Course Syllabus: Environmental Chemistry, Spring 2020

Course Description:
This is a one-semester integrated course that explores topics related to chemical effects in the natural environment. Chemistry topics include atomic, molecular, ionic and radical structures, stoichiometry, thermochemistry, gas laws, acid/base, equilibrium and oxidation/reduction. Environmental topics include the sources, reactions, transport, effects and fates of chemical species in the soil, water and air. These two areas are woven together in daily work and larger projects. This course is divided into four major parts that reflects the most pressing issues in Environmental Chemistry today: Atmospheric Chemistry; Water Chemistry; Pollution and Toxic Organic Compounds; and Energy and Climate Change. Students will perform laboratories that will involve sampling, quantitative detection and data analysis.

Instructor:
Dr. Angie Ahrendt
Office: B105A
630-907-5021
aahrendt@imsa.edu

Meeting Days and Time: *All classes meet in Room A207*
AC days mods 1/2
BD days mods 3/4

Office Hours:
A and C day mod 3 or by appointment

Required Materials:
Readings supplied by instructor
Additional classroom materials are posted on Moodle
Calculators and computers are required
Logger Pro
A folder/binder to keep all materials organized

Student Learning Objectives:

The goals of this course are:

-To develop an understanding of chemicals and their effects on the environment.
-To learn basic chemical content in context.
-To design and carry out field research.
-To learn how business and government policies toward chemicals in the environment affect the planet.
-This course will require the student to integrate information, solve problems and present information in different formats.

Assessment Practices, Procedures, and Processes:
There will be a variety of assessments consisting of homework, presentations, and in-class assessments, measured as follows:

1) Ability to reflect and demonstrate understanding on experiments through lab reports.
2) Ability to communicate their learning through presentations and class discussions.
3) Performance on quizzes and tests.
4) Ability to demonstrate understanding through writing assignments such as papers, paragraphs, and problem sets.

The grade break down will be
90% and above: A
80% and above: B
70% and above: C

Grades are weighted: Exams and Quizzes are 60% of the final grade; All other assessments are 40% of the final grade.

Student Expectations

The experience you have in this course will be directly related to your level of participation. One cannot choose to be a nonparticipant and expect to reap all of the possible benefits. Therefore, we have established some expectations for you:

- Be on time for class and bring the required materials, including your completed homework assignments. Students who are more than 5 minutes late will be given an unexcused absence. Refer to the Student Handbook for specific effects of excessive tardies and absences. There will be NO credit awarded for make-up work due to unexcused absences. It is the responsibility of each student to arrange for make-up work due to excused absences (preferably in advance!).

- If you are going to miss any part of class for a field trip or a sport you must come to class before you leave or when you return, even if it is only for 15 minutes. Infractions will receive an unexcused absence.

- Late work will receive a 10% penalty per day. Once the material has been assessed and returned to any of the other sections, it cannot be submitted for late credit.

- Collaboration is encouraged throughout all facets of this course. Academic dishonesty, however, is not. It is expected that students will discuss laboratory results, and partners will share common data, but each student will complete and turn in their own lab report (no group reports unless specifically assigned).

- Cell phones will be put inside backpacks and backpacks will be placed in the back of the class room during quizzes and tests. No bathroom breaks during quizzes/tests. Academic dishonesty will be reported.

- Laptops and cell phones are only to be used when necessary for performing class work. No games, facebook, etc. during class. No music can be played without using headphones and only with permission.

- Wear closed toed shoes every class in case we go into the lab. No eating or drinking in the lab. No sitting on the lab benches.

- You may not work on other classwork in this class until you have demonstrated that you have completed all of the course work.

- Bring a calculator to class. If you must borrow a calculator for an assessment, a 5% penalty will be applied.

- Download Logger Pro. If you must work with another group due to not having Logger Pro, a 5% penalty will be applied to your lab report.