HOSTOS COMMUNITY COLLEGE

Natural Sciences Department

Physical Sciences Unit

ENV 111 Course Title: Environmental Science I

Instructor:

Email:

Telephone number:

Office hours:

Course Description:

The student will analyze data and explain concepts related to the classification of matter, basic principles of atomic structure and bonding, energy sources and the health-related environmental effects and the social implications and control of major air and water pollutants.

Student Learning Outcomes:

The students will:

- Understand the scientific method, the how we know what we know and why knowledge about the world is important.
- Understand the concept of matter, its classification, state, properties, and changes. The students will know basic concepts of the atomic structure of matter, perform electron configuration, and will understand and use the periodic table.
- Know basic concepts of chemical bonding, ionic compounds, and covalent compounds.
- Understand and apply concepts of balancing chemical reactions.
- Know basic concepts of organic compounds: structure and properties for saturated and unsaturated hydrocarbons, aromatic hydrocarbons, chlorinated hydrocarbons, alcohols, and polymers. Know and understand the uses and hazards of chlorinated hydrocarbons and alcohol.
- Understand and know energy and energy sources: fossil fuels, nuclear fission, nuclear fusion, and renewable sources. The students will discuss, evaluate, and compare the economical and environmental advantages and disadvantages of each of these sources of energy.
- Know and understand the composition of air and the atmosphere, the conditions and sources affecting them. The students will analyze and know alternatives to minimize or prevent these conditions. Students will know about thermal inversion, natural pollution, Industrial Smog, Photochemical Smog, Acid Rain, the Ozone layer, and Global Warming among others.
- Know about surface and ground water and about the natural and chemical contamination affecting these. The students will also know about water treatment plants and the alternatives to minimize and prevent water contamination.

Required textbooks:

Lab Manual	Laboratory Manual for Environmental

	Science I (Hostos Bookstore)
Textbook (Optional)	Chemistry for Changing Times, 14th edition by John W. Hill, Terry W. McCreary and Doris K. Kolb Pearson Prentice Hall, ISBN: 978-0321750877
Safety Goggles	Type approved for the chemistry laboratory: Indirect ventilated, ANSI Z87.1 required for all laboratory sessions

Recommended: Student Study Guide by R. Jones and J.W. Hill

Pearson Prentice Hall,

Lab coat, or apron, or other protective clothing

Special Notes about Laboratory Activities:

Eye Protection: **NO ONE** will be allowed in the laboratory without safety goggles. **Goggles MUST BE WORN AT ALL TIMES while working in the lab.**

Assignments:

Additional assignments may be given throughout the semester. Students' will be expected to work on group assignments where the professor and other classmates will assess their individual contribution. Written assignments will also be given; detailed instructions about grading and expected performance will be described in every particular written assignment. Not handing in an assignment can result in a lower participation grade as well.

Blackboard and Email Expectations:

You can access your Blackboard account by signing in through the CUNY Portal. All students are personally responsible for regularly checking this Blackboard site for important information pertinent to this course.

All students are also responsible for regularly checking their HOSTOS email account, either directly or via a forwarding service.

If you experience problems with email or Blackboard access, please contact the campus help desk for technical assistance.

Graded assignments:

Your final lab grade will be determined as follows:

Lab Reports – 50%

Quizzes – 20%

Lab work – 30%

Lab Reports:

Each student will submit a lab report for each lab completed. All reports must include the results and calculations, if any, Data Sheet(s), and the answers to the questions at the end of each experiment. The report will be due at the beginning of the next laboratory period. Ten points will be deducted for every week the report is late. The report grade will include the student's performance of the experiment in the laboratory, timeliness, and compliance with the safety rules. For each laboratory session the student is absent, he/she will receive a grade of zero and no report will be accepted for the experiment corresponding to the laboratory session that the student was absent from.

Quizzes:

There will be 4 Quizzes. Students' may drop their lowest grade. If a student misses an exam due to an excused absence, they must contact the professor as soon as possible to schedule a makeup. Failure to reschedule a quiz within a week will result in a zero for the exam. There is also a separate final Quiz. This quiz is cumulative and cannot be dropped.

Class Participation and Attendance:

Your participation is an important part of the final grade. This grade is based on your participation in class and your attendance. For each recitation and lab you miss, you will lose participation points. You will also lose participation points for being late. If your attendance is less than 75%, you will fail the class. Notes for excused absences need to be handed in to the professor no later than a week after the absence has taken place. Email notifications of absences are highly encouraged.

Grade Policy:

The college uses the following grades:

A, A- for excellent work.
B+, B, for good work.
B-, C, for fair work.
D, for poor work.
F, for failure.
I, for incomplete.
WU, for unfinished incomplete, equivalent to F W, for withdrawn.

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 an Incomplete grade only to those students who are passing the course. The student has the responsibility to take the initiative to complete 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 Incomplete remains on the record it will be designated as an F and will be computed in the student's GPA.

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

There is no R grade in this course.

Academic policies:

Hostos Community College has an evaluation system based on the honesty and integrity of the academic work of identified student or students. Faculty, students and staff have the responsibility to uphold the standards of the community and to take action when others violate them. Faculty members have an obligation to educate students to the standards of academic integrity, and to report violations of these standards to the appropriate authorities of the college. If a community member is proved with academic dishonesty, the college will impose sanctions. The three most common forms of academic dishonesty are cheating, plagiarism, and bribery. It must be understood that any student who knowingly aids in plagiarism or other actions such as cheating allowing another student to copy a paper or examination question, is as guilty as the cheating student.

Cheating:

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:

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.

Bribery:

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 meetings in the courses for which they are registered. Classes begin at the times indicated in the official schedule of classes. Arrival to 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.

ENV 111 – LAB SCHEDULE

Week	Experiment	Lab #	Page
Wk 1	• Drawer Assignment • Discussion of Safety Rules for Laboratory Sessions • Attendance and Grading Policies • Introduction to Laboratory Techniques Measurement of Volume of Liquids and Solid	**1**	**1**
Wk 2	Measurement of Mass (Weight) of Solid and Liquid Substances	**2**	**6**
Wk 3	Physical and Chemical Changes Elements in the Periodic Table - Atomic Structure (This experiment is a homework assignment)	**4** **5**	**25** **30**
Wk 4	**LAB QUIZ 1** Determination of the Density of Solid and Liquid Substances	**3**	**12**
Wk 5	Methods of Separation of the Components of a Mixture: *Paper Chromatography*	**6**	**35**

	Chemical Compounds and their Formulas 45 (This experiment is a homework assignment)	**7**	**45**
Wk 6	Extraction of Caffeine from Tea	**6**	**39**
Wk 7	**LAB QUIZ 2** Cosmetology: Preparation of Creams	**8**	**48**
Wk 8	Organic Compounds: *Formulas and Properties* Melting Point Preparation of Nylon: A DEMONSTRATION	**10**	**70**
Wk 9 **10/25/17**	Hydrocarbons: Alkanes, Alkenes and Alkynes	**11**	**73**
Wk 10	Acids and Bases (Objective A only)	**9**	**55**
Wk 11	**SPRING BREAK**		
Wk 12	Study of the Properties of Acids and Bases 6 (Objectives B, C and D)	**9**	**61**
Wk 13	Soap Preparation a: Preparation of Soap from Vegetable Oil b: Preparation of Transparent Soap	**12**	**80**
Wk 14	**LAB QUIZ 4** Water Analysis a. Biological Oxygen Demand (BOD)* (The instructor will be informed prior to date)	**Handout**	
Wk 15	**Discussion and final date for collecting lab reports**		

Wk 16	**FINAL QUIZ**		***Last Day of Classes***