AP CHEMISTRY

This is an A-G-Approved college-level physical science course.

Advanced Placement (AP) Chemistry is a course that is designed to be equivalent to a student's first year, general chemistry college course. As such, this course is designed to meet the needs of highly successful students who have completed one year of high school chemistry. In addition, it is expected that students will also have a strong foundation in math. The course prepares the student to seek credit and/or appropriate placement in college Chemistry courses.

Students who are interested in this course will

- Set ambitious goals and approach those goals with resilience and persistence, embracing the challenges and opportunities that come with pursuing those goals
- Develop a deep conceptual understanding of modern chemistry
- Recognize unifying principles that connect different areas of chemistry
- Apply chemical knowledge and critical thinking to solve real-world problems
- Self-compassion and resilience are essential for maintaining emotional well-being, navigating challenges, and fostering personal growth. They enable us to respond to setbacks with kindness and persevere through challenges

How to succeed in AP Chem

- Be consistent with attendance and participation
- Stay engaged and collaborate with classmates
- Form study groups and review material regularly
- Ask questions—your curiosity fuels your learning!
- Take mistakes as learning opportunities
- Dedicate time for independent study (at least 5 hours per week recommended)
- Maintain the highest standards of integrity, mutual respect, and compassion.
  - These values are interconnected and mutually reinforcing. They promote a culture of empathy, understanding, and ethical behavior. When compassion guides our interactions, mutual respect becomes the norm, and integrity becomes the guiding principle of our actions.

Syllabus

LelaMaihen@IUSD.org |RachelTashima@IUSD.org

Units of Instruction	Exam Weighting
Unit 1: *Atomic Structure and Properties*	**7–9%**
Unit 2: *Compound Structure and Properties*	**7–9%**
Unit 3: *Properties of Substances and Mixtures*	**18–22%**
Unit 4: *Chemical Reactions*	**7–9%**
Unit 5: *Kinetics*	**7–9%**
Unit 6: *Thermochemistry*	**7–9%**
Unit 7: *Equilibrium*	**7–9%**
Unit 8: *Acids and Bases*	**11–15%**
Unit 9: *Thermodynamics and Electrochemistry*	**7–9%**

Be Prepared To Explore

Albert Einstein said, "*I have no special talents. I am only passionately curious.*" Why is curiosity important? Curiosity is the vehicle used by the open-minded. It takes us to different places, allowing us to explore and discover possibility.

Lab Experience

Laboratory investigations are a critical component of AP Chemistry, designed to mirror the experience of a college-level chemistry lab. Students will engage in:

- Inquiry-based experiments that develop critical thinking and problem-solving skills
- Hands-on investigations that reinforce course concepts and emphasize real-world applications
- Data collection & analysis to strengthen scientific reasoning
- Writing detailed lab reports to communicate results effectively
- Applying six scientific practices, including model analysis, mathematical routines, and argumentation

Science Practices

The course emphasizes six science practices that develop critical thinking, problem-solving, and scientific communication skills:

1. **Models & Representations** – Use models to describe and predict chemical behavior
2. **Question and Method** – Determine scientific questions and methods
3. **Representing Data and Phenomena** – Create representations or models of chemical phenomena
4. **Model Analysis** – Analyze and interpret models and representations on a single scale or across multiple scales
5. **Mathematical Routines** – Solve problems using mathematical relationships
6. **Argumentation** – Justify conclusions with data and critique scientific explanations

A note on Success

Your success in this course is not about being "naturally good" at chemistry—it's about the effort you put in every day. Progress comes from persistence, asking questions, making mistakes, and learning from them. Chemistry is challenging, but challenge is where growth happens. No single test, assignment, or mistake defines you. What matters is your commitment to learning, improving, and giving your best. Keep going, stay curious, and trust in your ability to grow.

LelaMaihen@IUSD.org |RachelTashima@IUSD.org