

Course Syllabus

HORT 300 (Plant Propagation) – Fall 2023

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Course Description. Special topics. Practice and science of sexual (seed) and asexual (vegetative) propagation of horticultural plants.

Class Meetings. One to two hours per week; days and times TBD.

Learning Objectives. Become experienced in propagating plants by seed, cuttings, layering, grafting, division, and tissue culture. Understand physiological principles underlying sound propagation practices.

Textbook. Recommended. Purchase not required. One copy is on reserve at Zuhl Library (one day outside library checkout), and another copy in our prep lab (see below). Davies, F.T. Jr., Geneve, R.L., and Wilson, S.B. 2018. Hartmann and Kester's Plant Propagation: Principles and Practices. 9th ed. Pearson Education, New York. Amazon has an e-text version at \$75 and their new print version is at \$195. I did not order the text for the NMSU Bookstore.

Textbooks Available in Skeen W135 Lab.

- Davies et al. (see above)
- Dirr, M.A. and Heuser, C.W. 2006. The reference manual of woody plant propagation. Timber Press, Portland, OR.
- Bonner, F.T., Karfalt, R.P., and Nisley, R.G. (Eds.). 1008. The woody plant seed manual. USDA Agricultural Handbook 727.
- Beyl, C.A. and Trigiano, R.N. 2008. Plant propagation concepts and lab exercises. Taylor and Francis Group, Boca Raton, FL.

Online Resources. We will use Canvas for quizzes and various resources.

Class Attendance. Students are expected to attend every meeting. For this course, good attendance is defined as missing no more than one weekly class meeting for the entire semester. Illnesses and official travel must be documented by official documentation from physician or sponsor, respectively.

Parts of the Course.

- 1) *Weekly take-home quizzes on Canvas.* There will be a total of 13 weekly quizzes and each will require reference documentation with appropriate citations. Each quiz will include a few short answer/essay questions and a 7-day completion time. Students are encouraged to work alone to practice retrieving and using information on plant propagation.
- 2) *Weekly labs and Lab Exercise Journal.* We will engage in all of the major techniques of plant propagation. Students will enter data and answer discussion questions for each exercise and submit the journal at the end of the semester.
- 3) *Mini review project.* Students will select a plant native to New Mexico and conduct research on how to propagate the plant. Students will submit a report with references toward the end of the semester. The report should be between 3 to 5 double-spaced pages to describe the species and its value in the home landscape, and to explain the methods for propagating it. Include details as appropriate (ie.,

seed stratification time and temperature, auxin concentration, grafting method, etc.). References may include any used in the course, and other credible references found by the student. Species selection may include but is not limited to quaking aspen, pinon pine, rocky mountain iris, desert spoon, soap tree yucca, wood's rose, Arizona ash, Apache plume, mountain mahogany, yarrow, blanket flower, desert marigold, or any other herbaceous or woody species native to New Mexico.

<u>Course Components and Grading.</u>	<u>Category</u>	<u>Percent of Final Grade</u>
	Weekly quizzes (drop lowest)	40
	Weekly Labs and Lab Exercise Journal	40
	<u>Mini Review Project</u>	<u>20</u>
	Total	100

Grading Scale. 90-100=A, 80-89=B, 70-79=C, etc.

Disability Policy. If a student needs and accommodation, they must contact Disability Access Services at (575)646-6840 or das@nmsu.edu. All correspondence is kept strictly confidential.

Discrimination and Harassment Policy. NMSU does not discriminate on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, medical condition, sex, sexual orientation, pregnancy, spousal affiliation, or protected veteran status. Title IX prohibits sexual harassment, sexual assault, intimate partner violence, stalking, and retaliation. For more information or to file a complaint, students may contact the Office of Institutional Equity at (575) 646-3635.

Academic Misconduct and Non-Academic Misconduct. See the student academic code of conduct which includes plagiarism (<https://arp.nmsu.edu/5-10/>) and the student code of conduct (<https://arp.nmsu.edu/5-20/>).

Weekly Lab Schedule	
Date Starting with.....	Topic
August 21	Seed Dormancy
August 28	Succulent Cuttings
September 4	Semi Hardwood Cuttings (September 4: Labor Day Holiday)
September 11	Air Layering
September 18	Tissue Culture Stage 2 Shoot Multiplication
September 25	Chip Budding
October 2	Seed Dormancy Germination Test Begin
October 9	Semi Hardwood Cuttings Evaluation
October 16	Seed Dormancy Germination Evaluation
October 23	Succulent Cuttings Evaluation
October 30	Air Layering Evaluation
November 6	Chip Budding Evaluation
November 13	Dividing Herbaceous Perennials
November 20	Thanksgiving Week (Holiday)
November 27	Tissue Culture Evaluation and <i>Ex Vitro</i> Rooting and Acclimitization
December 4	Final Exam Week. Student Mini Review Project Discussions