

Principles of Botany

11:776:210 (3 credits)

Fall Semester (yearly)

CONTACT INFORMATION

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COURSE DESCRIPTION

This course focuses on the introduction of plant biology, beginning with the genetic basis of inheritance and how genetics relate to plant populations and evolution. The course will discuss different plant classifications, comparing and contrasting structure and general life cycles of the simplest unicellular plants (algae) to complex multicellular land plants. The course will also discuss ecology, from the population, community, ecosystem, and global perspectives, and how plants adapt to their environment and the stresses they incur in those environments.

COURSE WEBSITE, RESOURCES AND MATERIALS

- Online (internet) access to course content through Sakai
- Recommended textbook: **Stern's Introductory Plant Biology 14th**, Jaymes Bidlack and Jansky. ISBN: 978-1-259-68274-2 **OR Introductory Botany: Plant, People and the Environment**, 2008 by Berg.
- **Top Hat** – the interactive program to participate during lectures. To use Top Hat in class, you will need two things: a Top Hat account and one of the following: a smart phone or tablet with a data plan, a laptop with WIFI, or a cell phone with text messaging capability. **Top Hat accounts cost \$26 a quarter or \$38 for one year. Create your account and register for this course at <http://app.tophat.com>.** Details will be given on the prior to the first day of class. Please contact Top Hat IT support (support@tophat.com) for questions about the software.

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. Describe the plant genetic basis of inheritance (addresses program goal 1)
2. Explain the different plant ecological systems (addresses program goal 1)
3. Classify plants based on taxonomy and distinguish among the major land plant classifications (addresses program goal 1)
4. Describe plant responses to environmental stresses (addresses program goals 1, 2, and 3)

ASSIGNMENTS/RESPONSIBILITIES AND ASSESSMENT

Grading: Grades will be determined based on three in-class examinations, in-class participation through Top Hat, and Group presentations.

- Exam 1 = 20%
- Exam 2 = 20%
- Final Exam = 20%
- In-Class participation through Top Hat = 20%
- Group presentations = 20%

Scale: 90-100% = A; 80-89 = B; 70-79 = C; 60-69 = D

Learning goals assessment: Specific questions on exams, in-class participation, and performance on student presentations will be used to assess student knowledge of all course learning goals. 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

Attendance is mandatory. Courtesy demands that students unable to attend may contact the instructor via e-mail prior to the missed class or 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.

CLASS WEBSITE

The Sakai platform will be used to support class activities. Lectures, supporting documentation, and assignments will be posted, and grades will be posted online so that students can monitor their progress in the class.

COURSE SCHEDULE

Week 1	Introduction and Review: Biological Molecules and Plant Cell Structure
Week 2	Plant Stresses
Week 3	Plant Genetics Epigenetics
Week 4	Population genetics Evolution
Week 5	Review

	Exam 1
Week 6	Introduction to classification of plants Kingdom Protista: Algae
Week 7	Plant Kingdom: Bryophytes Plant Kingdom: Seedless vascular plants
Week 8	Plant Kingdom: Vascular seed plants: Gymnosperms Plant Kingdom: Vascular seed plants: Angiosperms – monocots
Week 9	Plant Kingdom: Vascular seed plants: Angiosperms – dicots Ecosystems: Introduction to ecology
Week 10	Review
	Exam 2
Week 11	Population ecology and community ecology Ecosystem ecology
Week 12	Wednesday lecture Thanksgiving week (tentative) Global ecology and human impacts (declining biodiversity)
Week 13	Global ecology: Biomes
	Thanksgiving recess
Week 14	Global warming: abiotic stresses Global warming: biotic stresses
Week 15	Student presentations
	Final exam (non-cumulative)

FINAL EXAM/PAPER DATE AND TIME

The final exam (Exam III) is not cumulative and covers the last third of the course. The Online Final exam Schedule: <http://finalexams.rutgers.edu/>

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.