

FRUIT CROPS MANAGEMENT

Syllabus

Hort 421/521

Spring 2008

Description	A capstone course examining physiological concepts and management strategies for optimizing productivity, profitability and resource utilization efficiency of tree-fruit horticultural crops grown in the Pacific Northwest.
Instructors	<p>Dr. Preston K. Andrews, Associate Professor of Horticulture <u>Address:</u> Department of Horticulture & Landscape Architecture P.O. Box 646414, Pullman, WA 99164 <u>Office:</u> Johnson Hall 155E, Pullman <u>Phone:</u> 509-335-3603 <u>Fax:</u> 509-335-8690 <u>E-mail:</u> andrewsp@wsu.edu</p> <p>Dr. Don C. Elfving, Horticulturist <u>Address:</u> Tree Fruit Research and Extension Center 1100 North Western Ave., Wenatchee, WA 98801 <u>Phone:</u> 509-663-8181, ext. 252 <u>Fax:</u> 509-662-8714 <u>E-mail:</u> delfving@wsu.edu</p> <p>Dr. Matthew D. Whiting, Assistant Horticulturist <u>Address:</u> Irrigated Agriculture Research and Extension Center 24106 North Bunn Rd., Prosser, WA 99350-8694 <u>Phone:</u> 509-786-9260 <u>Fax:</u> 509-786-9370 <u>E-mail:</u> mdwhiting@wsu.edu</p>
Class Meetings	Tuesday and Thursday, 8:10 – 10:25 a.m. from Jan. 8 to Mar. 6, and April 22 and 24
Locations	AMS classrooms: Murrow Hall 55, WSU-Pullman; Browns Library 9105, Wenatchee Valley College; and West Building 209, WSU Tri-Cities
Office Hours	Anytime by phone, fax or e-mail, or drop by the office.
Prerequisite	Plant or crop physiology course; some familiarity with plant anatomy, growth and development. A course in woody horticultural crop production (e.g., Pomology, Viticulture & Small Fruits, or Ornamentals) or professional work experience in fruit crop production is recommended.
Goals & Objectives	<p>Synthesize previously learned subject matter and integrate new information into a knowledge base for developing management strategies and solving problems in optimizing the productivity, profitability and resource utilization efficiency of tree-fruit horticultural plants by:</p> <ol style="list-style-type: none">1. Examining genetic, physiological, environmental and socioeconomic factors that limit the productivity, quality and profitability of tree fruit crops.2. Integrating these factors to develop management or research (for Hort 521 students) strategies for optimizing the productivity, quality and profitability of these fruit crops.3. Applying management or research (for Hort 521 students) strategies that optimize resource utilization efficiency for sustaining fruit crop systems.

Teaching/Learning Approaches Lectures from instructors and presentations from invited experts, discussions, writing assignments, and student presentations. Participation is essential and will represent a portion of the final grade.

Expectations & Assignments This course will be a collaborative learning experience. Questions and discussion are expected. Because this is Writing in the Major (M) class, writing is required. Both to evaluate and improve your written and oral communication skills, the following assignments are required:

1. Written summaries of the lectures:

The course consists in part of 9 weeks of two lecture periods per week. On any class day, there may be one lecturer who discusses a topic for the entire class period or two lecturers who present two distinct, though related, subjects. This writing requirement for each student is as follows:

- a. You are to prepare a short (800-1000 words) written paper summarizing the key concepts and explaining key points from either the Tuesday or Thursday lecture topic (your choice) from each week's lectures for eight of the nine weeks (You may choose any week to not prepare a written summary; however, if you wish to write all nine summaries, your lowest grade will be dropped.)
- b. When two lecturers present related subject matter on a topic during a single class meeting, **your summary must include information from both presenters**. Not including information from both lecturers will result in a lower grade.
- c. The written lecture summaries, as well as the term paper and research proposal (Hort 521 only), are to be prepared using the following format: Title and your name, 1-inch margins, double-spaced, 12-point Times New Roman font.
- d. We expect you to read literature relevant to the topic of your written summary. Literature references are expected and must be cited in your written summary (See *Guidelines for Writing Assignments*).

Each week's writing assignment is due by the Friday following the week of the lecture you are summarizing, giving you one full week to complete each lecture summary assignment for full credit (see class schedule for assignment due dates). Submit the writing assignments in electronic form **ONLY** via e-mail attachment to the instructor designated to grade that assignment in the course schedule. Writing assignments received after the due date will lose 15 points for each day late and will not be accepted for credit if received 7 or more days after the due date.

2. Term paper (all students) on an instructor-approved topic of your choice. You may choose any topic related to the tree-fruit or small-fruit industry for your term paper, but you must obtain approval from all instructors. The following schedule of deadlines applies to the term paper:

- a. Term paper topic – due by Jan. 17 for approval by instructors
- b. Detailed topic outline and annotated bibliography – due by Feb. 14
(See *Guidelines for Writing Assignments*)
- c. Complete draft of term paper – due by March 27
- d. Final version of term paper – due by April 28

Submit topic title, outline/annotated bibliography, draft and final versions of term paper **ONLY** as e-mail attachments to all instructors (no paper copies).

See *Guidelines for Writing Assignments*. If you do not submit the final version of your term paper, we will grade your draft version.

3. Oral presentation on the topic of your term paper. It should be 10-12 minutes long, with an additional 5-3 minutes for questions (total of 15 minutes maximum for any presentation). Use of visual aids is required; PowerPoint presentations are preferred. Oral presentations will be scheduled for April 22 and 24. Oral presentations will be graded according to specified grading criteria, which will be provided to you well in advance of the presentations. Staying within the allotted time will be one factor considered in the grading of oral presentations. Attendance at each presentation session is required, or a penalty of 20 points will be taken.
4. Research proposal (Hort 521 students only) addressing research needs and priorities of a crop of your choice. You may choose a general topic area in which to assess research needs and priorities (e.g., rootstocks, cultivars, cultural practices, some general aspect or aspects of whole-tree or cellular/molecular physiology, economics, pest control, labor issues, postharvest, marketing, etc.). A complete draft is required by March 27, with a final version due by April 28 (submit in electronic format via email to all instructors). More complete requirements for this assignment will be provided for Hort 521 students in the class.

Academic Honesty. All students are expected to act in accordance with the WSU policies on [Academic Honesty](#) found in the [Standards of Conduct for Students](#). These policies include falsification and fabrication of information, plagiarism, multiple submission, and others. These policies will be discussed in class and students will be asked to acknowledge that discussion and a basic understanding of the policies by reading and signing the class *Academic Integrity Agreement Form*. For additional information specifically on plagiarism, see the [WSU Plagiarism Information Site](#). 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; quoting or paraphrasing extensively from a source even if credit is given, using figures, graphs, charts, or other such material without identifying the sources. A written document that you prepare must reflect your own understanding and synthesis of the concepts described. If evidence of plagiarism is detected in any assignment, that assignment will receive a zero grade and the incident may be reported to the Office of Student Conduct for further action.

Grading Criteria. The criteria for grading weekly lecture summaries and the final version of the term paper are: 1) 25 points for accuracy, use of information, and completeness of topic coverage, including use of references; 2) 25 points for the depth and thoroughness of the analysis of the subject; 3) 25 points for organization and clarity of the presentation; 4) 15 points for persuasiveness and validity of conclusions; and 5) 10 points for spelling, grammar, sentence structure, punctuation, neatness, literature citation style, etc. Grading of the term paper outline/annotated bibliography and draft are based on the degree to which these assignments are complete.

Class Website A website will be maintained for the class. This website can be accessed at <http://hort.tfrec.wsu.edu/hort421-521>. The website will contain copies of the class schedule, the syllabus, grading criteria and any other pertinent information about class function. In addition, we plan to include on the website any notes, reading materials, other supporting documentation and copies of lecture presentations for each of the class lecture topics. Lecture presentations and any associated reference materials will be added to the website as they are presented in class to help you in the timely preparation of your written lecture summaries.

Grading Policies	<u>Assignment</u>	<u>Weight</u>
	Written lecture summaries (8)	40%
	Term paper	40%
	Detailed outline and annotated bibliography (5%)	
	Completed draft (5%)	
	Final term paper (30%)	
	Presentation	20%
	Research proposal (Hort 521)	25%

The instructor designated in the course schedule will grade the weekly lecture summaries. Only one instructor will grade the annotated bibliography/outline and draft of the term paper, however, all instructors will grade the final version of the term papers and the oral presentations. There is no final examination.

Textbooks There are no textbooks to purchase. Reading lists of articles will be distributed in class or by e-mail, and will be posted on the website. Articles from the reading lists can be obtained at WSU libraries.

Suggested Textbook References

Tree Fruit:

- Apples: Botany, Production and Uses* edited by D.C. Ferree and I.J. Warrington (2003)
- Cherries. Crop Physiology, Production and Uses* edited by A.D. Webster and N.E. Looney (1996)
- Temperate-Zone Pomology, Third Edition* by Melvin N. Westwood (1993)
- Physiology of Temperate Zone Fruit Trees* by Miklos Faust (1989)

Small Fruit:

- Small Fruit Crop Management* edited by Gene J. Galletta & David G. Himelrick (1990)
- Biology of the Grapevine* by Michael G. Mullins, Alain Bouquet & Larry E. Williams. (1992)

General:

- Handbook of Environmental Physiology of Fruit Crops. Volume 1: Temperate Crops* edited by Bruce Schaffer & Peter C. Andersen (1994)
- Plants and Microclimate* by Hamlyn Jones (1992)
- Agricultural Experimentation* by Thomas M. Little & F. J. Hills (1978)

Disability Accommodations Reasonable accommodations are available for students who have a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the [Disability Resource Center](#) (DRC). All accommodations must be approved through the DRC (Admin Annex Bldg, Room 205). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.

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