

BIO 120 Plants and Society (SW)*3 credits, 3 hours**Pre-requisite: BIO 110**Co-requisites if taught in English: ESL 91 or ENG 91**Offered in English and in Spanish.**If taught in Spanish: SPA 222***HOSTOS COMMUNITY COLLEGE**

City University of New York

MEETS:	
Email:	
Office:	
Phone:	
Contact Policy:	

Course description:

This course introduces students to the world of plants and their vital role in human life. Students will learn about plant morphology, how plants reproduce, and how they obtain energy in order to survive. The course emphasizes the role of plants in human society as sources of food, medicine, fiber, and fuel; it provides a critical review of science, technology, and the environment, in relation to plant domestication and current world food, medicine and fiber production. Social implications associated with biological and technical aspects of crop production in modern society will be studied in this class, too. Students will find many opportunities for enrichment on topics that relate plants to historical developments and environmental issues, and will have an opportunity to learn how personal choices impact global vegetation resources.

Course Objectives:

Students will:

1. Learn the morphological and anatomical structure of flowering plants

2. Understand the importance of plants for humanity

Learning Outcomes:

By the end of the semester students will be able to:

- Describe the structure and function of flowering plants.
- Explain the taxonomic breadth of the most common crop plants.
- Name the centers of origin of all of our major crop plants.
- Analyze how plants have influenced human civilizations and how these are used by different cultures.
- Explain the economic use of plants by humans for food, beverage, medicine, and industry.
- Explain the interactions of plants with other organisms and the physical and chemical components of the environment.

Required textbooks

LECTURE: Plants and Society. E. Levetin and K. McMahon, 6th Edition. McGraw-Hill. 2011. ISBN 978-0-07-352422-1

CUNY Grades:

The City University of New York awards letter grades to denote the level of achievement for each course. The grading system is as follows:

Grade		GPA VALUE
A	93 – 100%	4.0
A-	90 – 92%	3.7
B+	87 – 89%	3.3
B	83 – 86%	3.0
B-	80 – 82%	2.7
C+	77 – 79%	2.3
C	70 - 76%	2.0
D	60 - 69%	1.0
F	below 60%	0.0

Incomplete (**INC**) grade is given in regular courses upon request of the student for personal emergencies that are verifiable. **INC grades are given only to those students who are passing the course.** The student has the responsibility to take the initiative in completing the work, and is expected to make up the incomplete during the first semester in residence after receiving the grade of Incomplete. If the student does not make up the incomplete during the following semester after receiving it, an F grade may be given by the faculty member without further consultation with the student and will be computed in the student's GPA.

Academic integrity:

Hostos Community College believes that developing student's abilities to think through issues and problems by themselves is central to the educational process. Since the Hostos College degree signifies that the student knows the material s/he has studied and the practice of academic dishonesty results in grades or scores that do not reflect how much or how well the student has learned, understood, or mastered the material, the College will investigate any form of academic dishonesty brought to its attention. If the charge of academic dishonesty is proved, the College will impose sanctions. The three most common forms of academic dishonesty are cheating, plagiarism, and bribery.

College attendance policy:

Students are expected to attend all class meeting in the courses for which they are registered. Classes begin at the times indicated in the official schedule of classes. Arrival in class after the scheduled starting time constitutes lateness.

The maximum number of absences is limited to 15% of the number of scheduled class hours per semester and a student absent more than the indicated 15% is deemed excessively absent. Attendance is monitored from the first official day of classes. In the case of excessive absences or lateness, the instructor has the right to lower the grade, assign a failing grade, or assign additional written work or readings.

Absences due to late registration change of program, or extenuating circumstances will be considered on an individual basis by the instructor. Each department and program may specify in writing a different attendance policy. Instructors are required to keep an official record of student attendance and inform each class of the College's or department attendance policy.

Course specific warnings:

No student under any circumstances will be given a passing grade in this Biology course without taking and passing the laboratory.

- Attendance is required at Laboratory Sessions. Excessive absences will affect your overall performance.
- Lectures and labs consist of learning exercises that you cannot be make up or gain elsewhere. Communicate to your instructor the reasons for your absence and ask for ways of completing material missed during your absence.
- Tardiness will affect your grade. If the student has been late three (3) times, this will be considered equivalent to one (1) absence.
- **Four (4) unexcused absences to lab are equivalent to an F.**
- Unexcused absences from tests will result in scores of zero for those tests.
- Any violations of the above code, including plagiarism, will be dealt accordingly.
- If you are having difficulty understanding the material, do not hesitate to ask questions or request help. Your instructor can provide personal assistance and/or refer you to tutors at the Learning Center (HALC).
- Readings must be completed for each class. Not all assigned texts will be discussed in class or covered in the class lectures.

Students with disabilities:

The Americans with Disabilities Act prohibits discrimination based on disability and requires the College to be physically and programmatically accessible. Beyond the basic requirements of the ADA, Section 504 of the Rehabilitation Act and New York State and New York City statutes, the College has created an office that provides services intended to help each student with a disability maximize his or her potential for success. Based on an intake interview and documentation provided by a student, a variety of accommodations may be provided to assist qualified students to attain their academic objectives. Intake and counseling are provided in English and Spanish.

Savoy Building, Room D-101

Telephone: (718) 518-4351 e-mail: infocounseling@hostos.cuny.edu

Hours: Mondays, Tuesdays and Fridays, 9:00 a.m. to 5 p.m.

Wednesdays and Thursdays, 9:00 a.m. to 7 p.m.

Saturdays, by appointment only.

*Students under this program are required to alert their instructor and present the form stating exam accommodations on the first week of class.

Tutoring Resources:

Students having difficulty with course content or just need a refresher are encouraged to take advantage of Tutorial services in any academic subject. These tutorials are available at the HALC. The Learning Center houses three computer labs equipped with interactive software. Hostos Academic Learning Center: <http://www.hostos.cuny.edu/asc/>

Class schedule:

Readings must be completed before each class. Not all assigned texts will be discussed in class or covered in the class lectures.

LECTURE SCHEDULE

Read chapters contents in advance.

Date Tuesday	Topics	Readings
Week 1	Plants in our Lives: The Plant Cell	Ch. 1 & 2 pp. 2-27
Week 1	The Plant Body: Tissues and Organs	Ch. 3 pp. 28-46
Week 2	Plant Life Cycle: Flowers	Ch. 5 pp. 69-83
Week 3	Plant Life Cycle: Fruits	Ch. 6 pp. 84-98
Week 4	Human Nutrition	Ch. 10 pp. 150-171
Week 5	Origins of Agriculture	Ch. 11 pp. 172-182
Week 6	The grasses	Ch. 12 pp. 183-204
Week 7	Legumes	Ch. 13 pp. 205-217
Week 8	Starchy Staples	Ch. 14 pp. 218-232
Week 9	Feeding a Hungry World	Ch. 15 pp. 233-260
Week 10	Stimulating Beverages	Ch. 16 pp. 261-276
Week 11	Herbs and Spices	Ch. 17 pp. 277-295
Week 12	Materials: Cloth, Wood, and Paper	Ch. 18 pp. 296-320
Week 13	Medicinal Plants	Ch. 19 pp. 321-340
Week 14	Psychoactive Plants	Ch. 20 pp. 341-360
Week 15	FINAL EXAM WEEK	

COURSE CONTENTS

I. INTRODUCTION: WHAT IS A PLANT?

Plants and Human Society

The flowering plants

The non-flowering plants

II. PLANT CELL

Early studies of cells

The cell wall; cell membrane, and cell organelles

III. STEMS, ROOTS, LEAVES

Plant tissues

Plant organs: Stems, Roots, and Leaves

IV. FLOWERS

Floral organs

Meiosis in flowering plants

Pollination and Fertilization

V. FRUITS: SUPERMARKET BOTANY

Fruit types

Seed structure and germination

Dicot and Monocot seeds

Edible fruits

VI. NAMING PLANTS

Early History of plant classification

How plants are named

Taxonomic Hierarchy

VII. AGRICULTURE

Origins of agriculture

Foraging societies and their diets

Characteristics of domesticated plants

Centers of plants domestication

VIII. WHEAT & MAIZE

Characteristics of the Grass Family

Grains – origin and evolution

Other important grains and grasses

IX. LEGUMES

Characteristics of the Legume Family

Important legume food crops

Other legumes of interest

X. STARCHES

Storage organs: modified stems, storage roots

White potato: South American origins

- Other important starchy staples
- XI. FEEDING THE WORLD**
 - Crop improvement
 - The Green Revolution
 - Alternative crops: The search for new foods
- XII. STIMULANT BEVERAGES**
 - Coffee: Arabian drink, plantations, varieties
 - Tea: Origins, cultivation and processing
 - Chocolate: Food of Gods, cultivation and processing
 - Other caffeine beverages
- XIII. HERBS AND SPICES**
 - Essential oils
 - History of spices
 - Herbs and spices of economic importance
- XIV. CLOTH AND FIBERS**
 - Fibers: types of fiber, cotton, linen, rayon
 - Other fibers
 - Wood and wood products: Paper: pulp and paper making
- XV. MEDICINAL PLANTS**
 - History of Plants in Medicine
 - Active principle in plants: alkaloids and Glycosides
 - Medicinal plants; Herbal remedies
- XVI. PSYCHOACTIVE DRUGS**
 - History of Psychoactive plants
 - The Tropane alkaloids