NOTE to prospective students: This syllabus is intended to provide students who are considering taking this course an idea of what they will be learning. A more detailed syllabus will be available on the course Canvas site for enrolled students and may be more current than this sample syllabus.

Course Name: Plant Propagation  
Course Number: HORT 311  
Credits: 4  
Instructor name: Ryan Contreras  
Instructor email: ryan.contreras@oregonstate.edu  
Instructor phone: 541-737-5462  
Link to instructor bio or website: http://horticulture.oregonstate.edu/content/ryan-contreras

Course Description  
The regeneration of plants from vegetative and reproductive tissue and organs. Horticultural and physiological principles, methods, and techniques for laboratory, greenhouse nursery, field, and orchard. PREREQS: HORT 301

Communication  
Please post all course-related questions in the General Discussion Forum so that the whole class may benefit from our conversation. Please email your instructor for matters of a personal nature. The instructor will reply to course-related questions and email within 24-48 hours. I will strive to return your assignments and grades for course activities to you within five days of the due date.

Course Credits  
This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

Technical Assistance  
If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email osuhelpdesk@oregonstate.edu or visit the OSU Computer Helpdesk online.

Learning Resources  
Reading  
This course requires a significant amount of reading.

Required Text  

Weekly Module Content  
The course is organized on Canvas by weekly modules. Within the modules you will find: a topic introduction video; narrated lectures; PDF files of slide shows; reading assignments; study guides; exams; assignments; instructions for weekly discussions.
Note to prospective students: Please check with the OSU Bookstore for up-to-date information for the term you enroll (OSU Bookstore Website or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Canvas
This course will be delivered via Canvas where you will interact with your classmates and with your instructor. Within the course Canvas site you will access the learning materials, such as the syllabus, class discussions, assignments, projects, and quizzes. To preview how an online course works, visit the Ecampus Course Demo. For technical assistance, please visit Ecampus Technical Help.

Measurable Student Learning Outcomes
• Identify the key components of the six major plant propagation systems used worldwide to increase plants for the benefit of mankind.
• Analyze the physiological and genetic principles underlying the selection and propagation of plants.
• Summarize the relationships between propagation technique, genetic variation and the concept of a cultivar.
• Describe the advantages and disadvantages of the common methods used to propagate plants.
• Recall how plants grow, their physiological and developmental characteristics, and predict how these can be manipulated for successful propagation.
• Prioritize the complexities of methods used to solve plant propagation issues.
• Demonstrate an introductory level of evaluating successful methods of both asexual and sexual plant propagation for specific plants.

Evaluation of Student Performance
Grading Course grades will be based on total cumulative points (500).
A = 94 - 100%  B- = 80 - 83%  D+ = 67 – 69%
A- = 90 - 93%  C+ = 77 - 79%  D = 64 - 66%
B+ = 87 - 89%  C = 74 - 76%  D- = 60 - 63%
B = 84 - 86%  C- = 70 - 73%  F = < 60%

• Discussions – 100 points
• Assignments – 150 points
• Midterm Exams – 150 points
• Final Exam – 100 points
• Total – 500 points
Course Content

Week 1  
**Topic:** History, biology, and genetics of plant propagation.  
**Discussion:** Visit the web site for the International Plant Propagator's Society (www.ipps.org) and discuss why you think membership would be important to a person working in plant propagation or horticulture.  
**Assignment:** #1 Plant Propagation Experience. Due: Sunday @ 11:59pm.

Week 2  
**Topic:** Seed development, breeding and production.  
**Discussion:** What are some major reasons why seed producers like to produce hybrid seed lines?  
**Assignment:** #2 Plant Propagation Profiles (Step I). Due: Sunday @ 11:59pm.

Week 3  
**Topic:** Seed collection, storage, germination and dormancy.  
**Discussion:** Discuss strategies to conserve genetic resources.  
**Assignment:** #3 Seed collection and cleaning activity. Due: Sunday @ 11:59pm.

Week 4  
**Topic:** Seedling production systems.  
**Discussion:** Compare field, greenhouse flat, and greenhouse plug systems for transplant production.  
**Exam #1** Sexual Plant Propagation. Due: Sunday @ 11:59pm.

Week 5  
**Topic:** Adventitious root formation, stock blocks, and cutting treatments.  
**Discussion:** What are some of the proposed roles of root inhibitors and rooting cofactors in adventitious root formation?  
**Assignment:** #4 How to Make an Almond – Guns, Germs, and Steel: The Fates of Human Societies. Due: Sunday @ 11:59pm.

Week 6  
**Topic:** Cutting environment, types, sources, and propagation systems.  
**Discussion:** What are the advantages and disadvantages in using intermittent mist systems?  
**Assignment:** #5 Plant Propagation Profiles (Step II). Due: Sunday @ 11:59pm.

Week 7  
**Topic:** Benefits of grafting, graft union formation, types of successful grafts.  
**Discussion:** The craftsmanship of grafting includes both art and skill. How can an individual improve techniques and ergonomics to become a better grafter?  
**Assignment:** #6 Essay: Selection of Rootstocks for Grafting. Due: Sunday @ 11:59pm.

Week 8  
**Topic:** Budding systems and layering.  
**Discussion:** Physiologically, why is layering a very successful method of vegetative plant propagation?  
**Exam #2** Asexual plant propagation. Due: Sunday @ 11:59pm.

Week 9  
**Topic:** Specialized stems and roots.  
**Discussion:** Why is clonal propagation so important in the propagation of so many horticultural crops?  
**Assignment:** #7 Layering Activity. Due: Sunday @ 11:59pm.

Week 10  
**Topic:** Managing clones, micro-propagation.  
**Discussion:** Is all variation in tissue culture due to mutations?  
**Assignment:** #8 Plant Propagation Profiles (Completed). Due: Sunday @ 11:59pm.
Discussion Participation
Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. 100 points. Two (2) posts each week (5 points per post). You are required to make one original post related to the weekly topic and respond to at least one other post from another student. Keep in mind that true discussions need an abundance of thoughtful and meaningful responses to other people. Hopefully, we will be drawn into engaging discussions each week and worrying about making the minimum number of posts won’t be an issue.

Makeup Exams
Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

Exam Time Limits
Exams in this class are timed; if you exceed the time limit on an exam, you will be assessed a penalty of 10% for every five minute interval beyond the time limit.

Incompletes
Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you completing the coursework, please don’t wait until the end of the term; let me know right away.

Guidelines for a Productive and Effective Online Classroom
Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university’s regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor. Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:
- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

Statement Regarding Students with Disabilities
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.
Accessibility of Course Materials
All materials used in this course are accessible. If you require accommodations please contact Disability Access Services (DAS).

Additionally, Canvas, the learning management system through which this course is offered, provides a vendor statement certifying how the platform is accessible to students with disabilities.

Expectations for Student Conduct
Student conduct is governed by the university’s policies, as explained in the Student Conduct Code.

Academic Integrity
Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit Student Conduct and Community Standards, or contact the office of Student Conduct and Mediation at 541-737-3656.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:

a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.

b) It includes:
   i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
   ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
   iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
   iv) TAMPERING - altering or interfering with evaluation instruments or documents.
   v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

Conduct in this Online Classroom
Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.
**Tutoring**

**NetTutor** is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online writing lab where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.

**OSU Student Evaluation of Teaching**

Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the 19 multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. You will log in to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.