Laurie Cush Sorrell

Advanced Placement Chemistry

Bishop McGuinness Catholic High School

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Dear Student (and Parents):

You have indicated an interest in registering for Advanced Placement Chemistry, a course specifically designed for students who wish to take advantage of the opportunity to earn college credit while still in high school. I am confident that you are registering for this class because you enjoy a challenge, have a high interest in Chemistry, and would like to take courses that better prepare you for your future in higher education. It is vital that your ambitions include successfully passing the AP exam since you will be required to sit for the exam in early May 2027 and it would be a waste of time, effort, and money if you are not fully committed to this goal.

If you are considering enrolling in this course purely because of social considerations (i.e., your friends are taking the class), or because you are lured by the extra weighting points (1 additional for calculation of GPA), I would strongly recommend that you reconsider your motives. This is an extremely challenging course which requires considerable math, reading, writing, and attention to detail. We will complete approximately 16 labs, and at least 3 of them will require a full lab report where the content is expected at the college level and many will begin at 8 am utilizing the "0" period. Some labs also require students to propose the procedure. This workload is independent of your other classes, and extracurricular activities.

We will begin our study of AP Chemistry during the summer by reading the first three chapters of the textbook. There are reading notes/questions to answer and a set of problems for each chapter, which is due on the second day of school. We will also have a test, during the first week of school, to assess your understanding of the reading, retention of Honors Chemistry material, and the summer review assignment. This sample will be representative of the course expectations throughout the school year. Students who have a grade of "C-" or below, after the first two weeks of school, will be asked to leave the class for an alternative placement since it is unlikely that they will be successful in the course. Summer assignments are posted to school website and in current/upcoming Chemistry classes on Canvas. Students may purchase the online edition of the book (ISBN-13: 9780357540251) from the Cengage website. https://www.cengage.com/c/student/9781133611097. You are welcome to buy a hardback book if you prefer/ find one (**978-1133611097).**

The problems for each of the three chapters and the reading assignments will be available in the summer assignment module section on Canvas for both honors and AP Chemistry classes and on the school website. Students will also need, a graphing calculator, large 3-ring binder, loose leaf notebook paper, graph paper notebook (hardbound, please try to avoid spiral) and number 2 pencils.

If you proceed to register for this class, you have indicated that you fully understand the commitment that you are making. If you believe that you might be unable, or unwilling, to complete the course assignments (including the summer assignments) I would encourage you to register for the Honors Anatomy and Physiology, AP Environmental, or any other science elective course as an alternative. I do not wish for anyone to feel frustrated because they are incapable of meeting the academic requirements for AP Chemistry. Please discuss this course with your parents so that we are all in complete agreement about my expectations for this course.

Students will need the newest version (2027) *of AP Chemistry Premium Prep 28th edition* published by the Princeton Review. Students may purchase the Princeton Review from vendor of choice by December 1, 2027. Students will need to also purchase "Chemistry" ninth edition by Zumdahl and Zumdahl (ISBN-13: 978-1-133-61109-7) once the Fall semester begins. This book information will also be included in official textbook list published to our website this summer. Be sure to purchase a format that includes Chapter problem sets. Please return this signed letter to me by Wednesday 5/20/2027. A copy of this letter has been posted on Canvas for your future reference.

Sincerely,
Mrs. Laurie Cush Sorrell

Student Name (printed)_____ Signature_____

Student E-mail Address _____

Parent Signature_____ Date_____

AP Chemistry
Chapter 1 Reading Questions

Section 1

1. What is one surprising Chem fact from the introduction?

2. What can be used to view individual atoms?

3. Compare macroscopic vs microscopic.

4. Review question: List the 7 diatomic molecules.

5. What two fundamental concepts of Chemistry are illustrated in section 1.1?

Section 2

1. Compare qualitative and quantitative observations.

2. What is another word for scientific theory?

3. Compare scientific theory and law.

Section 3

1. A quantitative measure always includes what 2 things?

2. 1 cm3 = ? mL

3. Compare mass and weight.

Section 4

1. How many numbers in a measurement are uncertain?

2. What is the rule for recording measurements to correct significant figures?

3. Compare accuracy and precision.

4. Compare random and systemic error.

Section 5

1. Make a set of rules for counting and using sig figs in calculations.

Section 6 X
Section 7

1. A Japanese car company advertises that its cars have a gas mileage of 15 Km/L. Convert this to miles/gallon.

Section 8

What are the formulas for temperature conversions?

Section 9
What is formula for Density and explain how it can be used to help identify an unknown substance.

Section 10
1. List and define the three states of matter.

2. List and explain the 3 physical separation methods your book discusses.

Chapter problems:
29, 31, 34, 38(a-e), 39, 50, 57, 66, 68, 71, 82, 83, 87

Chapter 2 Reading questions

Section 2.2

1. List and describe the 3 fundamental chemical laws.

Section 2.3

1. List the 4 proponents of Dalton's theory.

2. What is Avogadro's hypothesis?

Section 2.4

Describe the contributions made by the following people to atomic theory:

JJ Thomson

Becquerel

Rutherford

2.5

1. Define isotope

2. What is "Z" and what does it mean. What is "A" and what does it mean.
3. What is a covalent bond? And, the resulting collection of atoms is called?

4. What are the 4 ways of representing molecules?

5. How do ions form?

6. What is ionic bonding?

7. Define ionic solid.

8. Define polyatomic ion.

Section 2.7

1. List the properties of metals:

2.List the properties of nonmetals:

3. What are the 4 families with names

Section 2.8

1. What are the rules for naming type 1 binary ionic compounds:

2. Rules for naming type II Binary ionic compounds

3. Rules for naming oxyanions

4. Rules for naming binary covalent molecules

5. Rules for naming acids

Chapter 2 problems:

49, 51, 53, 56, 62, 64, 68, 70, 72, 73, 74, 75, 76, 80, 84, 86, 88

Chapter 3 Reading Questions

1. Why do we count atoms by weighing?

2. Describe how a mass spectrometer works.

3. Define amu.

4. Define Avogadro's #

5. Define molar mass.

6. Compare empirical and molecular formulas.

7. Define stoichiometric quantities.

8. Define Limiting reactant.

9. Define Theoretical Yield

Chapter Problems: 38, 46, 48, 50, 51, 53, 55, 57, 59, 61, 68, 70, 76, 79, 82, 83, 85, 87, 96, 97, 102, 105, 108, 117, 124, 125