

Lab Chemistry B

Course Syllabus

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Course Description

The Lab Chemistry course uses a mathematical and problem solving framework to develop understanding of chemical foundations. The course is designed for the college bound student and uses the laboratory to gather and analyze real data. Atomic and kinetic theory is used to study the properties and reactions of matter. Students maintain a laboratory portfolio notebook. About 40 minutes of homework is expected for each class.

Prerequisite: Lab Earth Science & Lab Biology, students must be able to solve for a single variable

Materials - Be Prepared!

- Paper for taking notes and assignments
- Scientific calculator (NOT one on your phone, etc.)
- Pencil and/or pen
- Agenda Book
- 3-ring binder
- Handouts you will receive
- Laptop computer

Grading:

Category	Percent
Homework	5
Labs	15
Quizzes	20
Tests	30
Standards Assessments	30
Final Exam	20% of course grade

Late/Missing Work Policy

- Late homework and other assignments may or may not be accepted at the teacher's discretion.
- Late work, if accepted, will receive a reduced grade.

Attendance

- Attending class is very important to keep up.
- If you have more than 4 unexcused absences you will not receive credit for the class.
- If you are absent, you are still responsible for missed work. Follow the Standard Operating Procedure (SOP) as discussed in class.

Academic Dishonesty & Plagiarism

If there is evidence of academic dishonesty, such as copying another student's assignment, both students involved will receive zero (0) points for the assignment. Student's suspected of cheating during class tests and quizzes, or providing answers will also receive a zero. Please protect your materials and assignments, and discourage "wandering eyes" while completing these exams!

The Internet provides many scientific resources. However, **WHENEVER** written work or ideas that are not your own are used, you must cite your sources. The BEHS library webpage has links to help with citations. Please review the policy outlined in the student handbook.

Extenuating circumstances will be addressed with students individually. Students are always welcome and encouraged to discuss any of these policies with me.

Standards for Chemistry B

- HS-PS1-2. (Predicting Products) Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.
- HS-PS1-4. (Energy of Reactions) Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.
- HS-PS1-5. (Reaction Rates) Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.
- HS-PS1-6. (Equilibrium) Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.
- HS-PS1-7. (Conservation of Mass) Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.
- HS-PS3-4. (Heat) Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).

Lab Chemistry B Schedule

Term 2 2013-14

weeks (~ dates)	Topics	Chapter	Standard
1 11/22 - 12/6	<u>States of Matter</u> Mixtures & Pure Substances Solids, Liquids, Gases Kinetic Molecular Theory	3, 15.1, 16.1	
2 12/9 - 12/13	<u>Nomenclature Review</u> Review names & formulas of Ionic & Covalent Compounds	10.2 (basics) 10.3	
3-4 12/16-12/20 1/2 - 1/10	<u>Moles</u> Basic Concepts Law of Definite Proportions Mass Percent, Empirical Formulas	12	
5-7 1/13 - 1/31	<u>Chemical Reactions</u> Basic Concepts Equations Law of Conservation of Mass Balancing Equations Mole Ratios Predicting Products using Periodic Trends Reaction Types Activity Series Stoichiometry (including gases)	13 14	PS1-7 PS1-2
8-9 2/3 - 2/14	<u>Kinetics & Equilibrium</u> Collision Theory Factors affecting reaction rates Relative rates Equilibrium (kinetics) Le Chatelier Principle	15 18 (part) 19 (part)	PS1-5 PS1-6
10-11 2/24 - 3/7	<u>Thermochemistry</u> Heat & Temperature, Heat Calculations Heat of Reactions Enthalpy & Calorimetry Hess's Law Compare energy sources	22 16.4 16.5	PS3-4 PS1-4
12 3/10 - 3/14	Catch up & Review for Final Exam		

Textbook: CK-12 Chemistry 2nd Edition (get through DrBriggsScience.weebly.com)