

IB Chemistry 11 (Higher Level)

Course Overview

Course Description

Chemistry is the study of matter and energy. All matter is made of tiny particles that display certain properties. How these particles are arranged and how they behave determine properties of materials in the world around us. We will study the changes that occur when matter and energy interact, examining the theories and ideas that have led to scientific discoveries which we use every day.

In addition, we will emphasize the skills necessary for students to become self-reliant, lifelong learners who are scientifically literate, to help prepare them for both the workplace and/or college in addition to being productive and responsible citizens. These include communication, time-management, self-advocacy, punctuality, organization and personal responsibility.

IB Chemistry 11 (HL) is a 40 week course which fulfills one credit of science.

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Goals / Objectives

This is an *advanced*, college-preparatory course. In addition to completing the New York State Regents Chemistry curriculum (which includes 1200 minutes of laboratory work) to be prepared for success on the Regents Chemistry exam, in depth IB material will be studied and covered at an accelerated pace. Independent study as well as direct instruction will take place weekly. Students will continue on their path towards being lifelong, inquisitive learners and will leave with a solid base of scientific knowledge and skills for future study in the sciences as well as having developed positive learning habits.

IB Chemistry 11 is designed to be year one of a two year sequence where students will challenge the IB Chemistry Exam after the completion of the second year. However, students may choose to enroll in other science courses their senior year (AP Chemistry, AP Biology, Physics) if their interests lie elsewhere.

Suggested Materials

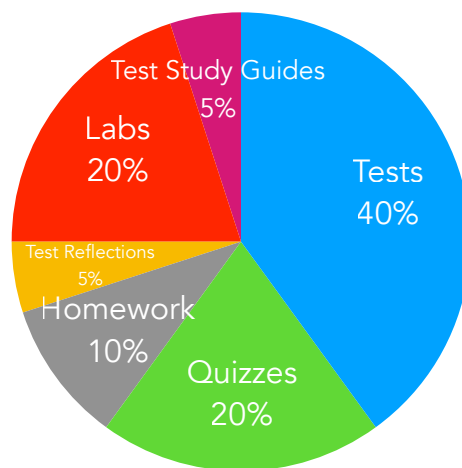
- 1 composition notebook (helps with organization and consolidation of notes)
- 13, two-pocket folders OR a large 3-ring binder.
- Calculator (a scientific, NON-GRAPHING calculator). Graphing calculators are prohibited for the Regents exam administered in June.

Out of Class & Classroom Resources

- I maintain a web site that houses all of the lecture notes, homework assignments and additional resources which include a calendar of upcoming assignments, lecture videos, simulations and activities. It is the student's responsibility to use this web site to their advantage (<http://drgchemistry.weebly.com>).
- Google Classroom is the current district platform for other resources. I use this to post our topic quizzes.

Grading / Evaluations

Your grades will be based on a weighted average. Quiz corrections return 50% of the lost points. Test take the form of traditional multiple choice / short answer assessments.



Tests/Quizzes

Exams will be given at the completion of each unit.

Students will be notified of exam dates in advance. **Communication from the student to the teacher if a student is absent the day of an assessment is strongly encouraged.** The expectation is a student will make up the missed assessment after a mutually agreed upon date. Test corrections/reflections will be completed one week after the exams have been returned.

Classwork/Homework

Practicing the concepts we're learning in class is an essential component to learning and understanding. Interesting and pertinent homework assignments will be given throughout the year (and will be available online). **Late homework assignments will receive a penalty.** Sufficient time will be given to complete assignments so long as the student manages in-class and at-home time appropriately. No more homework is given than is outlined by the district homework policy.

Laboratory

The New York State Board of Regents requires successful completion of 1200 laboratory minutes. **If a student fails to meet the lab requirement, they will be ineligible to take the final exam in June AND will be ineligible to take summer school, resulting in failure of this class.** Students who are absent must make up missed labs within a student-teacher negotiated time frame. Students and parents (guardians) are required to sign a laboratory safety contract.

Course Topics

Matter & Energy

Atomic Structure

Periodic Table

Bonding

Physical Properties of Matter

Solutions

Heat

Stoichiometry

Gases

Acids & Bases

Energetics

Thermodynamics

Organic Chemistry

Oxidation & Reduction

Nuclear Chemistry