

# PROPAGATION OF HORTICULTURAL CROPS (PLS 5222C) SYLLABUS FALL 2016

## Course Description

PLS 5222C – Credits 3; *For graduate students who have not taken PLS 3223/L.* Theoretical and practical applications of macro-propagation techniques for higher plants. Graduate students must complete a special project.

## Course Organization

Lecture T/TH Period 5 (11:45-12:35am) Plant Science Facility (PSF) 005; Lab F Periods 7-8 (1:55-3:50pm) PSF 5; campus map link <http://campusmap.ufl.edu/>

**Instructors:** Dr. Héctor E. Pérez ([heperez@ufl.edu](mailto:heperez@ufl.edu)); (p) 352-273-4503

**Office hours:** T, TH immediately after class (Fifield Hall); W 1pm-3pm (Bldg 550); or by appointment; campus map link <http://campusmap.ufl.edu/>. I am delighted to have students come by individually or in groups to clarify points, expand on discussions, and talk about how to integrate concepts covered in class with real world experiences. Please do not consider office hours exclusively as time to address difficulties in the course. You don't need a crisis to make productive use of office hours. Remember, we are here to help you succeed!

**TA's** Tia Tyler ([ttyler@ufl.edu](mailto:ttyler@ufl.edu))

**E-Learning in Sakai:** Go to <http://lss.at.ufl.edu/> and enter your Gatorlink username and password into the boxes. Students must have an active GatorLink ID to access E-Learning. Students who do not have GatorLink IDs, who cannot remember their GatorLink login information, who experience difficulties with Canvas, or whose IDs do not work, should contact the GatorLink website <http://gatorlink.ufl.edu> or to the UF Computing Help Desk for assistance: Hub 132 or 392-HELP.

**Required Text:** Hartmann, H.T., D.E. Kester, F.T. Davies, and R.L. Geneve. 2002. Plant Propagation Principles and Practices. 8<sup>th</sup> Edition. Prentice Hall, New Jersey. Pp. 880.

Companion website:

<http://www.uky.edu/Ag/Horticulture/Geneve/teaching/plantpropwebpages/propagationmainmenu.pdf>

**Course Goals** - The goals of HOS 5222C are to discover and understand the scientific basis of plant propagation and to practice various propagation methods for diverse applications.

**General Course Objectives and Learning Outcomes** – By the end of the semester, the *conscientious* student should be able to:

- Explain genetic, anatomical, physiological, and biochemical aspects of plant propagation
- Propagate plants effectively and efficiently using vegetative organs and seeds
- Discriminate between various methods of plant propagation
- Determine which method best suits needs of the professional propagator
- Collect, organize, analyze, and explain plant propagation data
- Apply practical knowledge in real world settings

**General Course Expectations** – Students participating in this professional learning society are expected to:

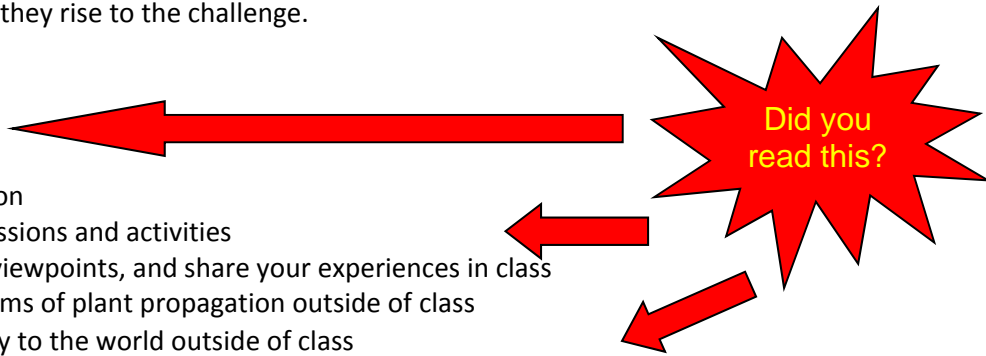
- Arrive to class on time
- Be engaged by sharing their questions, perspectives and ideas during and outside of class
- Convey superior work ethic and perform to high standards
- Practice their thinking within the framework of plant propagation
- Keep an open mind

**Instructional Philosophy** - My role as an instructor is to act as a thinking coach, guiding students to an understanding of concepts and skills through active and inquiry-based lessons. As a thinking coach, I create opportunities for students to experience concepts and practice their thinking within a discipline. This helps produce a deeper understanding of topics. The lessons I develop for any course are student-focused rather than teacher-centered. In this regard, students are not passively receiving information, but are required to openly practice their thinking. This approach makes it difficult for students to adopt a passive role. To facilitate this objective, I employ various teaching methods which embrace the numerous learning styles displayed by students. Students who are not familiar with this style may feel uncomfortable at first, or resist participating, but with encouragement, they rise to the challenge.

### **Keys to Success**

This course is rigorous, therefore:

- Attend every class period
- Take responsibility for your education
  - Actively participate in discussions and activities
  - Raise questions, divergent viewpoints, and share your experiences in class
  - Practice your thinking in terms of plant propagation outside of class
- Evaluate how concepts in class apply to the world outside of class
- Use the Carnegie Rule as a guide for **MINIMUM** time investment per week outside of class
  - PLS 5222C = 4 hours per week in class;  $4 \times 2-3$  hours = 8-12 hours outside of class
- Plan ahead



This course moves very quickly! There are lab reports that require significant effort and major amounts of reading to consider. Procrastinating in this class will 1) very likely hurt your grade, and 2) make completing assignments more logistically complicated.

**Attendance Policy** – Attendance in lecture and lab is the student’s responsibility. Your instructors use various teaching methods during lectures and labs. As a result, information and understanding of concepts beyond that provided in handouts or texts is obtained. Keep in mind that questions for exams and quizzes come from activities and discussions. If you are not present at labs, you cannot submit a report and we cannot give you a grade. Make up labs cannot be offered due to costs and effort in preparing the labs. It is in your best interest to participate in class and attend every lecture and lab period. If you miss class, it is your responsibility to talk with another student to discuss what was covered in class.

### **Make-up Policy**

- All deadlines outlined in the syllabus are firm and may only be changed at the discretion of the instructor
- Late assignments are not accepted
- Missed lecture quizzes cannot be made up later without prior consent of the instructor
- Exams cannot be taken after the scheduled date without prior written consent of the instructor
- Only cases of emergency, serious illness, bereavement, or activities that fall under the Twelve-Day Rule will be considered for make-up. You must provide official documentation for all cases

## Assessments & Grading

Assessment	Points	Grading Scale	Points
Exam 1	45	A	≥ 744.00
Exam 2	50	A-	743.99 – 720.00
Exam 3	50	B+	719.99 – 696.00
Quiz 1	10	B	695.99 – 664.00
Quiz 2	15	B-	663.99 – 640.00
Quiz 3	15	C+	639.99 – 616.00
Quiz 4	15	C	615.99 – 584.00
Lab report 1 (scientific article)	100	C-	583.99 – 560.00
Lab report 2 (poster presentation)	100	D+	559.99 – 536.00
Lab report 3 (computer aided presentation)	100	D	535.99 – 504.00
Field trip report 1	50	D-	503.99 – 480.00
Field trip report 2	50	E	< 480.00
Field trip report 3	50		
TBL: Individual Readiness Assurance Test 1 (iRAT 1)	20		
TBL: Team Readiness Assurance Test 1 (tRAT 1)	20		
TBL: Individual Readiness Assurance Test 2 (iRAT 2)	20		
TBL: Team Readiness Assurance Test 2 (tRAT 2)	20		
Peer Evaluation	20		
Special Project	50		
<b>TOTAL</b>	<b>800</b>		

**Graduate students must discuss ideas for their Special Project with Dr. Pérez no later than 08-SEP-15.**

**Special projects can be independent or group works and an original report is required.**

*Workplace hygiene* – Lab groups will be evaluated on cleanliness of their work areas and greenhouse space under their use on a weekly basis. Poor workplace hygiene will result in a 5 point deduction of overall lab grade for each infraction. Poor workplace hygiene includes continued presence of: dead, dying, infested, diseased or rotting plant materials; improperly stored equipment and supplies; used propagation media in propagation areas or other factors that contribute to general lack of cleanliness.

*Bonus Point Assignments* – You may be given various assignments that will be graded. You will be supplied with objectives and expectations for each assignment. In order to practice critical and analytical skills some objectives **may be vague**. Assignments are designed to provide you with a better understanding of concepts and provide your instructor a basis for assessment.

In-class Assignments: All in-class assignments must be done in class. These assignments cannot be made up if you miss class. Nor can they be turned in early.

Out-of-class Assignments: If you miss a day when an out of class assignment is assigned you can still do the assignment. However, it must be turned in at the beginning of class on the correct due date.

**Electronic Device Policy** – Using electronic communication devices and laptop or tablet computers during class is disruptive. Therefore, the use of cellular telephones, messaging devices, and other electronic devices during lecture and labs is **prohibited**. In class, students are required to put phones and messaging devices on silent mode and turn off other devices. All electronic devices, including computers, must be stowed in a backpack during class. Civilization got along just fine for centuries before there were cellular phones and other electronic devices. You can survive a few class periods. **If class is disrupted by use of an electronic device then a 5.0 point deduction will be assessed to your final grade for each infraction. This policy applies to the entire class.**

**University of Florida Student Honor Code (Rule 6C1-4.017)** – When you enroll at the University of Florida, you pledge to hold yourself and your peers to the standards of high honor required by the student honor code. You are expected to uphold your pledge to honesty and integrity in PLS 3221 and HOS 5222. Academic misconduct in any form will not be tolerated. University of Florida procedures will be followed to discipline offenders. **There will be no warnings! Sanctions will occur on the first offense.** To read the Student Honor Code, learn about conduct that constitutes academic dishonesty, and sanctions visit:

<http://regulations.ufl.edu/chapter4/4017.pdf>

Please visit <http://web.uflib.ufl.edu/msl/07b/students.html> to understand what constitutes plagiarism and how to avoid it.

**University of Florida Software Use Policy** – “All faculty, staff, and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.” (University of Florida Council on Information Technologies and Services. 1994. Office of Information Technologies and Services: <http://pirate.ifas.ufl.edu/INDEX.HTML#contact>. access date 18-AUG-06).

**University of Florida Counseling Services** – Students experiencing crisis or personal problems that interfere with their general well-being are encouraged to utilize the University’s counseling resources. The Counseling Center and Student Mental Health provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career and academic goals, which interfere with their academic performance. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health is located on the second floor of Student Health Services in the infirmary.

#### *Counseling Resources*

University Counseling Center – 301 Peabody Hall, 392-1575, personal and career counseling:

[www.counsel.ufl.edu](http://www.counsel.ufl.edu); Student Mental Health – Student Health Care Center, 392-1171, personal counseling:

[www.hsc.ufl.edu/shcc/smhs.htm](http://www.hsc.ufl.edu/shcc/smhs.htm); Sexual Assault Recovery Services – Student Health Care Center, 392-1161, sexual assault counseling; Career Resources Center – Reitz Union 392-1601, career development assistance and counseling:

<http://www.crc.ufl.edu/>

U Matter, We Care - <http://www.umatter.ufl.edu/>

**Students With Disabilities Act** – The Dean of Students Office coordinates the needed accommodations of students with disabilities. This includes the registration of disabilities, academic accommodation within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty/student disability related issues. **Students requesting classroom accommodation must first register with the Dean of Students Office.** The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. To register contact: Dean of Students Office, 202 Peabody Hall, 392-7066, [www.dso.ufl.edu](http://www.dso.ufl.edu).

### **Thoughts to Remember for the Semester**

"Tell me and I forget. Show me and I remember. Involve me and I understand". -- *Chinese proverb*

"He who asks is a fool for five minutes, but he who does not ask remains a fool forever". -- *Chinese proverb*

"Learning is not so much an additive process, with new learning simply piling up on top of existing knowledge, as it is an active, dynamic process in which the connections are constantly changing and the structure reformatted". -- *K. Patricia Cross*

"The test of a good teacher is not how many questions he can ask his pupils that they will answer readily, but how many questions he inspires them to ask him which he finds it hard to answer."

*Alice Wellington Rollins*

"A little learning is a dangerous thing; Drink deep, or taste not the Pierian spring".

-- *Alexander Pope (1688-1744)*

**I look forward to an exciting and rewarding semester with you!**

**PLS 3223 Lecture Schedule (\*\*Subject to change\*\*)**

<b>Week</b>	<b>Date</b>	<b>Day</b>	<b>Concept Cluster</b>	<b>Readings</b>
1	Aug-23	Tu	Biology of Plant Propagation	Ch 2*
1	Aug-25	Th	Biology of Plant Propagation	Ch 2*
2	Aug-30	Tu	Biology of Plant Propagation	Ch 2*
2	Sep-1	Th	Biology of Plant Propagation	Ch 2*
3	Sep-6	Tu	The Propagation Environment	Ch 3*
3	Sep-8	Th	<b>Quiz 1; The Propagation Environment</b> *Deadline to discuss graduate student project with Dr. Pérez*	Ch 3*
4	Sep-13	Tu	The Propagation Environment	Ch 3*
4	Sep-15	Th	The Propagation Environment	Ch 3*
5	Sep-20	Tu	The Propagation Environment	Ch 3*
5	Sep-22	Th	The Propagation Environment	Ch 3*
6	Sep-27	Tu	<b>Exam 1 – Biology of Propagation, and Propagation Environment</b>	
6	Sep-29	Th	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
7	Oct-4	Tu	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
7	Oct-6	Th	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
8	Oct-11	Tu	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
8	Oct-13	Th	<b>Quiz 2; Theoretical Aspects of Vegetative Propagation</b>	Chs 9*, 11*
9	Oct-18	Tu	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
9	Oct-20	Th	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
10	Oct-25	Tu	Theoretical Aspects of Vegetative Propagation	Chs 9*, 11*
10	Oct-27	Th	<b>Exam 2 – Theoretical Aspects of Vegetative Propagation</b>	
11	Nov-1	Tu	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
11	Nov-3	Th	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
12	Nov-8	Tu	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
12	Nov-10	Th	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
13	Nov-15	Tu	<b>Quiz 3; Theoretical Aspects of Seed Propagation</b>	Chs, 4*, 6*, 7*
13	Nov-17	Th	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
14	Nov-22	Tu	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
14	Nov-24	Th	<b>Thanksgiving Holiday – No Class</b>	Chs, 4*, 6*, 7*
15	Nov-29	Tu	Theoretical Aspects of Seed Propagation	
15	Dec-1	Th	<b>Quiz 4; Theoretical Aspects of Seed Propagation</b>	Chs, 4*, 6*, 7*
16	Dec-6	Tu	Theoretical Aspects of Seed Propagation	Chs, 4*, 6*, 7*
16	Dec-8	Th	<b>Reading Day – No Class</b>	
17	Dec-14	W	<b>Final Exam, 5:30pm-7:30pm, PSF 5</b>	

\*See course website for specific reading objectives

PLS 3223L Lab Schedule (\*\*Subject to change\*\*)

Students are allowed to keep propagated materials resulting from this course

PLS 5222C is writing intensive. Plan ahead and communicate with Dr. Pérez often while writing your reports. Please visit <http://web.uflib.ufl.edu/msl/07b/students.html> to understand what constitutes plagiarism and how to avoid it.

Complete assigned readings prior to conducting related lab activities

Week	Date	Day	Concept Cluster	Readings
1	Aug-26	Fr	Lab Introduction; WPS Training; Facilities tour; Lab report writing; Graph and table preparation; How to search for peer-reviewed articles	
2	Sep-2	Fr	Lab - Abiotic factors affecting propagation success: <b>Lab report required (Scientific Journal Article Format, due date Oct, 14 1:55pm)</b>	pp. 49-54; 77-82; 90-98; 282; 293-294; 354-357; 383-393
3	Sep-9	Fr	Lab – Role of rooting hormone concentration: <b>Lab report required (Scientific Poster Presentation – group project, due date Nov, 17<sup>th</sup> 5pm)</b> <b>Rough draft of Scientific Article Materials and Methods due</b>	293-299; 373-380
4	Sep-16	Fr	Lab – Softwood and semi-hardwood cuttings <b>Rough draft of Scientific Article Introduction due</b>	pp. 344-355; 363-367; 373-381; 396-409
5	Sep-23	Fr	<b>Field Trip – Robrick’s Nursery</b>	
6	Sep-30	Fr	Lab – Layering <b>Robrick Nursery Field Trip Report Due</b> <b>Abiotic lab last day to terminate experiment/collect final data</b>	Ch 14
7	Oct-7	Fr	Lab – Grafting and Budding <b>Rough draft of Scientific Article Results due</b>	Ch 12, 13
8	Oct-14	Fr	<b>Homecoming – No Classes</b>	
9	Oct-21	Fr	Lab – Specialized stems and other structures <b>Completed Scientific Article lab report due</b>	pp. 357-362; Ch 15
10	Oct-28	Fr	Lab – Breaking seed dormancy: <b>Lab report required (Scientific Paper Oral Presentation – group project, due date Dec, 1<sup>st</sup> 5pm)</b>	pp. 255-262
11	Nov-4	Fr	<b>Multiple Location Field Trip: Cherry Lake Tree Farm (Groveland, FL) and Knox Nursery (Winter Garden, FL)</b>	
12	Nov-11	Fr	<b>Veteran’s Day – no class</b> <b>Cherry Lake and Knox Nursery Field Trip Reports Due</b>	
13	Nov-18	Fr	<b>Scientific Poster Presentations (PSF 4)</b> <b>Seed Dormancy Lab – last day to terminate experiment/collect final data</b>	
14	Nov-25	Fr	<b>Thanksgiving Holiday – No Class</b>	
15	Dec-2	Fr	<b>Scientific Paper Oral Presentations (computer assisted presentation)</b> <b>Clean up, take plants home or compost</b>	
16	Dec-9	Fr	<b>Reading Day – No Class</b> <b>Graduate Student Special Project Due</b>	