Chemistry I Honors Syllabus

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Expectations:

- **Demonstrate Love Towards God and Towards Others**
  Jesus answered, "The foremost is, 'Hear, O Israel! The Lord our God is one Lord; and you shall love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength.' The second is this, 'You shall love your neighbor as yourself.' There is no other commandment greater than these." Mark 12:29-31
- **Be Accountable**
  Bear one another's burdens, and thereby fulfill the law of Christ. For if anyone thinks he is something when he is nothing, he deceives himself. But each one must examine his own work, and then he will have reason for boasting in regard to himself alone, and not in regard to another. Galatians 6:2-4
- **Be Fearless to Do Your Best**
  Whatever you do in word or deed, do all in the name of the Lord Jesus, giving thanks through Him to God the Father. Colossians 3:17

Course Description:

Chemistry is the second high school science course a student takes at Redeemer, therefore it is imperative that this is a course of study that properly equips and prepares a student for the science courses they will receive throughout their high school years. This foundational science will cover topics that range from Atomic Structure through Organic Chemistry. This course of study will challenge the student to predict, observe, and explain using critical thinking skills and develop understanding through discovery and scientific reasoning. Therefore, chemistry will utilize guided inquiry and student-centered learning to foster the development of critical thinking skills. The entire course of study will have an emphasis and devotion to the deep understanding of each topic.

Laboratory:

The laboratory is a crucial part of the Physics course since this is the place where students will learn about the behavior of matter with "hands-on" qualitative and quantitative observations. Students are engaged in hands-on laboratory work, integrated throughout the course, which accounts for 25 percent of the course. The laboratory is a vital part of this course that will assist in the hands-on learning of the physical world through making observations, recording and analyzing quantitative data, and communicating conclusions through these results.

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Textbook, Virtual Websites, and Websites for Study Guides:

Chemistry. (n.d.). Retrieved from http://mrayton.com/
PhET: Free online physics, chemistry, biology, earth science and math simulations. (n.d.). Retrieved from http://phet.colorado.edu/

Homework:

Students will complete weekly homework assignments found on www.mryaton.com utilizing topics learned in class as well as help review sheets found on the same website. Students will answer each question in full or showing all work properly. Each homework assignment will be due on Friday of each week.

Tests:

Free response and multiple choice tests will be administered at the end of each unit of study. Tests will cover content knowledge in a cumulative fashion to assess student understanding. Tests will be graded with the use of a rubric. Students will have to apply mathematical and physical scientific knowledge to solve problems set forth over the knowledge set forth in the course of study.

Grading Scale:

50% - Tests
25% - Classwork (Notebook, Lab Reports)
25% - Homework Student

Materials:

Scientific Calculator
Dry-Erase Markers
Safety Glasses
Pencil/Pen
Notebook
Molecular Model Kit

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Topics of Study:

Unit	Topic of Study	Time Frame	Big Topic
1	Atomic Structure	2 weeks	I – Chemical Matter
2	Periodic Table	2 weeks	I – Chemical Matter
3	Ionic Compounds	2 weeks	I – Chemical Matter
4	Covalent Molecules	2 weeks	I – Chemical Matter
5	Chemical Reactions	2 weeks	I – Chemical Matter
6	Molar Calculations	3 weeks	II – Chemical Calculations
7	Stoichiometry	3 weeks	II – Chemical Calculations
8	Gases	3 weeks	III – Chemical and Physical Properties of Matter
9	Intermolecular Forces	2 weeks	III – Chemical and Physical Properties of Matter
10	Aqueous Solutions	2 weeks	III – Chemical and Physical Properties of Matter
11	Thermochemistry	3 weeks	IV – Chemical Interactions
12	Acids and Bases	3 weeks	IV – Chemical Interactions
13	Chemical Equilibrium	2 weeks	IV – Chemical Interactions
14	Organic Chemistry	1 week	IV – Chemical Interactions
15	Review	2-3 weeks	