

Introduction to Horticulture

11:776:211 (3 credits)
Spring Semester (yearly)

CONTACT INFORMATION

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COURSE DESCRIPTION

This lecture and laboratory course teaches the art and science of horticulture, emphasizing the scientific, technological, and industrial aspects of horticultural principles and practices. There are three modules: (i) Horticultural Principles and Practices; (ii) Laboratory Exercises; and (iii) Class Presentations. Laboratory exercises apply horticultural techniques to growing plants. Several invited experts will contribute to the class by sharing many years of experience in the scientific and practical aspects of horticulture. Where feasible, Saturday field trips may be organized to visit horticultural enterprises near Rutgers University. Towards the end of the semester, class groups formed at the beginning of the semester will give presentations on topics selected from a list given by the instructor at the start of class.

COURSE WEBSITE, RESOURCES AND MATERIALS

- Course website: Sakai. Presentations on all topics in class, including those of invited experts, will be posted on Sakai for student use
- Recommended text: The following text is recommended but not required:
 - Acquaah, G. 2009. Horticulture, Principles, and Practices, 4th. Pearson/Prentice Hall
- Supplemental materials will be provided as needed or placed on reserve at Chang Library.

PREREQUISITE

None

COURSE LEARNING GOALS

(Link to Plant Biology Undergraduate Program Goals: <http://plantbiology.rutgers.edu/undergrad/plantbiology/>)

By the end of this course, the student will be able to:

1. Comprehend the concepts of horticultural principles and practices (addresses program learning goal 1)
2. Recognize the scope and status of horticulture in NJ and US Agriculture (addresses program learning goal 2)
3. Develop skills for growing and managing horticultural crops (addresses program learning goal 1)
4. Develop an appreciation for working cooperatively with peers to advocate for sustainable horticulture (addresses program learning goal 2)

ASSIGNMENTS/RESPONSIBILITIES AND ASSESSMENT

Students will work together and present individual and/or group reports on assigned laboratory exercises. Students will be given two house plant types to care for throughout the semester; these will be evaluated at the end of the semester for quality of care. Students who present the top three plants in each category will receive a *Certificate of Excellence* at the end of the semester.

Grading

- Two exams (take home): 25% each = 50%
- Two lab reports: 10% = 20%
- Class presentation (theme: Horticultural Industry in NJ: State-of-the-art and opportunities): 20%
- Class attendance and participation (more than three absences from class without a written excuse or Instructor's permission will be penalized): 10%

Grades will be classified based on Rutgers approved system: A, B+, B, C+, C, D, and F.

Class presentation: Student teams, formed early in the semester, will give a presentation during the final weeks of the semester on the assigned theme of Horticultural Industry in New Jersey: State-of-the-art and opportunities. The presentation constitutes 20% of the final grade.

Learning goals assessment: Specific questions on exams and the end of semester in-class presentation will be used to assess student knowledge of course learning goals, including demonstrated mastery of fundamental terms, horticultural principles, and practices. Horticultural skills (learning goal 3) will be assessed through graded laboratory exercises. Group presentations will assess cooperative work to describe aspects of the horticulture industry in New Jersey (learning goal 4). The percentage score on these assessments will determine the level of mastery: >90% outstanding; 80-89% good; 70-70% satisfactory; <69% unsatisfactory.

PARTICIPATION GRADE AND ABSENCE POLICY

Class participation is required in this course. A student may miss up to a maximum of three classes without special permission or reason. Any subsequent absences without a reason attested by a recognized Rutgers authority will attract penalty (up to a maximum of 10% of the total score for the course).

Students who expect to miss more than three classes may use the University absence reporting website (<https://sims.rutgers.edu/ssra/>) to indicate the date and reason for the absence. An e-mail is automatically sent to the instructor.

COURSE SCHEDULE

Session	Book Chapter	Topic
1	1	Class overview: What is Horticulture? Lab #1: Horticultural geography (library)
2	2	Plant classification Lab #2: Plant identification Lab #3: The pepper plant study
3		Lab #4: Mineral nutrition set up, house plants distributed for take home
4	4	Plant growth environment
5	4	Plant growth environment (cont.)
6	7, 8	Biological enemies of horticultural plants and their management: insects and diseases
7		Class assignment: 2-page article on horticultural crop of choice
8	5	Plant physiology, plant growth regulators
9	6	Breeding vegetable crops Take home Exam I: due in 1 week
10	3	Plant anatomy
11	12	Controlled-environment horticulture
12		Growing houseplants
13	9, 10	Sexual and asexual propagation
14	8	Weed management in horticultural crops Nutrient deficiency study initiated
15	11, 14	Growing succulents
16		Tropical horticultural crops Spring recess
17	15	Principles of landscaping Lab #4: Nutrition review, seeding, herbaceous propagation, greenhouse production
18	20	Herb gardening, organic farming, and ethnic crops
19	16	Nursery production Take home Exam II: due in 1 week
20	24, 26	Cut flowers and floral design, Bonsai
21		Agricultural communications: Educating the public about the importance of agriculture and approaches
22	23	Establishment and management of an orchard
23		Small fruits in NJ: production principles and challenges
24		Class presentation (Groups 1 to 3)
25		Class presentation (Groups 4 to 6)
26		Class presentation (Groups 7, 8) Lab reports due

FINAL EXAM/PAPER DATE AND TIME

Two take-home exams will be administered, due one week after distribution. There is no final exam for this course.

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/>

The principles of academic integrity require that a student:

- Properly acknowledge and cite all use of the ideas, results, or words of others.
- Properly acknowledge all contributors to a given piece of work.
- Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- Uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that:

- Everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- All student work is fairly evaluated and no student has an inappropriate advantage over others.
- The academic and ethical development of all students is fostered.
- The reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

STUDENT WELLNESS SERVICES

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.