

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
Lecture recorded in CUE Rm 114 available on Canvas.
Details will be presented in 1st lecture

PREREQUISITES: Hort 202 recommended

RECOMMENDED TEXT BOOKS

Ball RedBook 19th Edition. Ball Publishing, West Chicago, IL.
Beytes, C. Volume 1: Greenhouses and Equipment
Nau, J., with Bill Calkins and Allison Westbrook.
Volume 2: Crop Culture and 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) Two hourly exams

Exam I - 35%

Exam II - 35%

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

Assignments are worth full credit on due date. 10 days later

assignments are worth zero points. Assignments will not be

accepted during closed week or during finals week.

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.

GENERAL LECTURE OUTLINE

Topic	Book Chapter
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

Students are responsible for reading and understanding all university-wide policies and resources pertaining to all courses (for instance: accommodations, care resources, policies on discrimination or harassment), which can be found in the [university syllabus](#)."

Provision of an academic integrity statement complies with WAC 504-26-010(3) and WAC 504-26-404. Course-specific sanctions for violating WSU's Academic Integrity Policy must be included in the ***bolded italicized*** portion of the statement below. Include the following statement in your syllabus:

"You are responsible for reading WSU's [Academic Integrity Policy](#), which is based on [Washington State law](#). If you cheat in your work in this class you will:

- *fail the assignment, quiz, or exam.*
- Be reported to the [Center for Community Standards](#).
- Have the right to appeal my decision.
- Not be able to drop the course or withdraw from the course until the **appeals** process is finished.

If you have any questions about what you can and cannot do in this course, ask me.

If you want to ask for a change in my decision about academic integrity, use [the form](#) at the [Center for Community Standards](#) website. You must submit this request within 21 calendar days of the decision."