

Integrated Physics and Chemistry explores the nature of force, motion, energy, and matter. Course topics include kinematics, force, momentum, waves, atoms, the periodic table, molecular bonding, chemical reactivity, electricity, and nuclear energy.

The course provides students with opportunities to learn and practice scientific skills within the context of relevant scientific questions. Scientific inquiry skills are embedded in the direct instruction, through which students learn to ask scientific questions, deconstruct claims, form and test hypotheses, and use logic and evidence to draw conclusions about the concepts. Lab activities reinforce skills related to writing, communication, and critical thinking, in addition to helping students develop a deeper understanding of the nature of science. Throughout this course, students are given an opportunity to understand how physics and chemistry concepts are applied in technology and engineering.

This course is built to the Texas Essential Knowledge and Skills (TEKS) Integrated Physics and Chemistry Standards and Benchmarks.

Length: Two Semesters

Unit 1: Introduction to Integrated Physics and Chemistry

Unit 2: The Physics of Moving Objects

Unit 3: Forces and Newton's Laws

Unit 4: Momentum and Energy

Unit 5: Semester 1 Review and Exam

Unit 6: Waves, Sound, and Light

Unit 7: Atoms and Matter

Unit 8: Chemical Bonds and Reactions

Unit 9: Electricity and Energy Resources

Unit 10: Semester 2 Review and Exam