

SYLLABUS

Horticulture 120: Survey of Horticulture

Plants are an irreplaceable component of life on earth. Horticulture, the art and science of the cultivation of plants, investigates the basic development of plants and the interaction of plants and society. This Survey of Horticulture course will provide an opportunity to learn basic plant science knowledge, to acquire lab skills relevant to the propagation of plants, to examine and understand the influence of plants on society, and to critically evaluate plant-related science issues in the media and everyday life. Throughout the course, students will be able to learn about and apply the scientific method thus allowing students to critically evaluate data and experimental design. This critical evaluation may then help students to make educated decisions about science-related issues.

Course Learning Objectives:

To learn the basic principles of plant science and acquire Horticultural skills
To acquire skills to critically evaluate literature as it pertains to science
To become informed citizens regarding global plant science issues
To facilitate community engagement and service to others
To examine and understand the influence of plants on society

Instructor:

Dr. Sara Patterson

spatters@wisc.edu

Office: Room 486 in Plant Sciences 262-1543

Office Hours: Monday 2:30-3:30 PM; Tuesdays 2-3 PM

Teaching schedule:

MW 1:20-2:00; M 4-5:30; T 3:30-4:30; Th and F (Hort 120 labs all day)

Teaching Assistants:

Jean Reisterer-Loper

riestererlop@wisc.edu

Office: RM 494 Plant Sciences 262-8332

Office Hours: Monday 10-12 and by appointment RM 494 Plant Sciences

Labs: Thursday 301 and 302

Marc Amante

amante@wisc.edu

Office: RM 494 Plant Sciences 262-8332

Office Hours: MW 2:30-3:30 and by appointment PM RM 494 Plant Sciences

Labs: Friday 303 and 304

Service Learning Fellow

Lydia Odegard

lodegard@wisc.edu

Office: RM 494 Plant Sciences 262-8332

Office Hours: M2:30-3:00 bi-weekly and by appointment

RESPECT

All are welcome here regardless of your age, race, gender, background, political affiliation, or sexual orientation. This course is based on respect and any disrespect will not be tolerated. We are all, including myself and the TAs, both learners and teachers in this class. Your ideas will be received with the utmost respect even when in conflict with other's opinions. We want you to feel comfortable in sharing your thoughts, comments, and questions even if they turn out to be misconceptions. If you ever feel you are not being respected by anyone that is a part of this class, please contact me, Marc or Jean via phone, email, letter, or in person.

REQUIRED TEXT:

none

LABS

Labs are required and it is recommended that one wear proper clothes and shoes for walking and gardening. On days that we go to Eagle Heights, bringing bags for produce will allow students to take home fresh veggies and flowers.

ADDITIONAL RESOURCES:

Learn@UW

Other books of special interest or for fun:

Botany for Gardeners. 2005. Brian Capon. Timber Press, Inc., Portland, Oregon

The New Oxford Book of Food Plants. 1999. J.G.Vaughan and C. A.Geissler. Oxford, UK

Creative Propagation. 1992. Peter Thompson. Timber Press, Inc., Portland, Oregon

Savage Garden. 1998. Peter D'Amato. Ten Speed Press. Berkeley Press, CA

Book of Outdoor Gardening. 1996. Smith and Hawken. Workman Pub. Inc., NY, NY

The Oxford Handbook of Food History. 2012. Ed. Jeffrey M. Pilcher. Oxford University Press, NY

Plants and Society. 2012. Estelle Levetin and Karen McMahon. McGraw Hill.

Science and the Garden. 2008. Ed: David S. Ingram, Daphne Vince-Prue, and Peter Gregory. Royal Horticultural Society, London, UK.

Tentative Schedule

(Lectures 1:20-2:10; Labs 9:55-11:50 or 1:20-3:15)

Date	Lecture #	Lecture Topic	Date, Lab
September 2	1 Wed	Discussion of syllabus and class expectations: Introduction to Horticulture and SERVICE LEARNING Plant Structure: General	SEPT 3-4 LAB 1 SERVICE LEARNING, Field Trip to Eagle Heights /planting arugula...
September 7		LABOR DAY	
September 9	2 Wed	Plant structure, seed germination, flowers and fruits	SEPT 10/11 LAB 2 Structure of Plants and basic Propagation in DC Smith Hort Greenhouse; Field Trip Allen Centennial Gardens (Flowering and Pollination)
September 13	SUNDAY 3:30 -6:00	GRAPES and BEVERAGES (optional)	Food Science Labs
September 14	3 Mon	Plant cells and organs	
September 16	4 Wed	Plant Classification: Apiaceae, Lamiaceae, Brassicaceae, Asteraceae	SEPT 17/18 LAB 3 Field Trip: Eagle Heights (Family ID)
September 21	5 Mon	Plant Classification: Poaceae, Fabaceae, Solanaceae	
September 23	6 Wed	Plant Growth: Soil and Nutrition	SEPT 24/25 LAB 4 Field Trip: Eagle Heights: Soil structure and (Fabaceae and Solanaceae)
September 28	7 Mon	The Plant's Environment: Light and Water	
September 30	8 Wed	Plant Responses to the Environment: Photosynthesis, Respiration and Transpiration	OCT 1/2 LAB 5 Propagation II: Leaf cuttings, tubers and stems DC Smith Hort Greenhouse
October 5	9 Mon	EXAM I	
October 7	Wed	Responses Applied: Propagation, Pruning and Grafting	OCT 8/9 LAB 6 Eagle Heights – pick/harvest arugula and radishes/ seed collection, removal tubers, cleaning garden
October 12	10 Mon	Genetics	
October 14	11 Wed	Responses to the Environment: Hormones and Tropisms	OCT 15/16 LAB 7 Olbrich Gardens
October 19	12 Mon	Greenhouse: Controlled Environments –guest lecture	
October 21	13 Wed	Pests, Diseases, Weeds	OCT 22/23 LAB 8 Propagation III (transplanting, Bonsai,) @ DC Smith Hort
October 26	14 Mon	Pests, Diseases, Weeds	

October 28	15 Wed	Woody Ornamentals – guest lecture	OCT 29/30 LAB 9 Campus Tree Walk / CUCURBITS
November 2	16 Mon	Post Harvest: Physiology	
November 4	17 Wed	Post Harvest: Physiology: Marketing and Economics	NOV 5/6 LAB 10 Propagation IV: Air layering, Pruning, Grafting @ DC Smith Hort & Botany Greenhouse(Plant Diversity)
November 9	18 Mon	House Plants and Ornamentals	
November 11	19 Wed	EXAM II	NOV 12/13 LAB 11 Propagation V - DC Smith – house plants
November 16	20 Mon	Herbs & Spices and Medicinals	
November 18	21 Wed	Herbs & Spices and Medicinals	11/21-22 LAB 12 Herbs & Spices
November 23	22 Mon	PLANT BREEDING	
November 25	23 Wed	PLANT BREEDING	NOV 26-29 Thanksgiving Holiday NO LAB
November 30	24 Mon	Turf- guest lecture	
December 2	25 Wed	Plant Biotechnology	DEC3/4 LAB 13 DC Smith Hort Greenhouse & Presentations
December 6	SUNDAY 3:30 -6:00	SPICES around the world (optional)	FOOD SCIENCE
December 7	26 Mon	Sustainable Practices	
December 9	27 Wed	Sustainable Practices	DEC 10/11 LAB 14 DC Smith Hort Greenhouse & Presentations
December 14	28 Mon	Semester Review	
December 22	Wed	FINAL EXAM (7:45AM)	

IMPORTANT DATES TO REMEMBER:

September 16	Service Agreement due
October 5	Exam I
November 11	Exam II
November 16	Service learning Completed
November 12/13	Presentation Topic Due
November 23	Service Paper Due
December 3/4	Presentations
December 10/11	Presentations
December 22	Final Exam 7:45AM (room to be posted)

•ASSIGNMENTS AND POINTS

•Exam I	150 pts
•Exam II	150 pts
•Final Exam	<u>250 pts</u>
•Total	550 pts

•SERVICE LEARNING PROJECT

•Completion of 20 hours of service and paper (service – 100 points; paper – 50 points)	150 pts
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•LABORATORY

•Activities (Presentation and Class Participation)	130 pts
•Quizzes (weekly- can drop 2)	100 pts
•Attendance	<u>70 pts</u>
•Total for lab	300 pts

TOTAL **1000 pts**

EXTRA CREDIT 25 pts for Food Science lab

Includes ½ page reflection on the lab

GRADE SCALE

A	100-94%
AB	93-88%
B	87-84%
BC	83-78%
C	77-70%
D	69-60%
F	59-0%

**Late assignments will be penalized by 10% for each day it is late. Assignments turned in more than five days late will not be accepted.*

**Any student who has a disability and is in need of classroom accommodations should contact the McBurney Disability Resource Center (phone-263-2741, tty-263-6393) and the instructor at the beginning of the semester.*

Absences due to illness will be addressed on an individual basis, but **all students who anticipate missing lab must e-mail or call before class. In this case we will be willing to extend deadlines for assignments but you will still be responsible for all work. If there are extended absences we may require make-up labs or discuss the option of an incomplete grade in the course. A single absence from lab with an excuse results in no point loss: additional labs are 15 points each lab.*

PRESENTATIONS:

The last two labs are dedicated to greenhouse work and presentations. These are designed to allow students to briefly explore areas not covered in class and to provide an additional form of learning. It is suggested that students work in groups, but individuals are acceptable (approximately 5 minutes/student is expected). References/sources should be provided.

The presentations are challenging yet rewarding and best presentations receive prizes. All presentations that require a computer will need to be sent to instructor the day before as will need to be uploaded to laptop computer.

Suggestions include but are not limited to:

- Ancient Trees
- Exotic fruits
- Famous gardens in history
- Flax, Hemp and other Plant Fibers
- Fruits and vegetables in film
- Hydroponics
- Math and plants
- Music and plants
- Organic versus Conventional Agriculture
- Plants in Art
- Plant as Beverages through the world
 - Wine
 - Palm wine
 - Banana beer
 - Vinegar
 - Soy milk
 - Beer
- Plants as Dyes
- Plants in History
- Plants in Music
- Plants in Mythology
- Plants in Witchcraft
- Poisonous Plants
- Savage Plants
- Woods for Instruments
- New books on gardening/horticulture
- Michael Pollan and the Omnivore's Dilemma (as pertains to plants)
- Native/sustainable foraging strategies...or...stalking the wild asparagus and making sure it remains
- Volunteer experience if unique

THE SERVICE EXPERIENCE

This assignment (20 hours service learning) is designed to give each student the opportunity to explore what's happening horticulturally in our community and to participate in some aspect of community service. It will be the responsibility of each student to arrange his/her service experience. The service contract needs to be turned in by **Wednesday, September 16th and completed by Wednesday, November 16th. A short 3-5 pg paper summarizing activities will need to be completed by November 23rd.** Almost any experience that will provide an opportunity to work with plants or horticultural crops will be suitable but will need to be preapproved if not on the list. (see SERVICE LEARNING at LEARN@UW for additional material on Service Learning or Morgridge Center/Volunteering @ red Gym or <http://www.morgridge.wisc.edu/students/landingpages/localvolunteering.html>)

General Garden Guidelines

Any garden-based landscape is based primarily on one important design core element – plant materials. That factor is that it is in a constant stage of change (mostly growth if conditions are right). While design and planting involves many elements, one major aspect is that plants continuously grow and spread, filling space. They all do that at different rates and sizes so good landscapers and designers have to know and understand the plant materials they are working with because a landscape is in constant flux as the materials they put in the ground establish and grow. Every plant species, variety or cultivar has its ideal cultural and environmental conditions for maximum growth and happiness. Gardens take significant work and community volunteers are often responsible for much of the maintenance. In your service learning, your contributions will be appreciated immensely.

In many cases you may find yourself frustrated or confused, as often the specific knowledge about a plant or the management of pests may be unknown to you. We encourage you to contact the professor or TAs as well as your agency supervisor.

Suggestions include but are not limited to:

- * Allen Centennial Garden, Ed Lyon, 262-1542, eslyon@wisc.edu
- * Botany Gardens and Greenhouse, Mohammed Fayyaz, mmfayyaz@facstaff.wisc.edu
- * Campus Natural Areas, Bryn Scriver bscriver@fpm.wisc.edu
- * Cider Farm, Mineral Pt, Deirdre Birmingham deirdreb@mindspring.com 608-967-2362 cell 608-219-4279
- * City of Fitchburg, Director of Parks, Recreation and Urban Forestry 608 270-4288 or 4289
- * City of Madison Parks department, 266-5949
- * City of Madison Schools (many options)
- * Community Action Coalition for South Central Wisconsin, Inc. Micah Kloppenburg (608) 246-4730 ext. 236 micahk@cacscw.org
- * Community Gardens, Joe Mathers, joem@cacscw.org, 608-246-4730 ext. 212
- * Community Groundworks – Goodman Youth Farm Jennica Skoug jennica@communitygroundworks.org

- * Community Supported Agriculture (CSA) info@macsac.org, or phone (608) 226-0300
- * Community Gardens, Joe Mathers, joem@cacscw.org, 608-246-4730 ext. 212
- * DC Smith Greenhouse Johanna Oosterwyk, jmooster@wisc.edu
- * Eagle Heights Garden, Edward Woolsey, e.a.woolsey@mailbag.com
- * FH King, fhking.students@gmail.com, www.fhkingstudentfarm.com/
- * Independent Living, Dan, Volunteer Services Manager 608.268.9641 or coordinator@independentlivinginc.org
- * Longenecker Horticultural Gardens UW Arboretum; Contact: David Stevens -Curator
608-890-4825 dstevens@wisc.edu <http://uwarboretum.org/>
- * Madison Area Community Supported Agriculture (CSA) Coalition
<http://www.csacoalition.org/get-involved/>
- * Madison Children's Museum, Julie Butler, 608.354.0142
- * Madison Food Pantry <http://foodpantrygardens.org>
- * Madison Senior Center John Weichelt-Volunteer Coordinator 608-267-2344
- * Oakwood Village www.oakwoodvillage.net Savannah Bailey,
savannah.bailey@oakwoodvillage.net
- * Olbrich Botanical Gardens, <http://www.olbrich.org/Volunteering/volunteering.htm>
- * Period Garden Park <http://www.periodgardenpark.org/> Contact Joe Bonardi
joebonardi@yahoo.com
- * Reap Food Group: <http://www.reapfoodgroup.org/> - Emily Latham -
emilyl@reapfoodgroup.org ; phone: (608) 310-7838
- * Sustain Dane GROW- Rachel Martin rachel@sustaindane.org
- * Troy Gardens (Community Groundworks), Patricia Lindquist,
patricia@troygardens.org
- * UW Organic Agricultural Research Stations (West Madison)
- * UW O.J. Noer Agricultural Research Station_ Tom Schaub, tgschwab@wisc.edu
- * UW Arboretum, Native Plant Gardens: Susan Carpenter, 262-2445 or
scarpen1@wisc.edu
- * UW Arboretum, Restoration Project- <https://arboretum.wisc.edu/get-involved/volunteer/work-parties/>
- * Walnut St Greenhouse Lynn Hummel, elhummel@wisc.edu
- * Waterloo Restoration Project Marc Amante- amante@wisc.edu
- * West Madison Agricultural Research Station
- * Wisconsin Grape Growers –
- * Wisconsin State Parks 266-2181
- * -Wisconsin Department of Natural Resources
jared.urban@wisconsin.gov
(608) 228-4349

Service-Learning Commitment Form for Horticulture 120

Name of Student: _____

Name of Community Agency/Program: _____

Name of Agency Supervisor: _____

Agency Supervisor phone number: _____

Agency Supervisor email address: _____

Address where service is being performed:

Brief description of work to be carried out by student:

To be provided to agency:

The agency agrees to:

- Provide a minimum of 20 hours of supervised volunteer experience to the student.
- Orient the student to the overall operation of the agency and its mission and to provide specific training or orientation to the student where appropriate.
- Designate a staff person to serve as the primary supervisor for the student.
- Notify the instructor or service-learning fellow of any problem with a student or of any relevant changes in the program or agreed upon activities.
- Provide brief feedback on the quality of the student's work in the middle and at the end of the semester.

The student agrees to:

- Serve a minimum of 20 hours over the course of the semester.
- Establish a mutually agreed-upon schedule with the agency or project group to fulfill this commitment.
- Notify the agency supervisor when circumstances alter the agreed-upon schedule.
- Maintain strict confidentiality regarding all client information where applicable.
- Discuss any concerns about this placement with the agency supervisor, instructor, and/or service-learning fellow if they arise.

The instructor and TA agree to:

- Consult with agencies in identifying appropriate service-learning activities for the student, when necessary.
- Explain the objective of the service-learning experience to the student.
- Provide on-going follow-up support to students and/or agency supervisors around the service work, when necessary.
- Check in with both the student and the agency supervisor over the course of the semester to assess the student's progress.

Agreed-upon schedule for service commitment:

Signature of Student

Date

Signature of Agency Supervisor

Date

Note: work must be completed by November 16th
If any questions- please email Sara Patterson spatters@wisc.edu
or Lydia Odegard lodegard@wisc.edu