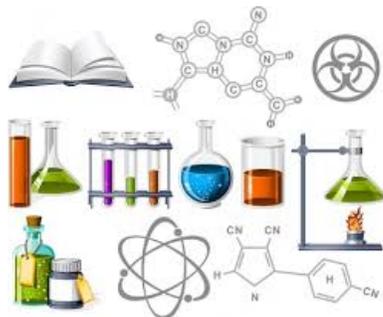


HOME-SCHOOL OPTIONS FOR: Prince William County, Stafford County, Fredericksburg, and Spotsylvania County



**CHEMISTRY I**

**GRADES:** 9-12

**COURSE**

**FEE:** \$329.00

**LAB FEE:** \$8/Week

**PREREQUISITE:** Algebra I

**Full-Year Course:**

**9/12/2018 – 5/25/2019**

**This is a fun and engaging comprehensive course that entails basic principles and concepts in the science of chemistry.**

**Course content includes, but is not limited to: (Course Syllabus on Page 4)**

Fundamental principles of subatomic, atomic, and molecular structure and bonds

Properties of different phases of matter; reduction/oxidation and other chemical reactions; acids and bases; organic chemistry; and other special topics in chemistry.

**METHOD OF DELIVERY:** Online & On-Site Lab

The academic portion of the class is delivered online via the DeskTop Learning Academy course website and meets once a week for the students to complete the lab assignments that correlate to their weekly chapter assignments. Lab Meets occur at my home in Fredericksburg, VA every Thursday from 1:45pm-2:45pm.

**Course Objective**

Upon completion of this Chemistry course, students will have a sound foundation and understanding of introductory concepts and principles of chemistry as well as an ability to think scientifically. Students will become more adept at applying chemistry principles to real scenarios, interpreting data and the results of scientific investigations, and thoughtfully engaging in scientific discourse.

**Weekly Online Class Schedule**

*\*Courses can be accessed 24/7; however, class assignments do have due dates.*

|                  |  |
|------------------|--|
| <b>Monday</b>    | Lesson & Reading Assignment  |
| <b>Tuesday</b>   | Homework & Online Learning Activity  |
| <b>Wednesday</b> | Animated Lab Simulations ( <i>used to prepare the students for tomorrow's lab assignment, as well as reinforce the concepts learned in this week's chapter</i> ) |
| <b>Thursday</b>  | Chemistry Lab/Quiz   |
| <b>Friday</b>    | End of Chapter Test  |

**Required Textbooks:** No purchase of a textbook is required. The reading assignments and textbook are delivered via the classroom website.

**Computer System Requirements:** Windows 7 or Higher, 4MB Memory, Microsoft Word, Excel, and PowerPoint, Adobe Acrobat Reader or Nitro PDF, and Adobe Flash Player. Classes can also be accessed via mobile apps for viewing on mobile phone, iPad, and tablets.

## Grading

Students' grades in this course are determined by weighted categories, divided as shown in the chart below:

|                            |     |
|----------------------------|-----|
| *Daily Work                | 25% |
| Quizzes                    | 10% |
| *Scientific Analysis (Lab) | 0%  |
| Unit Tests                 | 20% |
| Research Paper             | 5%  |
| Midterm Exam               | 15% |
| Final Exam                 | 15% |

\* See below for a more detailed explanation of these categories.

### Daily Work

Students will be graded on class-based work every week, including solving problems individually. Classwork consists of both reading assignments and viewing PowerPoint Lectures, as well as online learning activities.

### Scientific Analysis

Although lab work is a part of this Chemistry course, understanding how to conduct scientific investigations is an integral part of the scientific process. Students will regularly be responsible for reading and analyzing descriptions of experiments, as well as discussing their thoughts on the experimental process, results, and conclusions. Students will also be provided with ideas for labs that illustrate principles taught in class; and, participation in the weekly lab meetings are a requirement of the course.

### Research Paper

Students are required to research and write a **4-6 paragraph essay** that traces the historical development of either a discovery or technology that has impacted the field of chemistry. Students will choose their topic in January then work **throughout the second semester** to locate sources, create an outline, write a rough draft, edit/revise their draft, and finally **submit a final paper in April**. More information regarding expectations will be provided to the students near the end of the first semester.

## COURSE SYLLABUS

The schedule is subject to updates from me. Please keep up with Blackboard or email announcements for changes.

| <b>Week</b>               | <b>Lesson 1.1</b>                             | <b>Lecture 2.1</b>                            |
|---------------------------|---|---|
| 1                         | 1.1 Intro/Course Expectations                 | 2.1 About Science                             |
| 2                         | 1.2 Particles of Matter                       | 2.2 Particles of Matter                       |
| 3                         | 3.1 Particles of Matter                       | 3.2 Particles of Matter                       |
| 4                         | 4.1 Elements of Chemistry                     | 4.2 Elements of Chemistry                     |
| 5                         | 5.1 Elements of Chemistry                     | 5.2 Elements of Chemistry                     |
| 6                         | 6.1 - Unit 1 Final Exam                       | 6.2 <i>The Skeptical Chemist</i> (Boyle)      |
| 7                         | 7.1 <i>The Skeptical Chemist</i> (Boyle)      | 7.2 Subatomic Particles                       |
| 8                         | 8.1 Subatomic Particles                       | 8.2 Subatomic Particles                       |
| 9                         | 9.1 Subatomic Particles                       | 9.2 The Atomic Nucleus                        |
| 10                        | 10.1 The Atomic Nucleus                       | 10.2 The Atomic Nucleus                       |
| 11                        | 11.1 The Atomic Nucleus                       | 11.2 - Unit 2 Final Exam                      |
| <b>Thanksgiving Break</b> |   |   |
| 12                        | 12.1 How Atoms Bond                           | 12.2 How Atoms Bond                           |
| 13                        | 13.1 How Atoms Bond                           | 13.2 How Atoms Bond                           |
| 14                        | 14.1 How Molecules Mix                        | 14.2 How Molecules Mix                        |
| 15                        | 15.1 How Molecules Mix                        | 15.2 How Molecules Mix                        |
| <b>Holiday Break</b>      |   |   |
| 16                        | 16.1 Midterm Review                           | 16.2 Midterm Exam                             |
| <b>Midterms Week</b>      |   |   |
| 17                        | 17.1 How Water Behaves                        | 17.2 How Water Behaves                        |
| 18                        | 18.1 How Water Behaves                        | 18.2 How Water Behaves                        |
| 19                        | 19.1 How Chemicals React                      | 19.2 How Chemicals React                      |
| 20                        | 20.1 How Chemicals React                      | 20.2 How Chemicals React                      |
| 21                        | 21.1 Unit 3 Final Exam                        | 21.2 <i>Elements of Chemistry</i> (Lavoisier) |
| 22                        | 22.1 <i>Elements of Chemistry</i> (Lavoisier) | 22.2 Acids and Bases                          |
| 23                        | 23.1 Acids and Bases                          | 23.2 Acids and Bases                          |
| 24                        | 24.1 Acids and Bases                          | 24.2 Oxidations and Reductions                |
| <b>Spring Break</b>       |   |   |
| 25                        | 25.1 Oxidations and Reductions                | 25.2 Oxidations and Reductions                |
| 26                        | 26.1 Oxidations and Reductions                | 26.2 - Unit 4 Final Exam                      |
| 27                        | 27.1 Organic Compounds                        | 27.2 Organic Compounds                        |
| 28                        | 28.1 Organic Compounds                        | 28.2 Organic Compounds                        |
| 29                        | 29.1 Medicinal Chemistry                      | 29.2 Medicinal Chemistry                      |
| 30                        | 30.1 Food Production/Special Topics           | 30.2 Food Production/Special Topics           |
| 31                        | 31.1 Paper on new technology/theory           | 31.2 – Unit 5 Final Exam                      |
| 32                        | Paper on new technology/theory                | Final Term Exam Units 1-5                     |
| <b>Finals Week</b>        |   |   |

### **Late Work Policy**

Students submitting any work assigned by the instructor will incur a **10% reduction in grade for each day the work is late**. For example, if a test is due on a Friday but is not submitted until Sunday, the highest possible grade will be an 80%. Extenuating circumstances requiring an extension **MUST** be discussed with the instructor **at least 1 week in advance** of the assignment's due date.

### **Email Communication with Instructor**

Please email the instructor with any questions or concerns you have regarding the course. Unless stated otherwise ahead of time, the instructor will respond to any email **within 24 hours during weekdays** (this is **not** guaranteed for emails submitted over the weekend). Parents will receive a weekly progress & grade report via email.