

**Bergen Community College**  
**Division of Mathematics, Science & Technology**  
**Department of Biology and Horticulture**

**Plant Science (HRT-102)**  
**General Course Syllabus**  
**Revised: Summer 2015**

**Semester and Year:**

**Section Number:**

**Meeting Times & Locations:**

**Instructor:**

**Office Location:**

**Phone:**

**Office Hours:**

**Email Address:**

**Course Description:** **Plant Science** is designed to familiarize the student with the horticultural relationship of plants to botanical anatomy and function, including the limiting factors that influence plant growth, such as light, temperature, water and nutrients. The characteristics of soils, soil nutrient deficiencies, fertilizers and soil amendments, as well as their relationship to plant growth will be covered.

**Prerequisites:** None

**General Education Course:** No

**Course Credits:** 4.0

**Hours per Week:** 6.0: 3 hours lecture and 3 hours lab

**Course Coordinator:** Linda Wiles

**Required Text:** None; all materials will be provided in print or as online links.

**Supplementary Text:** None

**Required Laboratory Manual:** None; all materials will be provided in print or as online links.

**Supplementary Materials:** You will need to provide: a class binder for handouts and notes, estimate a 2.5"-3.0" binder, part of which will be a lab notebook section; colored pencils.

**Student Learning Objectives:**

**The student will be able to:**

1. Identify the structure and function of plant cells, tissues, roots, stems, leaves, and reproductive organs. Students will be evaluated by performance on exams and observation in the laboratory.
2. Explain the structure and function of nucleic acids (DNA, RNA), their importance in plant processes, how they control cellular activities, and the role of genes and heredity in reproduction. Students will be evaluated by performance on exams.
3. Describe and demonstrate how plants reproduce asexually and sexually. Students will be evaluated by performance on exams and observation in the laboratory.
4. Identify the role of photosynthesis and respiration in the metabolic processes of plants. Students

will be evaluated by performance on exams.

5. Recall the classification of plants and the plant naming system. Students will be evaluated by performance on exams.
6. Recognize the importance of soil to plants, its components, structure, and the role of water, fertilizers, mulch and soil amendments in maintaining a healthy soil environment. Students will be evaluated by performance on exams and observation in the laboratory.
7. Explain how the growth and development of plants is affected by hormones, light and temperature. Students will be evaluated by performance on exams and observation in the laboratory.
8. Determine the role of environmental factors such as light, water and temperature to plant health. and the special adaptations that plants have to their environment. Students will be evaluated by performance on exams and observation in the laboratory.
9. Research specific plant information of special interest to the student. Assessment will be based upon performance on a written project.

**Student Assessment Tools:**

The above student learning objectives will be generally assessed or evaluated by instructors using a variety of **assessment instruments** including **lecture exams, laboratory exams, quizzes, laboratory reports, written reports, presentations, projects, etc.** The decisions concerning the type or types and number of instruments that are used in a specific section of the course will be left to the instructor of that section. This information, when given by the instructor should be recorded by the student in the **Student Assessment Section** of this document.

**Course Content Schedule:**

**LECTURE #**

**LECTURE SCHEDULE**

1	Introduction, What is a Plant, The Plant Body, Importance of Plants
2	Chemistry of Life, Chromosomes and DNA, Mitosis
3	The Plant Cell, Tissues, Review
4	Leaves
5	Stems, Water in Plants, Transpiration, Review
6	<b>Exam 1 (Introduction through and including Transpiration)</b>
7	Roots
8	Reproduction (Sexual and Asexual) Flowers, Pollination Ecology
9	Fruits, Seed Dispersal, Seed Germination, Seedling Anatomy
10	Hormones, Plant Growth, Metabolism, Review

- 11                    **Exam 2 (Roots through and including Metabolism)**
- 12                    Ferns, Gymnosperms, Angiosperms
- 13                    What is soil? Soil Components (Minerals – essential elements, Organic Matter, Air, Water), Chemical Properties of Soil (pH, Lime, Sulfur)
- 14                    Soil Profiles, Soil Formation, Physical Properties of Soil, Soil Biology (Biostimulants, Mycorrhizae, Microorganisms, Invertebrates, etc.), Amendments (Fertilizers, Mulch, Compost)
- 15                    Review   **Exam 3 (Ferns through and including Compost)**

**LAB #**

**LAB SCHEDULE**

- 1                    Introduction to Course, The Microscope, The Plant Cell
- 2                    Mitosis, DNA
- 3                    Propagation
- 4                    Leaves
- 5                    Stems
- 6                    **Lab Practical**
- 7                    Roots
- 8                    Flowers
- 9                    Fruits
- 10                    Seeds
- 11                    **Lab Practical**
- 12                    Ferns, Gymnosperms, Angiosperms
- 13                    Soil Texture, Minerals, Soil Profile
- 14                    Soil, Organic Layer, Soil Water, Fertilizers, pH
- 15                    **Lab Practical**

**Dates and schedule are approximate and are subject to change at the discretion of the professor.**

**Faculty Addenda:****Lecture Attendance:****Lab Attendance:****Policy Concerning Late Assignments:****Policy Concerning Make-Up Testing:****Safety Information:****Other Class Policies:****Student Assessment:****Lecture Examinations %****Laboratory Component %****Student Project/Report %****Class Participation %****Other %****Total 100%**

**If you have a medical condition or develop a medical condition during this semester, which prevents you from fulfilling the requirements of this course, you must notify your physician. You and your physician must decide whether or not it is appropriate for you to remain in this course. If the decision is to remain in this course, please obtain a letter from your physician indicating that your continued participation in this course is appropriate and present it to the Department Chair.**

**College Policies:****Student Responsibility**

Students will be held responsible for reading all pertinent information in college publications regarding withdrawals, course drops, college deadlines, and tuition refunds. Students are responsible for compliance with the rules and regulations as stated in college publications.

**Absence of Instructor**

Students are expected to wait twenty minutes for a faculty member to come to class. If at the end of twenty minutes, the faculty member does not come, the students should sign an attendance sheet, which indicates the course, date, and time. A student should deliver the attendance sheet to the divisional office (A304) if between 9:00 a.m. and 5:00 p.m. or to the Evening Office (C107) if before 9:00 a.m. or after 5:00 p.m. Students cannot be penalized by faculty for not waiting longer than twenty minutes.

**Academic Dishonesty and Plagiarism**

Bergen Community College is committed to academic integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. Students are responsible for their own work. Faculty and academic support services staff will take appropriate measures to discourage academic dishonesty.

**Plagiarism** is a form of academic dishonesty and may be a violation of U.S. Copyright laws. Plagiarism is defined as the act of taking someone else's words, opinions, or ideas and claiming them as one's own.

**Consequences of Violations Academic Integrity****A. Instructor's Sanctions for a Violation**

The faculty member will determine the course of action to be followed. This may include:

- Assigning a failing grade on the assignment;
- Assigning a lower final course grade;
- Failing the student in the course
- Other penalties appropriate to the violation;

In all cases, the instructor shall notify the Vice President of Student Services of the violation and the penalty imposed. The student has the right to appeal the decision of the instructor to the appropriate department head.

### **B. Institutional Sanctions for Violations**

When a violation of academic integrity has been reported regarding a student, the Vice President of Student Services may impose disciplinary penalties beyond those imposed by the course instructor, which may include suspension or dismissal from the College. The student shall have the right to a hearing before the Vice President of Student Services or a designated judicial affairs committee. Judicial procedures governing violations of academic integrity are contained in the student handbook.

#### **Class Attendance**

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

#### **Eating and Drinking**

Eating or drinking in classrooms, lecture rooms, laboratories, gymnasium, swimming pool, or passageways is forbidden. Covered beverages only are permitted in the library. Eating and drinking are permitted in cafeteria and vending areas only.

#### **Learning Assistance**

##### **Henry and Edith Cerullo Learning Assistance Center**

The Tutoring Center, English Language Resource Center, Math Walk-In Center and Writing Center are collectively known as the Henry and Edith Cerullo Learning Assistance Center. The Cerullo Learning Assistance Center is located in the Pitkin Education Building, in Room L-125. The telephone number is (201) 447-7489. The Learning Assistance Center, staffed with peer and professional tutors, offers free individual and group tutoring, supplemental instruction, and online tutoring for subjects offered at the College. The Center provides alternative approaches to problem solving and organizational skills. Tutors help clarify classroom lectures and textbooks and help students prepare for exams. These services build student self-confidence and reduce fear of failure. The Center is equipped with the latest technology and software, including tapes, books, review sheets, exercises and software.

##### **Services for Students with Disabilities**

The Office of Specialized Services/ Deaf Services, located in L-115 in the Pitkin Education Center provides accommodations and auxiliary services to students with disabilities attending Bergen Community College. Students are encouraged to submit documentation to OSS during the early stages of the admission process. The suggested deadlines for submitting documentation are as follows: August 1st for fall semesters, December 1st for spring semesters. For more information please contact our office at 201-612-5270 or at [www.bergen.edu/oss](http://www.bergen.edu/oss).

##### **Sidney Silverman Library**

Main Building, Pitkin Education Center, L-wing, 2nd Floor

Paramus Library Hours: (201) 447-7131 or visit <http://www.bergen.edu/library/calendar/gcal.htm>

Paramus Service Desk: (201) 447-7970

Meadowlands Location: 1280 Wall Street, Lyndhurst 2nd Floor

Meadowlands Library Hours: <http://www.bergen.edu/library/calendar/gcal.htm>

Meadowlands Service Desk: (201) 301-9692

[www.bergen.edu/library](http://www.bergen.edu/library)

##### **Testing Services**

The Bergen Community College Office of Testing Services (OTS) is located in Room S-127. OTS serves the college community by identifying, developing, procuring, administering, processing, and/or evaluating examinations, which meet a variety of administrative and instructional needs. To contact the OTS, please call (201) 447-7202. The Office of Testing Services administers makeup tests as a service for students who, for compelling and exceptional reasons, have missed a scheduled classroom examination.

Students must receive prior permission from and make arrangements with their course instructors to take these examinations, under specific conditions, in the Office of Testing Services, Room S-127.

**WebAdvisor**

WebAdvisor is a web interface that allows students to access information contained in Datatel's Colleague, the administrative database used by Bergen Community College. Students may use WebAdvisor to register for classes, to pay tuition and fees, to view their class schedules, to check grades, to check on progress toward degree requirements, etc. WebAdvisor accounts are available for all students enrolled in credit programs. New students are strongly encouraged to attend an in-person registration or advisement session before using a WebAdvisor account. Eligible students without WebAdvisor user names and passwords may access their WebAdvisor account by going to *go.bergen.edu* and selecting "I'm new to WebAdvisor." Then, follow the on-screen directions. Check the WebAdvisor FAQ for answers to common questions, such as how to reset your password. Students must have a valid e-mail address on file with the College to use WebAdvisor.