

## POMOLOGY - SYLLABUS

**Instructor:**

Desmond R. Layne, Ph.D.  
Professor of Pomology  
Department of Horticulture  
Office: 137 B Johnson Hall  
Phone: 509-335-6647  
e-mail: [desmond.layne@wsu.edu](mailto:desmond.layne@wsu.edu)  
Office Hours: please set up an appointment by e-mail

**Please thoroughly read this course syllabus and maintain a copy on your laptop or in your notebook to refer to as needed.**

**Class Meeting Time and Locations:**

Meeting Time: 1:25-2:40 pm on Tuesday and Thursday  
Class Locations: Pullman – FSHN T101  
TFREC-Wenatchee – Stockwell Room AMS 102.

**Course Prerequisites:** BIOLOGY 106, BIOLOGY 107, BIOLOGY 120, or HORT 202.

**Course Catalogue Description:** Botany, history, production, and uses of temperate-zone tree and small fruit crops.

**Course Goals and Student Learning Outcomes:**

The goal of the course is to understand the science, culture, and management of tree and small fruit crop production practices and technologies to be achieved through the following learning outcomes:

1. Identify major temperate tree and small fruit crops and understand where and how they are grown, marketed, utilized and their nutritional value
2. Describe fruit crop botanical features, physiological growth characteristics and climatic requirements
3. Understand the major concepts and technology necessary to successfully grow fruits at the commercial level in Washington and elsewhere
4. Understand the complex management decisions, challenges and potential problems in producing fruit crops due to their perennial nature, required resource inputs and market forces
5. Explain production alternatives including niche marketing and sustainable practices
6. Ability to share knowledge and solve problems with audiences such as novices, hobbyists, Master Gardeners, and the news media.

**Crops Covered and Lecture Specifics:**

A lecture outline for each crop will include the following topics: taxonomy, origin and history of cultivation, folklore, medicinal properties and nonfood use, production, botanical description, general culture, harvest and postharvest handling, and use in the human diet. Fruits that will be discussed include: pome fruits (apple and pear); stone fruits (peach/nectarine, plum, apricot, sweet/tart cherry, interspecific hybrids); small fruits (strawberry, blueberry, cranberry, and brambles – blackberry/raspberry); and citrus. [Although citrus is technically not a temperate but rather a subtropical fruit crop, we will study it because it is a very significant fruit industry in Florida and it is also widely grown in California, Texas and Arizona.]

**Blackboard:** You can access the course by logging into <https://learn.wsu.edu> and then finding the course ID in the list in the My Courses module. Please check the course Blackboard site frequently for any course related materials (syllabus, reading and writing assignments, etc.) or information. The AMS video conference course id is: **2016-FALL-PULLM-HORT-310-3668-LEC**. The video lecture recordings will be available under the Class Recordings link on the course menu. These are usually posted by AMS to Blackboard the day following the lecture.

**Instructor Communication:** Information regarding exams, assignments, schedule changes, etc. will occasionally be communicated **by e-mail and posted on Blackboard**. E-mails will be sent to your @wsu.edu account. **Check your email frequently**. If you are using a different primary email address (e.g., @gmail.com, @yahoo.com, etc.), please be sure that your @wsu.edu messages are successfully **forwarded** to your primary e-mail account and that you **read** messages related to **HORT 310**.

**Recommended Text:** Introduction to Fruit Crops. Reiger, M. 2006. The Haworth Press, Inc., Binghamton, NY. (ISBN 978-1-56022-259-0). The book is available at Amazon.com for ~ \$60.

Additional useful references and helpful websites are noted on the last page of this syllabus. Depending on your interests, the instructor can recommend several excellent books to add to your academic library.

## **COURSE ASSESSMENT**

### **600 pts total**

Writing Assignment 1	100 points	(Due Sept. 13, 2016)
Mid Term Exam 1	100 points	(Date - September 22, 2016, in-class)
Writing Assignment 2	100 points	(Due October 13, 2016)
Mid Term Exam 2	100 points	(Date - October 27, 2016, in-class)
Feedback Paragraphs	50 points	(Due dates announced later)
Final Exam	100 points	(Date – Dec. 14, 2016, in-class <b>from 1-3 pm</b> )
Attendance/Class Participation	50 points	

### **Grading scale**

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

**Exams** cannot be made up if missed without an excused absence. The three exams have equal weight. Each in-class exam will be **“closed book”** and cover approximately 1/3 of the total course content. You will not have access to any electronic devices, notes, etc. while taking the exams. **No final exam exemptions will be made**. The **first** mid-term exam will include any information presented or discussed during Aug. 23 – Sept 20; the **second** mid-term exam will include any information presented or discussed during Sept. 27 – Oct. 25. The **final** exam will include any information presented or discussed during Nov. 1 – Dec. 8. Exam answer keys will be posted on Blackboard after exams have been graded and returned to the students. You should review the answer key to determine how points were assigned based on your answers. If you have any questions about your exam grade, you must first review the exam answer key to see what was expected. If questions remain, please schedule an appointment with the instructor to review your exam.

**Writing Assignments** – specific instructions and a grading rubric will be provided beforehand to guide the preparation of your submission.

**“Extra Credit”** - At the discretion of the instructor, there may or may not be one or more optional opportunities to earn extra credit during the semester. These will be communicated to the entire class with clear instructions and deadlines.

**Lecture Expectations** – Before coming to class you are strongly recommended to review the PowerPoint lecture slides provided on Blackboard, your notes from the previous class, and review any additional reading material or videos that you are directed to by the instructor. Failure to attend any given lecture may put you at a disadvantage when exams are given because there may be occasional tips given to the class about how to study, what a good question might be, etc. As noted elsewhere in the syllabus, the lectures are recorded, so that you can review a missed lecture should that be necessary. Reviewing recorded lectures can be helpful in preparing for examinations.

**Classroom Etiquette** - Be respectful of your instructor and fellow classmates by refraining from text messaging, using Facebook or other online social media, playing games, etc. during class time. Such activities are a distraction to those around you, and have no place in a lecture classroom. Please silence and put away your cell phone during class. For note taking purposes in class, you are free to use whatever method you prefer (laptop, tablet, pen/paper, etc.). During the lecture, please refrain from talking to students around you unless you are participating in an open discussion period. Questions directed to the instructor are encouraged especially if a concept was unclear to you. Questions can also be addressed directly to the instructor during a scheduled out of class appointment. Participation in the class by asking questions and engaging in discussion will contribute toward your final class grade.

**Attendance** – Attendance in lecture is expected, will often be recorded, and it will contribute toward your final class grade. Absences must be communicated with the instructor **in advance** so that appropriate accommodations can be made.

**A. University Sponsored:** Any student who is required to participate in off-campus, university-sponsored activities such as field trips, musical performances, judging teams, intercollegiate athletic events, etc., should obtain an official Class Absence Request form from the faculty or staff member supervising the off-campus activity. The form must contain specific information concerning the activity and date, be signed by the supervising faculty or staff member, and be submitted by the student at least one week in advance to the individual instructors of the student’s classes. In all instances, it is the student’s responsibility to make up all work missed.

**B. Military Service Members:** Students who are members of the National Guard or a reserve branch of a military service are occasionally required to miss class for weekend drills, active duty, and related responsibilities. In such a case, the instructor will not penalize students for the absences and will work with the student/s to make-up the missed assignment or examination. In each instance, it is the responsibility of the student to inform the instructor of the duty before the absence and complete the missed work as soon as reasonably possible.

**C. Other Excused Absences:** It is acknowledged that students must sometimes miss examinations or other academic obligations affecting their grades because of illness, personal crises, mandated court appearances, parental responsibilities, etc. As long as such absences are not excessive, the instructor will provide and document reasonable accommodation. The instructor may require the student to submit a written explanation of the absence. Students who attempt to gain advantage through abuse of this policy (e.g., by providing an instructor with false information) will be referred to the Office of Student Standards and Accountability for disciplinary action.

**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.

**Academic integrity** is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will receive a score of zero on the exam, assignment, etc., will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct.

**Cheating** includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). You need to read and understand all of the definitions of cheating: <http://app.leg.wa.gov/WAC/default.aspx?cite=504-26-010>. If you have any questions about what is and is not allowed in this course, you should ask the instructor before proceeding. If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at [conduct.wsu.edu](http://conduct.wsu.edu).

### **Academic Integrity Violation Processes**

See: <https://academicintegrity.wsu.edu/ai-violation-process/>

### **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.

### **Commercial Note-Taking In My Classroom**

Any course-related materials, presentations, lectures, etc. are my intellectual property and may be protected by copyright. Selling class notes through commercial note taking services, without the written advance permission of the course instructor, could be viewed as copyright infringement and/or an academic integrity violation, WAC 504-26-010 (3)(a,b,c,i). Further, the use of University electronic resources (e.g., Blackboard) for commercial purposes, including advertising to other students to buy notes, is a violation of WSU's computer abuses and theft policy (WAC 504-26-218), a violation of WSU's Electronic Communication policy (EP 4), and also violates the terms of use for the Blackboard software program. Another important consideration regarding commercial note-selling is the educational value of such an activity. Notehall.com, for example, assumes zero liability for the content on its site. There is no guarantee the information is factual or even pertains to the class discussion. Purchasers have no assurances of the quality of what they are buying.

### **Classroom 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. 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](http://MyWSU). For more information on this subject, campus safety, and related topics, please view the [FBI's Run, Hide, Fight video](#) and visit the [WSU safety portal](#).

## **SUPPLEMENTAL REFERENCES:**

### **Books:**

- Albrigo, L.G., M. Rogers, and L.W. Timmer. 2016. Citrus. CABI Crop Production Science in Horticulture 25.
- Childers, N.F. 2003. The Strawberry. Horticultural Publications.
- Childers, N.F. and P.M. Lyrene. 2006. Blueberries. Horticultural Publications.
- Childers, N.F., J.R. Morris, and G.S. Sibbett. 1995. Modern Fruit Science. Horticultural Publications.
- Faust, M. 1989. Physiology of Temperate Zone Fruit Trees. John Wiley & Sons.
- Ferree, D.C. and I.J. Warrington. 2003. Apples: Botany, Production and Uses. C.A.B. International.
- Funt, R.C. and H.K. Hall. 2013. Raspberries. CABI Crop Production Science in Horticulture 23.
- Galletta, G.J. and D.G. Himelrick. 1990. Small Fruit Crop Management. Prentice Hall.
- Hancock, J.F. 1999. Strawberries. CABI Crop Production Science in Horticulture 11.
- Retamales, J.B. and J.F. Hancock. 2012. Blueberries. CABI Crop Production Science in Horticulture 21.
- Ingels, C.A., P.M. Geisel, and M. V. Norton (Eds.). 2007. The Home Orchard: Growing Your Own Deciduous Fruit and Nut Trees. University of California Agriculture and Natural Resources publication 3485.
- Janick, J. and R.E. Paull. 2008. The Encyclopedia of Fruit and Nuts. CAB International Press.
- Layne, D.R. and D. Bassi. 2008. The Peach: Botany, Production and Uses. CAB International Press.
- Lespinasse, J.-M. and E. Leterme. 2005. Growing Fruit Trees: Novel Concepts and Practices for Successful Care and Management. W.W. Norton & Company.
- Morton, J. 1987. Fruits of Warm Climates. (<http://www.hort.purdue.edu/newcrop/morton/index.html>)
- Olcott-Reid, B. and W.Reid. 2007. Fruit and Nut Production. Stipes Publishing, LLC.
- Reich, L. 2004. Uncommon Fruits for Every Garden. Timber Press.
- Reich, L. 2009. Landscaping With Fruit: A Homeowner's Guide. Storey Publishing.
- Reich, L. 2012. Grow Fruit Naturally: A Hands-On Guide to Luscious, Homegrown Fruit. The Taunton Press.
- Ryugo, K. 1988. Fruit Culture: Its Science and Art. John Wiley and Sons, Inc.
- Webster, A.D. and N. Looney. 1995. Cherries: Crop Physiology, Production and Uses. CAB International Press.
- Westwood, M.N. 1987. Temperate-zone pomology. Timber Press.

### **Selected Web Sites:**

- WSU Tree Fruit (<http://treefruit.wsu.edu/>)
- Extensive Tree Fruit Website List (<http://treefruit.wsu.edu/tools-resources/related-websites/>)
- UC-Davis Fruit and Nut Research Information (<http://fruitsandnuts.ucdavis.edu/>)
- California Rare Fruit Growers Association (<http://www.crfg.org/>)
- Cornell Fruit (<http://www.fruit.cornell.edu/>)
- Michigan State Extension Fruit and Nuts (<http://msue.anr.msu.edu/topic/info/fruit>)
- Penn State Extension Tree Fruit Production (<http://extension.psu.edu/plants/tree-fruit>)
- New Crop Resource Online Program (<http://www.hort.purdue.edu/newcrop/>)
- American Pomological Society (<http://americanpomological.org/>)
- International Fruit Tree Association (<http://www.ifruittree.org/>)
- The Southern Region Small Fruit Consortium (<http://www.smallfruits.org/>)
- North American Fruit Explorers (<http://www.nafex.org/>)
- Orange Pippin (<http://www.orangepippin.com/>)

### **Trade Magazines/Websites:**

- The Good Fruit Grower (<http://www.goodfruit.com/>)
- American Fruit Grower Magazine (<http://www.growingproduce.com/magazine/american-fruit-grower/>)
- Fruit Grower News (<http://fruitgrowersnews.com/>)