6. Describe the production systems and related issues for several cultivated plants.
7. Write with academically appropriate syntax, grammar, terminology, and citation style about research, issues, and controversies in plant cultivation.

Office Hours

James Lewis is available for drop-in office hours on Monday and Wednesday mornings (8:30 – 11:00am), or by appointment. Please email james.m.lewis@wsu.edu if you would like to meet, with two preferred times. I am flexible, and will also generally be available immediately following class.

Teaching assistants are available for office hours by appointment. Please email them if you would like to set up a time to meet.

Instructors work to respond to emails as soon as possible, during the week within one day if possible. Weekend and night correspondence may be limited or delayed until the next workday. Please communicate in a clear and concise manner.

Instructor Policies

- Attendance is expected at all times. You will be quizzed not only on lecture notes, but also on in-class discussions. Your success in this course depends on your attendance!
- Information regarding exams, quizzes, and other changes to the syllabus will occasionally be communicated by email. Emails will be sent to your @wsu.edu account. **Check your email frequently.** If using a different email address, be sure that your @wsu.edu messages are successfully forwarded to your other account.
- Use a laptop or other electronic device for note-taking only.
- Be respectful of your instructor, speakers, and fellow classmates by refraining from text messaging, Facebook, online social media, newspapers, Sudoku, tetris, etc. during class time. Such activities are a distraction to those around you, and have no place in a lecture classroom.
- Silence and put away your phone during class.
- Log on to Blackboard on the WSU web site to access course documents, lecture notes, course announcements, grades, etc. **Check the site frequently.** <http://learn.wsu.edu>

Distance Learning

Lectures will be recorded live from the Pullman campus FSHN T101 and videostreamed to the Tri-Cities campus. Teaching assistants are present at both campuses to facilitate discussion and groupwork, and to help to communicate with the course instructor

Textbook

Plant Science – Growth, Development, and Utilization of Cultivated Plants, 5th edition.
Authors: Margaret J. McMahon, Anton M. Kofranek, Vincet E. Rubatzky.
Prentice Hall, 2011.

The text is optional and *strongly recommended* for students planning to take 200- and 300- level Crop Science, Biology, and Horticulture courses. Examinable content is generally taken from lectures and lecture notes.

Online Information - Blackboard

The online coursepage can be accessed via Blackboard at learn.wsu.edu. **Please check this site frequently.** Quizzes are taken on Blackboard. Other course information such as detailed assignment information and lecture schedules are also available on Blackboard. Recordings of class lectures are also available through learn.wsu.edu.

Lectures

Due to the constraints of such a large classroom, most course material will be presented as PowerPoint lecture. Speakers make it their responsibility to make the lectures interesting by including different media (ie. movies,

pictures, songs), providing narrative, and encouraging student-student interaction. Your attention and focus are important to creating a successful classroom environment.

The instructor will make lecture notes – blank study sheets with important concepts and terms listed in the order they will be presented – available the afternoon/evening before lecture. It is your responsibility to print off these sheets. Students may take electronic lecture notes so long as they remain on-task and follow the instructor’s policies.

Grading

Course grades will be based on 1250 total points. All students will be evaluated on the core assignments, which together make up 1000 points. Students will choose one among the three options – examination, written work, or work/volunteer experience – to make up the final 250 points.

Quizzes and attendance may be made up at the discretion of the instructor provided a valid reason is presented **before** the class or quiz is missed. Final grades will not be curved nor weighted. Bonus/extra credit opportunities are awarded at the instructor’s discretion.

Attendance		=	150 points
10 Online Quizzes	@ 40 points	=	400 points
8 Synthesis Activities	@ 25 points	=	200 points
2 Topic Essays	@ 75/175 points	=	250 points
Student Choice	@ 250 points	=	250 points
	Total		1250 points

A =	93% +	B- =	80-82%	D+ =	67-69%
A- =	90-92%	C+ =	77-79%	D =	60-66%
B+ =	87-89%	C =	73-76%	F =	below 60%
B =	83-86%	C- =	70-72%		

Assignments

Due dates for Core assignments can be found on the syllabus schedule below or on the Blackboard page.

Core (Attendance + Quizzes + Synthesis Activities + Topic Essays)

Attendance (150 points total)

Your success in this class is contingent upon your attendance and participation in discussions and group work. Please hold yourself accountable for arriving at lecture *on time* prepared to fully participate. Attendance points are based on random sign-ins and by accessing Blackboard frequently. Accommodations for students with valid reasons for missing lecture will be made at the discretion of the instructor.

Synthesis Activities (8 Assignments, 25 points per assignment)

Prior to online quizzes, a synthesis period is offered to review recent lecture material, answer student questions, and prepare for quizzes. During these synthesis periods, students are expected to attend class and work with a group to complete a workbook assignment promoting higher-ordered comprehension of major themes, terms, and concepts presented in lecture. These assignments are designed to serve as a study guide for the quiz while developing interpersonal communication and peer collaboration skills.

Online Quizzes (10 Quizzes, 40 points per quiz)

An online quiz is required most weeks of the semester. Quizzes are taken on Blackboard. The quizzes will be made available shortly after a review (synthesis) period and must be completed by 11:55pm on the assigned date (see course schedule for due dates; these are often the Sundays, Tuesdays, or Thursdays following synthesis periods).

Make-up quizzes are offered at the discretion of the instructor. Quizzes are short – usually 20 minutes or less. The quizzes are formatted as multiple-choice, multiple-select, short answer, and matching questions. These questions will assess student comprehension of major themes, terms, and concepts presented in lecture and discussion.

Topic Essays (2 essays, 75 & 175 points)

Students are expected to attend lectures, take notes, and ask questions in preparation for constructing a topic essay. Students are required to choose a topic or theme presented in class, and then write an academic research paper. The first speaker summary is due Oct 30 and worth 75 points. The second is due Dec 4 and worth 175 points. Speaker summaries received late will be docked 5 points per day.

I encourage you to begin writing these essays soon after a speaker has presented, and they may be turned in early. Although there is no peer evaluation or draft required prior to submission of these assignments, I strongly encourage you to have your paper edited, visit the WSU Writing Center, or to seek out input from the instructor/TA of this course prior to submission of these assignments. A minimum of one scholarly source (reference/citation) is required for the first speaker summary, and three for the second speaker summary.

A more detailed set of guidelines and instructions for speaker summaries can be accessed on Blackboard.

Student Choice (250 points)

Students must select one of three choices to determine 250 points of the final grade. Students will notify the instructor of their choice in writing in class on Friday September 4.

Schedules and due dates for the each option can be found on Blackboard. **It is the student's responsibility to know which option they have selected, to know when assignments are due, and to keep up with core assignments.**

Option 1: Examination

Students can choose to take exams twice during the term. The first exam is at midterm (sometime between Oct 21-23). The second is during the final exam period (Dec 17, 3:10pm – 5:10pm). Each exam is worth 125 points. These exams will consider similar content to the quizzes, but will go further in depth to assess an understanding of scientific concepts, vocabulary, technical knowledge, and awareness of multiple perspectives. Exams have multiple choice, matching, short answer, and essay sections.

This option is likely best suited for a student with a strong scientific or logical mind, experience studying from notes and textbooks, and high achievement on formal exams.

Option 2: Written Work

Students can choose to write a set of five essays in addition two the two topic essays. Each essay is scored out of 50 points. Students may select from a menu of eight essay topics found on Blackboard. Detailed instructions and rubrics for each essay are also available on Blackboard. Each menu item may be selected only once. Please clearly identify which topic you have selected early in your paper. If written work is selected, students must turn in one essay at each of the five due dates.

	Due Date
Essay 1	9-Sep
Essay 2	16-Sep
Essay 3	30-Sep
Essay 4	16-Oct
Essay 5	20-Nov

This option is likely best suited for students that wish to improve their academic writing, or would like to gain perspective about agriculture, multiple perspectives, and their career.

Option 3: Work/Volunteer Experience

Students can earn credit by working or volunteering at a relevant science, greenhouse, research, or technical position on campus or in the Pullman area **during the semester** (ie. summer experience does not count).

Students must communicate with the instructor to gain approval for this option. The instructor will need to communicate with the students' advisor/superior to ensure that the student is faithfully committing to their work/volunteer schedule. In addition, students must complete two short written assignments about their experience. The first written assignment is due Sept 9 and regards the student's previous experiences and expectations about their work for the coming semester. The second written assignment is due Nov 20 and asks the student to reflect upon their experiences and what they have learned through the semester of work. Instructions for these two written assignments, as well as information/instructions for your advisor/superior are available on Blackboard.

This option is likely best suited for a student **who has already made plans** to work/volunteer, or who already works/volunteers on campus. This option is also well suited for individuals that wish to participate in research, or who envision careers in laboratory, food, or field science.

Campus Resources

- Writing Center, <http://www.writingprogram.wsu.edu/units/writingcenter/>
- Library Services, <http://www.wsulibs.wsu.edu/>
- CACD, Center for Advising and Career Development, <http://www.cacd.wsu.edu/>
- Office of Student Conduct, <http://conduct.wsu.edu>
- Counseling and Testing Services, <http://counsel.wsu.edu/>
- Academic Integrity, <http://academicintegrity.wsu.edu>

WSU Reasonable Accommodation Statement

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building, Room 217) to schedule an appointment with an Access Advisor. All accommodations **MUST** be approved through the Access Center. For more information contact a Disability Specialist:

509-335-3417

<http://accesscenter.wsu.edu>

Access.Center@wsu.edu

Plagiarism and Cheating Policy (www.conduct.wsu.edu/)

Academic dishonesty of any kind or degree will not be tolerated. Academic integrity will be strongly enforced in this course. Any student caught cheating on any assignment will be given an F grade for the assignment and will be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions (<http://conduct.wsu.edu/academic-integrity-policies-and-resources>). Please use these resources to ensure that you don't inadvertently violate WSU's standard of conduct.

WSU Safety Information

Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review that Campus Safety Plan (<http://safetyplan.wsu.edu>) and visit the Office of Emergency Management website (<http://oem.wsu.edu/emergencies>) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.

Unit	Date	Topic	Core Assignments Due (See Blackboard for Student Choice due dates)
1 - Introduction	24-Aug	Syllabus/Intro - Cultivated Plants and Washington	
	26-Aug	Domestication of plants	
	28-Aug	Agriculture and Anthropology, Stories and Science	Quiz 1 (Aug 30; 11:55pm)
	31-Aug	<i>Organic and Conventional, Dr. John Reganold</i>	
	2-Sep	Plant Classification	
	4-Sep	Scientific Nomenclature	Student Choice Selection
	7-Sep	No Class - Labor Day	
	9-Sep	Synthesis Period	Quiz 2 (Sept 10)
2 - Anatomy	11-Sep	Introduction to Plant Tissues, Monocots & Dicots	
	14-Sep	Leaves	
	16-Sep	Stems	
	18-Sep	Synthesis Period	Quiz 3 (Sept 20)
	21-Sep	Roots	
	23-Sep	Flowers	
	25-Sep	Fruits and Seeds	
	28-Sep	Synthesis Period	Quiz 4 (Sept 29)
3 - Plant Growth	30-Sep	Light	
	2-Oct	Temperature Influence	
	5-Oct	Precipitation	
	7-Oct	Synthesis Period	Quiz 5 (Oct 8)
	9-Oct	Introduction to Soils	
	12-Oct	Soil Physical Properties	
	14-Oct	Soil Fertility and Plant Nutrition	
	16-Oct	<i>Sustainable soil systems, Dr. Lynne Carpenter-Boggs</i>	
	19-Oct	Synthesis Period	Quiz 6 (Oct 20)
	21-Oct	Writing Seminar	
4 - Plant Biology	23-Oct	Energy, Photosynthesis, and Respiration	
	26-Oct	Plant Biochemistry	
	28-Oct	Plant Heredity	
	30-Oct	Synthesis Period	Topic Essay #1 due; Quiz 7 (Nov 1)
	2-Nov	Plant breeding and Genetics	
	4-Nov	<i>Breeding guest lecture, TBA</i>	
	6-Nov	<i>GMO's/Biotechnology, Dr. Michael Neff</i>	
	9-Nov	Synthesis Period	Quiz 8 (Nov 10)
5 - Systems and Management	11-Nov	No Class - Veteran's Day	
	13-Nov	<i>Crop Systems and Weeds, Dr. Ian Burke</i>	
	16-Nov	<i>TBA</i>	
	18-Nov	<i>Forestry, Dr. Mark Swanson</i>	
	20-Nov	Synthesis Period	Quiz 9 Nov 22)
	23-Nov	No Class - Thanksgiving Break	

25-Nov	No Class - Thanksgiving Break	
27-Nov	No Class - Thanksgiving Break	
30-Nov	<i>Sociology of crop production, Dr. Goldberger</i>	Quiz 9 (Dec 1)
2-Dec	<i>Tree fruit management, TBA</i>	
4-Dec	<i>Viticulture, TBA</i>	Topic Essay #2 due
7-Dec	<i>Vegetable seed production, Dr. Lindsey du Toit</i>	
9-Dec	<i>TBA</i>	
11-Dec	Synthesis Period/End of Class Celebration!	
Exam Week		Quiz 10 (Dec 18)