

CP Chemistry Syllabus Elizabeth High School Fall 2021- Spring 2022

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Help Sessions:

I am available before and after school *by appointment* and during planning periods (Blocks 3&6)
I will not post lecture slides but will provide them on an individual basis as requested by email.

Course Overview:

The purpose of this course is to provide an introductory experience to the field of chemistry. We will conceptually cover the fundamentals of chemistry, such as atoms, molecules, and solutions, bonding, the periodic table, and naming, as well as some applications including chemical reactions, the behavior of gases, acids and bases, equilibrium, and thermochemistry. There will also be some exposure to the academic literature in the field to provide some insight into advanced chemistry and a sampling of academic chemistry.

Objectives:

- Be able to explain atomic structure and how this leads to ionic, covalent, and metallic compounds through bonding.
- Be able to describe the ways in which chemical compounds react and why they do so
- Construct an understanding of the states of matter, behavior of gases, and properties of solutions
- Construct a familiarity with equilibrium, acid and base, and thermochemistry
- Develop a familiarity with the applications of chemistry in industry and academia

Textbook:

Antony C. Wilbraham, et al. *Chemistry*. Pearson Prentice Hall. Boston, MA, 2008

Required Materials:

Pen (blue or black) and pencil for note taking and work

Pen (red or green) for grading

Designated notebook

Binder or folder for past work

Scientific/graphing calculator

Safety goggles (provided by the school)

Other helpful items (different colored pens, highlighters, etc.)

Class Format and Homework:

This course is taught with a traditional lecture focus such that lecture consists of approximately one third the in-class instruction time. Students are assigned the task of listening to and taking notes on these lectures. The students use textbooks to clarify topics. The rest of the in-class session will be dedicated to working problems and doing activities to enhance learning. During this time students can ask for assistance from the instructor. Some problems will be reviewed at the end of class with rationale provided for correct or incorrect answers. This will help students

correct misunderstandings and ensure proper understanding of content and skills, as well as areas in need of additional practice.

Before every lecture there will be a one question quiz reviewing the previous lecture's material. This quiz is all or nothing; no partial credit will be given. The purpose is to encourage students to review the material before class and to enhance retention.

There will also be a project at the end of the second semester in which students are to summarize the motivation, results, and conclusions of a scientific paper as chosen by the instructor in a presentation. Presentations will be 10 minutes in length and constructed in PowerPoint or similar software.

Laboratory:

Labs are an important component of this course and are to be treated with respect. Failure to follow safety protocols in the lab will result in a failing grade for that lab. On lab days students are to wear pants and close-toed shoes for their safety. Inappropriately dressed students have until the end of the week to schedule an after-school make-up lab for half credit. Googles are to be worn in the lab area at all times. This is for the students' safety and for the development of safe habits; deviance will not be tolerated. If you are concerned about any of the chemicals to be used, I will provide a list upon request. If necessary due to allergy or sensitivity, nitrile gloves can be provided.

Tests:

Exams will be held throughout the school year, after every three chapters for the first semester and after each chapter in the second. For these exams, students will be given the opportunity to rework them using notes and other resources to earn back up to 50% of the points lost. Students will have one 90 min period in which to rework the exam; if more time is needed students may schedule it with the instructor. Notes, textbooks, and other resources may be used to solve exam problems during the rework, but under no circumstance is a student to copy another student's work.

Grading:

Grading will be done on a traditional A-F scale. Curving may be done at the instructor's discretion. Individual assignments will be graded on these standards. Overall course grades are composed as follows:

Contributor	Contribution to Overall Grade
Daily Quizzes	10%
Homework	20%
Lab Reports	20%
Presentation Project	10%
Exams	40%

Expectations:

Students are expected to maintain focus through the lecture and accomplish all assigned problems. Students are expected to take notes during the lecture. If a student needs to miss a class it is that student's responsibility to learn the missed material independently. This may look like borrowing notes or reading the textbook for those sections covered during the absence and does include the completion of all assigned problems. Please set up an appointment or let the instructor know ahead of time that an absence is inbound and materials will be provided via email. If a lab is missed it is the student's responsibility to schedule a make-up time for after school. Excluding the situation where the student misses class, late work is not accepted. Students are expected to adhere to the school dress code and Academic Dishonesty Policy. On days when a wet lab is scheduled, students are expected to dress appropriately with close toed shoes, pants with no holes, hair tied back, and close fitting sleeves. Food is not allowed in the classroom without accomodation. If students are concerned about exposure to chemicals in lab, it is the student's responsibility to inform the teacher so nitrile gloves can be provided. Students are not permitted to use cell phones during class; if I see a cell phone I reserve the right to take said phone and give it to the main office until diciplinary measures can be decided. If the student is struggling it is the student's responsibility to speak up, reach out, and seek help. Please refer to the first section.

Course Outline:

Fall:

- Unit 1 Intro to Chem
- Unit 2 Matter and Change
- Unit 3 Scientific Measurement
- Unit 4 Atomic Structure
- Unit 5 Electrons in Atoms
- Unit 6 The Periodic Table
- Unit 7 Ionic and Metallic Bonding
- Unit 8 Covalent Bonding
- Unit 9 Chemical Names and Formulas

Spring:

- Unit 10 Chemical Quantities i.e. The Mole
- Unit 11 Chemical Reactions
- Unit 12 Stoichiometry
- Unit 13 States of Matter
- Unit 14 The Behavior of Gases
- Unit 16 Solutions
- Unit 17 Thermochemistry
- Unit 18 Reaction Rates and Equilibrium
- Unit 19 Acids, Bases, and Salts

I (Student and Parent print name) _____
have read and understood the contents of this syllabus. I hereby agree to all terms stipulated
therein.

Student _____ Date _____

Parent _____ Date _____