

Course Syllabus: Environmental Chemistry Fall 2019

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

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Meeting Days and Time: *All classes meet in Room A207*

BD Days Mods 5-6

Office Hours:

C days mod 2 and D days mod 3

Materials:

Readings supplied by instructor

Additional classroom materials are posted on Moodle

Calculators and computers are required

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, some guidelines have been established for you:

1. PLEASE be on time and ready for class - both mentally and physically. It is the responsibility of each student to inform the instructor and arrange for make-up work due to excused absences (preferably in advance!). Students who are more than 10 minutes but less than 50 minutes late will be given an unexcused absence for the day. Any assignment due that day will also be considered late. Any activity that is submitted for credit on that day can be made up by the student but will also be marked late. Students more than 50 minutes late will also be given an unexcused absence and any assignment submitted will be marked late. NO credit will be awarded for make-up work. Refer to the Student Handbook for specific effects of excessive tardies and absences.
2. Besides being on time, please have all the materials you will need for the class WITH YOU! Our work on many days will require you to have your laptop computer, lab notebook, calculator and pen/pencil. You should also wear close-toed shoes on all class days. Your lab notebook or laptop will be the only materials allowed in the lab in which to record data. Therefore, if you forget it, you cannot participate in the laboratory until you get it.
3. Turning work in late is discouraged. When an assignment has been collected, it may be submitted for late credit at a 10% penalty per day. Once the material has been assessed and returned, it cannot be submitted for late credit.
4. No iPods, MP3/CD players used, sunglasses worn, cell phones on, or food/drinks ingested in the lab.
5. Collaboration is encouraged throughout all facets of this course. Academic dishonesty, however, is not. (Please review the Academic Integrity Policy in your handbook) It is expected that students will discuss laboratory results, and partners will share common data. It is also expected that all reports/work reflect individual thought. All other sources must be referenced appropriately.

6. If, at any point, you are experiencing some confusion - get help ***immediately***. Concepts cannot build upon each other if one is not understood. DO NOT WAIT- attend scheduled office hours or schedule an appointment with your teacher.