

GREENHOUSE MANAGEMENT AND CROP PRODUCTION HORT 357 (3 CREDITS)

INSTRUCTOR

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Office hours: any day- by appointment

LECTURES: Monday, Wednesday, Friday 12:10 – 1:00 pm
CUE Rm 114

PREREQUISITES: Hort 202 recommended

RECOMMENDED TEXT BOOKS

Ball RedBook 18th Edition. Ball Publishing, Batavia, IL.
Beytes, C. Volume 1: Greenhouses and Equipment
Hamrick, D. Volume 2: Crop Production

Course Objectives

- 1) To appreciate the magnitude and importance of the greenhouse industry in the U.S. and the world,
- 2) To understand how greenhouse structures affect greenhouse environments,
- 3) To recognize and explain how greenhouse operational systems function and be able to complete design calculations for installation of greenhouse control systems,
- 4) To use basic knowledge of plant growth for making appropriate decisions regarding the design, operation, and management of greenhouse systems,
- 5) To understand the environmental factors involved in manipulating growth and development of greenhouse crops,
- 6) To describe and be able to explain the practices involved in producing high quality plants.

Student Learning Objectives

- 1) Students will utilize horticultural concepts and interpret crop responses to management practices.
- 2) Students can design heating systems appropriate for different greenhouse specifications.
- 3) Students can design ventilation and cooling systems for different greenhouse specifications.
- 4) Students can calculate and recommend appropriate fertilizer programs for Constant Liquid Feed in greenhouse crop production.
- 5) Students will be able to describe how to grow several different spring crops in a greenhouse environment
- 6) Students will be proficient in integrating information in greenhouse management and crop production.
- 7) Students will utilize knowledge of greenhouse management and crop production and apply solutions to real life situations by active participation in class discussions.
- 8) Students will have introductory skills necessary for employment in the greenhouse industry reflected by mastery of course topics.

STUDENT EVALUATION

Grades will be based on total accumulated points throughout the semester from:

1) Three hourly exams (*each will be comprehensive*),

Exam I - 25%

Exam II - 25%

Final Exam - 20%

2) Assignments and quizzes will constitute 30% of the total grade.

GRADING SCALE

100 - 93%	A	77 - 79%	C+
90 - 92%	A-	73 - 76%	C
87 - 89%	B+	70 - 72%	C-
83 - 86%	B	66 - 69%	D+
80 - 82%	B-	60 - 65%	D
		≤59	F

- Hourly exams and quizzes cannot be made up if missed unless a legitimate excuse such as illness, personal and/or family crisis, mandated court appearances, university approved event, or similar reasons are presented in writing before the exam.
 - All assignments are due at the beginning of class on the designated date. A 10% grade penalty per day will be applied for each day an assignment is late.

Final EXAM CUE 114 Wednesday May 6, 2020 1-3 pm.

Required field trip to Spokane for Pullman section.

Potential date Friday April 17, 2020.

Information will be presented later in the semester

GENERAL LECTURE OUTLINE

<u>Topic</u>	<u>Book Chapter</u>
Floriculture industry	Introduction
 <i>Ball Redbook Volume 1 – Greenhouses and Equipment</i>	
Greenhouse structures	1
Greenhouse glazing materials	3
Fertigation systems	6
Heating and cooling systems	7
Lighting systems	7
Benching systems	9
Pest control management systems	10
 <i>Ball Redbook Volume 2 – Crop Production</i>	
Water quality	1
Media	2
Plant nutrition and fertilization	3
Managing pH	4
Water, media, and nutrition testing	5
Scheduling crops	
Temperature	6
Light	7

Disability statement

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. All accommodations must be approved through the Disability Resource Center (DRC) in Administration Annex 206 (Tel. 335-1566)

Cheating (WAC 504-25-310)

Cheating is the intentional use of, or attempt to use, unauthorized material, information, or study aids in any academic activity to gain advantage. Cheating includes, but is not limited to, communicating improperly with others, especially other students, during tests or the preparation of assignments for classes; copying from books, notes, or other sources during a test when this is not permitted; copying from another student's work (reports, laboratory work, computer programs, files, etc.); making improper use of calculators or other devices during a test; illegitimately procuring or using copies of current examinations; allowing a substitute to take an examination or write a paper for oneself.

Plagiarism (WAC 504-25-310)

Plagiarism is knowingly representing the work of another as one's own, without proper acknowledgment of the source. The only exceptions to the requirement that sources be acknowledged occur when the information, ideas, etc., are common knowledge. Plagiarism includes, but is not limited to, submitting as one's own work the work of a "ghost writer" or work obtained from a commercial writing service; quoting directly or paraphrasing closely from a source without giving proper credit; using figures, graphs, charts, or other such material without identifying the sources. www.conduct.wsu.edu/default.asp?PageID=343 and www.wsulibs.wsu.edu/plagiarism/main.html

Academic Integrity Processes (WAC 504-25-315)

Every act of academic dishonesty affects academic evaluation of the student and also is a violation of the University's standards of conduct. Responsible instructors retain the authority and responsibility to assign grades to students, considering from an academic standpoint the nature of the student's action. This is the case even when the case is referred to the University Academic Integrity Process. Students have recourse to appealing the responsible instructor's assignment of grades according to usual academic policy. See Academic Regulation 104.

All clear instances of academic dishonesty shall be reported to the Office of Student Conduct as outlined in 504-35-335(2). The first reported instance at WSU of academic dishonesty by a student will be treated as purely an academic matter unless, in the judgment of the responsible instructor, more serious action should be taken through the disciplinary process. Any allegation of subsequent academic dishonesty will be treated as a matter to be referred to the Office of Student Conduct

Reports of Academic Dishonesty (WAC 504-35-320)

Any member of the University community who witnesses an apparent act of academic dishonesty shall report the act either to the instructor responsible for the course or activity or to the Office of Student Conduct.

Student and classroom emergency information is provided at the university emergency management web site <http://oem.wsu.edu/emergencies>.

WSU Safety Procedures

Washington State University is committed to maintaining a safe environment for its faculty, staff, and students. Safety is the responsibility of every member of the campus community and individuals should know the appropriate actions to take when an emergency arises. Please, go to:

WSU Pullman Campus Safety Plan at: <http://safetyplan.wsu.edu>

WSU Emergency Management web site: <http://oem.wsu.edu/emergencies>

WSU Tri-Cities Campus Safety Plan at: <http://www.tricity.wsu.edu/safetyplan/>