

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

People-Plant Relationships (BIO-130)
General Course Syllabus
Spring 2016

Course Title:	People-Plant Relationships (BIO-130)
Course Description:	This course explores the effects of plants on biological organisms that influence human economic, social and psychological behavior. The course will focus on two major themes: 1] plants as sources of food, shelter, clothing, drugs, and industrial raw material; and 2] the influence of plant life on human cultural diversity, biotechnology, medicine, and conservation efforts.
Prerequisites:	None
General Education Course:	Yes
Course Credits:	4.0
Hours per week:	6.0: 3 hours lecture and 3 hours lab
Course Coordinator:	Steven Fischer
Required Lecture Textbook:	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; a separate class binder for your lab notebook, estimate a 0.5"-1" binder.

Student Learning Objectives

The student will be able to:

1. Define the study of people plant relationships and describe its impact on society. Students will be evaluated by performance on exams.
2. Use the scientific method to analyze a problem and draw conclusions from the data through the acquisition of scientific knowledge. Students will be evaluated by performance in the laboratory and on oral presentations.

3. Distinguish between scientific theory and scientific discovery. Students will be evaluated by performance on exams.
4. Explain the importance of plants to humans and all life on Earth. Students will be evaluated by performance in the laboratory and on oral presentations.
5. Recognize the evolution, diversity and classification of the plant kingdom. Students will be evaluated by performance on exams.
6. Identify the structure and function of plant cells, tissues, roots, stems, leaves and reproductive organs. Students will be evaluated by their performance on exams and observation in the laboratory.
7. Explain the structure and function of nucleic acids (DNA, RNA) and their importance in life processes, and their role in cellular activities and reproduction. Students will be evaluated by their performance on exams and observation in the laboratory.
8. Describe and demonstrate how plants reproduce asexually and sexually and identify the role of pollinators. Students will be evaluated by their performance on exams and observation in the laboratory.
9. Identify the importance of processes such as photosynthesis, respiration and the movement of water in plants. Students will be evaluated by their performance on exams and observation in the laboratory/field exercises.
10. Recall the mechanisms of growth and development and the effects of hormones and growth regulating substances. Students will be evaluated by performance on exams and in the laboratory.
11. Recognize the adaptations and responses of plants to their environment, the dynamics of plant ecology, and the various biomes of the world. Students will be evaluated by performance on exams and in the laboratory.
12. Identify the health issues specifically involving plant usage as a medical curative. Demonstrate a command of the information, ability to think critically, and evaluate the importance to society. Assessment will be based on a written paper, oral presentation, or creation of an equivalent project.
13. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals. Assessment will be based on a written paper, oral presentation, or creation of an equivalent 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

Lecture Topics:

LECTURE #

LECTURE SCHEDULE

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| 1 | The role of plants in the history of mankind. |
| 2 | Botanical aspects of important plant families. |
| 3 | New important research that has given insight into plant physiology. |
| 4 | The use and development of plants for human health and growth. (all human systems – nervous, digestive, circulatory, endocrine, etc.). |
| 5 | The biological foundations of human behavior. |
| 6 | The elements of life in biochemistry of plants and people – minerals, nutrients, gasses and water in forming carbohydrates, lipids, proteins, nucleic acids and secondary chemicals. Biotechnology and the production and processing of foods we eat |
| 7 | Review of materials |
| 8 | The role of plant breeding and genetic engineering in the development of new crops. |
| 9 | Applied vs. basic research and the goals of the measurement techniques of science. |
| 10 | Environmental issues and their effects on plants. (air and water quality, soil type and fertility, air and water temperature, precipitation, etc.) |
| 11 | Biotic and cultural components that affect plants – insects, diseases, weeds, animals, plant care and techniques, etc. |
| 12 | The global and national issues of change as they affect extinction, endangerment and threat to plant population. |
| 13 | The future use of plants and synthetics. How and where will plants be modified to change the future. |
| 14 | Materials in lecture and laboratory since last test. Discussion and summary statement on the role plants play in our everyday life. |
| 15 | Review of materials |

Laboratory Schedule:

Week	Lab Schedule
1	Introductions among class students and the formation of groups for class projects Plant propagation techniques – sexual (seed), asexual (cuttings, layerings, grafting, etc.)
2	Study of plant families and plant structure related to people-plant relationships Observe the plant anatomy and morphology of roots, stems, leaves, flowers, fruits and seeds using lab equipment and sensory evaluations
3	Observe food plants and edible parts in lab and/or on field trip Demonstration of plant nutrients by instructor
4	Scientific method and group project, including hypothesis, materials and methods, results and conclusion(s); requires data collection and report
5	Class discussion on human nutrition via plants and use of staples (corn, wheat, rice, potato, etc.) in regard to their benefits and problems
6	Oral and written presentations on famous plant scientists and organizations
7	Class discussion on the effects of processed foods on human physiology and psychology
8	Demonstration and lab on soils and soil properties and how this relates to local, national and global plant resources
9	Oral and written presentations on plant substances and their effects on human physiology and society
10	Plant walk on campus to discuss soils, plant classification and characteristics, environmental stress factors in plant growth and development
11	Pests and diseases of plants and how these (viruses through to mammal pests) and how these effect plants and their different roles (food, fuel, fiber, medicine, aesthetics, etc.)
12-14	Student presentations with class discussions
15	Course summary and review of lab and field materials

Student Assessment:

Lecture Examinations _____	_____ %
Laboratory Component _____	_____ %
Student Project/Report _____	_____ %
Class Participation _____	_____ %
<u>Other</u> _____	_____ %
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.

Faculty Addenda: As per individual faculty member

Lecture Attendance: As per instructor;

Lab Attendance: As per instructor;

Policy Concerning Late Assignments: As per instructor;

Policy Concerning Make-Up Testing: As per instructor;

Safety Information: As per instructor and assigned exercise;

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

Bergen Community College aims to create inclusive learning environments where all students have maximum opportunities for success. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Specialized Services at 201-612-5269 or via email at ossinfo@bergen.edu for assistance.

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

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