

West Linn–Wilsonville School District
Science Department – Course Statement

Course Title: Advanced Placement (AP) Chemistry

Length of Course: Year
Number of Credits: 2
Grade Level: 10, 11, 12
Prerequisites: Chemistry with grade of A or B, or Physics concurrently; and consent of instructor based on application
CIM Work Samples Offered in Course: At least one technical writing, information speech, or math problem-solving work sample

Date of Description/Revision: 2002

Course Overview

Advanced Placement Chemistry is a second-year course that is equivalent to a college-level general chemistry course. It will build on the concepts attained during the first Chemistry course and will provide rigorous study into four major areas: Structure of Matter, States of Matter, Reactions and Descriptive Chemistry. At the end of the year, students will be encouraged to take the AP examination. Those who pass the exam will receive a weighted grade for the course. Students taking this course will be required to complete laboratory work outside of regular class time. Students will receive guidance on which career choices are available within and related to chemistry and which college courses would be most appropriate.

Essential Questions

Concepts providing focus for student learning

- How is matter constructed?
- What are the similarities and differences in matter?
- Why does matter interact?
- How is the chemical concept of “mole” important to mathematical relationships?
- How is it possible to predict the outcomes of chemical reactions?
- How does experimentation improve the understanding of matter?

Proficiency Statements

- Upon completion of course, students will be able to:
- Consistently use the metric system and significant figures in laboratory reports and calculations.
 - Apply advanced concepts of atomic theory, periodicity, bonding, mole concepts, equilibrium, and kinetics.
 - Design, collect and analyze laboratory data with detailed mathematical calculations in a laboratory notebook.
 - Assemble apparatus and conduct difficult laboratory exercises.
 - Demonstrate through exposure to current scientific literature, an awareness of current scientific

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| research and application to our everyday world. | |
| General Course Topics/Units & Timeframes | |
| A. Structure of Matter | 8 weeks |
| B. States of Matter | 7 weeks |
| C. Reactions | 15 weeks |
| D. Descriptive Chemistry | 6 weeks |
| Resources | |
| <ul style="list-style-type: none">• Text: <i>Chemistry</i>, Zumdahl, McDougal Littell, | |