NATURAL SCIENCES DEPARTMENT HOSTOS
COMMUNITY COLLEGE
of THE CITY UNIVERSITY OF NEW YORK

ENV 110 SEC XXX ENVIRONMENTAL SCIENCE I CODE: XXXX

Meeting Times:	Lecture: DATE TIME ROOM
Lecture Instructor:	Name:
Office Hours:	DATE TIME ROOM EMAIL: xxxx@hostos.cuny.edu

CREDITS: 3 credits, 3-hr lecture
Required Core: Life and Physical Sciences

CO/PREREQUISITES: Co-Requisite: ENV 111
PRE-REQUISITE: MAT 10; ENG91/93 or higher, or ESL 91/93 or higher (if taught in English); SPA121 (if taught in Spanish)

REQUIRED MATERIALS:
Textbook:
W. Cunningham & M. Cunningham, Principles of Environmental Science, 8th Ed (without card access) Rent, Used, e-text or loose-leaf version **ISBN: 9780078036071 ISBN10: 0078036070**
Or
W. Cunningham & M. Cunningham, Principles of Environmental Science, 7th Ed (without card access) Rent, Used, e-text or loose-leaf version **ISBN: 9780073532516 ISBN10: 0073532517**
Online Bookstore access:
https://hostos.textbookx.com/institutional/index.php?action=browse#books/1861058/

COURSE DESCRIPTION:

Our planet is facing environmental challenges, from oil spills to global climate change. Adverse impacts to our environment affect the well-being of humans and other living organisms. In this course, the students will get acquainted with ideas and concepts about living systems and their environments. They will develop an understanding of ecological principles and learn about the environmental problems of our times, such as water use, air pollution, solid waste management, global warming, and energy use. Intended for non-science majors, this course will engage students in learning approaches and methods of inquiry that complement any major, whether in the natural sciences, social sciences, or humanities. The course is offered in English and in Spanish

STUDENT LEARNING OUTCOMES:

Required Core Learning Outcomes for Life and Physical Sciences

- Identify and apply the fundamental concepts and methods of a life or physical science (LPS1)
- Apply the scientific method to explore natural phenomena, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation (LPS2)
- Use the tools of a scientific discipline to carry out collaborative laboratory investigations (LPS3)
- Gather, analyze, and interpret data and present it in an effective written laboratory or fieldwork report (LPS4)
- Identify and apply research ethics and unbiased assessment in gathering and reporting scientific data (LPS5)

Discipline-Specific Learning Outcomes

At the end of this course, students will be able to:

- Understand and define terminology used in environmental science (DLO1)
- Describe global environmental processes, ecological footprint and global warming (DLO2)
- Understand the composition of air and the atmosphere: conditions and sources affecting them (DLO3)
- Discuss pollution (water, air, solid, hazardous and nuclear wastes), the effect it has on environmental quality, and how human populations will both affect and be effected by pollution (DLO4)
- Discuss resource depletion (water, soil, energy, minerals, lumber, etc), the effect it has on environmental quality, and how human populations will be effected by resource depletion (DLO5)
- Describe thermal inversion, natural pollution, industrial smog, photochemical smog, acid rain, the ozone layer, and global warming (DLO6)
- Describe surface and ground water and the natural and chemical contamination affecting them as well as water treatment plants and the alternatives to minimize and prevent water contamination (DLO7)
- Describe energy and energy sources (fossil fuels, nuclear fission, nuclear fusion, and renewable sources) and their effects on climate change (DLO8)
- Discuss, evaluate, and compare the economic and environmental advantages and disadvantages of each of various energy sources (DLO9)
- Critically evaluate presented information and data using scientific principles and concepts (DLO10)

Assessment Tools:
Discipline Learning Outcomes: DLO1-10
Scientific World Learning Outcomes: LPS1-5

Assessed Scientific World Learning Outcomes: LPS1
Discipline Learning Outcomes: DLO1-10

Assessment Tool: Lecture Exams and a Final Exam: Different types of Bloom taxonomy-classified questions such as short answer, written and multiple choice questions will be used to assess the above described learning outcomes. Several of the exam questions will be selected to represent the fundamental concepts of environmental science. These problems will require students to integrate the knowledge learned in the classroom and apply logical reasoning towards problems common in environmental science. The final exam will be based on problem solving/analytical questions similar to the ones discussed during the semester.

Assessed Scientific World Learning outcomes: LPS2
Discipline Learning Outcomes: DLO1-10
Assessment Tool: Participation in Class Discussion and a Written Reflection after Case Study Discussions: The case studies are an integral component of the course.
The instructor will select case studies revolving around environmental issues discussed in class from the following site: http://sciencecases.lib.buffalo.edu/cs/collection/. Each student will be expected to comment the case study prompts posted by the professor in the blackboard and/or comment other student postings. Case studies will be discussed in the blackboard before discussing it in class.
Students will be required to participate in each case study discussion in the classroom. Each case study is related to the course material, and includes questions that the students should be able to answer after covering the topic(s) in class. The students will be expected to submit a 2-page paper summarizing the case study and presenting their opinion.

Assessed Scientific World Learning outcomes: LPS3
Discipline Learning Outcomes: DLO1-10
Assessment Tool: Earth Day/Science Day Project: The Natural Sciences Department celebrates Earth Day during spring semester and Science Day during the fall. This scientific event includes lectures by faculty, visiting scholars, activists, writers, as well as faculty-led student presentations on various issues central to Science and the Environment. Students will be required to participate in this event by contributing a poster or a short talk. These posters or talks will focus on the same topic related to Environmental Science. More about these projects will be distributed throughout the semester. For example, why is this assignment useful to the student as a scholar? Participating in a college-wide forum of ideas will give students practice presenting their knowledge in a professional setting.

Assessed Scientific World Learning outcomes: LPS4
Discipline Learning Outcomes: DLO1-10

Assessment Tool: Assignments: *Calculating the Ecological and Carbon Footprint*
In this activity, the students will calculate their individual ecological and carbon footprint by considering all of the biological materials consumed, and all of the biological wastes generated, by a person in a given year. They will answer questions about their food intake, food waste, personal habits, energy usage, travel mode and frequency, and general consumption patterns. Then, they will recalculate their footprint with changes in lifestyle and consumption to determine which changes would bring about significant changes in footprint (experiment with different, though reasonable, answers to the questions). The students will be required to submit a written 2-page report summarizing their results. The students will be required to take two information literacy workshops to learn how to gather, retrieve and evaluate information to support their points of views with peer-reviewed information from various sources.

Assessed Scientific World Learning outcomes: LPS5
Discipline Learning Outcomes: DLO1-10

Assessment Tool: Earth Day/Science Day Presentation and Final Exam: Students will prepare a presentation on a topic related to scientific and public policy aspects of environmental pollution. Students will be able to choose the topic to develop this assignment and discuss the topic approval with the instructor. Specific guidelines will be provided separately. After revision and feedback from the professor, students will continue working on this paper as part of their project for "Earth day" (Spring semester) or "Science Day" (Fall semester). Specific guidelines will be provided separately.

GRADE DISTRIBUTION:

The overall course grade will be computed using the following general distribution:

Lecture	100%
- Three In-Class Exams	45%
- Final Cumulative Exam	15%
- Homework	10%
- Assignments	20%
- Case Studies	10%

There will be three in-class examinations, graded homework problems, four online assignments and two case studies. The final comprehensive examination will be given during the final examination period.

Assignments, Case Studies and Homeworks:

In this course, we will analyze 2 environmental cases studies that aim to introduce you to various earth and environmental issues and help you understand how humans interact, affect and are influenced by our environment. Participation in case studies is part of your grade, and it cannot be made up in the case of absences, even excused ones (illness, academic trips, etc.).

There will be weekly homework assignments through the **Connect** website. The homework problems are due on the date indicated on the website. The Assignment(s) should be submitted through **Blackboard** or in person. The due dates for the assignments will be determined by your instructor.

Late assignments and homework will be reduced by 10% and will be accepted only up to 1 week after the due date. You are responsible for completing all the required assignments. If you do not submit the homework or the assignment within one week of its due date, you will receive a 0 for that grade.

GRADING POLICY:

The grade of Incomplete (I) is given in regular courses upon request of the student for personal emergencies that are verifiable. The faculty member has the responsibility to provide Inc grade 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, the faculty member may give an F grade without further consultation with the student. If after the end of the first semester the Inc remains on the record it will be designated as an F and will be computed in the student's GPA.

Grade		GPA Value	Grade		GPA Value
A	93-100%	4.0	C+	77-79%	2.3
A-	90-92%	3.7	C	70-76%	2
B+	87-89%	3.3	D	60-69%	1
B	83-86%	3	F	below 60%	0
B-	80-82%	2.7			

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.

In the collegiate setting, cheating is defined as the purposeful misrepresentation of another's work as one's own. Faculty and students alike are responsible for upholding the integrity of this institution by not participating either directly or indirectly in act of cheating and by discouraging others from doing so. Plagiarism is a form of cheating which occurs when persons, even if unintentionally, fail to acknowledge appropriately the sources for the ideas, language, concepts, inventions, etc. referred to in their own work. Thus, any attempt to claim another's intellectual or artistic work as one's own constitutes an act of plagiarism. In the collegiate setting, bribery involves the offering, promising, or giving of items of value, such as money or gifts, to a person in a position of authority, such as a teacher, administrator, or staff member, so as to influence his/her judgment or conduct in favor of the student. The offering of sexual favors in exchange for a grade, test score, or other academic favor, shall be considered attempted bribery. The matter of sexual favors, either requested or offered, in exchange for a grade, test score or other academic favor, shall also be handled as per the Sexual Harassment procedures of the College.

If you are suspected of plagiarism or cheating or if you attempt to bribe or influence your professor, you will be immediately reported to the college's Academic Integrity Officer. You will be unable to drop the class. The penalties range from an F with a score of 0 for an assignment to Failure for the entire term to expulsion from The City University of New York.

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 CONTENT

Week #	Topic	Chapter #	Homework
1	**Introduction to Environmental Science**	**1**	End of Chapter Problems
2	**Environmental Systems: Matter and Energy of Life**	**2**	End of Chapter Problems
3	**Climate Change** *Assignment 1 : How Much Carbon Dioxide Do You Emit?*	**9**	End of Chapter Problems
4	**Exam 1** (Ch 1, 2 and 9)		
5	**Air Pollution** *Assignment 2 : How Much Air Pollution Do You Emit?*	**10**	End of Chapter Problems
6	**Water: Resources and Pollution** *Assignment 3 : How Much Water Do You Use?*	**11**	End of Chapter Problems
7	**Case Study 1** – "*But it's Just a Bottle of Water*" **Documentary** - *"Tapped"*		Link To Case Study
8	**Exam 2** (Ch 10 and 11)		
9	**Energy**: *Nonrenewable Energy Sources* *Assignment 4 : How Much Energy Do You Use?*	**13**	End of Chapter Problems
10	**Energy**: *Renewable Energy Sources*	**13**	End of Chapter Problems
11	**Solid and Hazardous Waste**	**14**	End of Chapter Problems
12	**Case Study 2**- "*Tuna for Lunch?*" **Documentary** – "*The Fish on My Plate*"		Link To Case Study Link to the Documentary
13	**Exam 3** (Ch 13 and 14)		
14	**Environmental Geology and Earth Resources**	**12**	End of Chapter Problems

15	**Final Exam**		