



Pre-Built Course: Conceptual Physical Science, Physics, Astro, Chem

We offer pre-built courses for all of our titles. A pre-built course works well when using Conceptual Academy much like the video version of a traditional textbook. Your students will have access to all the content listed within this pre-built course (see below). This provides flexibility from one semester to the next. For each semester you might direct students to be responsible for only select lessons or chapter sections.

Once a pre-built course is uploaded to your instructor's account, you can modify it as you see fit to "make it your own". This includes updating the FYI pages and setting dates for each lesson so that students know what to study by when. You can also remove select chapter sections you are not wanting students to see.

For a Conceptual Academy course aligned more precisely to a particular class schedule, we recommend you contact us to request a customized course. To learn more about customizing your course, please look to the help documents within your instructor profile page.

Conceptual Physical Science, 6e

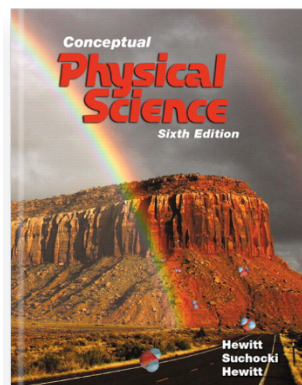
Syllabus: Physics, Astro, Chem
6 Units; 26 Lessons
361 Videos

Unit : A: Mechanics
Unit : B: Fluids and Energy
Unit : C: Waves and Atoms
Unit : D: Astronomy
Unit : E: Elements of Chemistry
Unit : F: Chemical Reactions

Unit : A: Mechanics

Lesson 1 (your date)

- FYI page
- 1.1 Aristotle on Motion
- 1.2 Galileo's Concept of Inertia
- 1.3 Mass--A Measure of Inertia
- 1.4 Net Force
- 1.5 The Equilibrium Rule
- 1.6 Support Force
- 1.7 The Force of Friction
- 1.8 Speed and Velocity
- 1.9 Acceleration
- Lesson Reading Quiz
- Homework Practice Session



Lesson 2 (your date)

FYI page

- 2.1 Newton's First Law of Motion
 - 2.2 Newton's Second Law of Motion
 - 2.3 Forces and Interactions
 - 2.4 Newton's Third Law of Motion
 - 2.5 Summary of Newton's Three Laws
- Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page

- 3.1 Momentum and Impulse
 - 3.2 Impulse Changes Momentum
 - 3.3 Conservation of Momentum
 - 3.4 Energy and Work
 - 3.5 Work-Energy Theorem
 - 3.6 Conservation of Energy
 - 3.7 Power
 - 3.8 Machines
 - 3.9 Efficiency
 - 3.10 Sources of Energy
- Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page

- 4.1 The Universal Law of Gravity
 - 4.2 Gravity and Distance: The Inverse-Square Law
 - 4.3 Weight and Weightlessness
 - 4.4 Universal Gravitation
 - 4.5 Projectile Motion
 - 4.6 Fast-Moving Projectiles—Satellites
 - 4.7 Circular Satellite Orbits
 - 4.8 Elliptical Orbits
 - 4.9 Escape Speed
- Lesson Reading Quiz
Homework Practice Session

Unit : B: Fluids and Energy

Lesson 1 (your date)

FYI page

- 5.1 Density
 - 5.2 Pressure
 - 5.3 Buoyancy in a Liquid
 - 5.4 Archimedes' Principle
- Lesson Reading Quiz
Homework Practice Session



Lesson 2 (your date)

FYI page
5.5 Pressure in a Gas
5.6 Atmospheric Pressure
5.7 Pascal's Principle
5.8 Buoyancy in a Gas
5.9 Bernoulli's Principle
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
6.1 Temperature
6.2 Absolute Zero
6.3 Heat
6.7 Specific Heat Capacity
6.8 Thermal Expansion
6.9 Expansion of Water
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
7.5 Climate Change and the Greenhouse Effect
7.6 Heat Transfer and Change of Phase
7.7 Boiling
7.8 Melting and Freezing
7.9 Energy and Change of Phase
Lesson Reading Quiz
Homework Practice Session

Lesson 5 (your date)

FYI page
8.1 Electric Force and Charge
8.2 Coulomb's Law
8.3 Electric Field
9.4 Electric Currents and Magnetic Fields
9.5 Magnetic Forces on Moving Charges
Lesson Reading Quiz
Homework Practice Session

Unit : C: Waves and Atoms

Lesson 1 (your date)

FYI page
10.1 Vibrations and Waves
10.2 Wave Motion
10.3 Transverse and Longitudinal Waves



10.4 Sound Waves
10.5 Reflection and Refraction of Sound
10.6 Forced Vibrations and Resonance
10.7 Interference
10.8 Doppler Effect
10.9 Bow Waves and the Sonic Boom
10.10 Musical Sounds
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
11.1 Electromagnetic Spectrum
11.2 Transparent and Opaque Materials
11.3 Reflection
11.4 Refraction
11.5 Color
11.6 Dispersion
11.7 Polarization
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
12.1 Atoms Are Ancient and Empty
12.2 The Elements
12.3 Protons and Neutrons
12.4 The Periodic Table
12.5 Physical and Conceptual Models
12.6 Identifying Atoms Using the Spectroscope
12.7 The Quantum Hypothesis
12.8 Electron Waves
12.9 The Shell Model
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
13.1 Radioactivity
13.2 The Strong Nuclear Force
13.3 Half-Life and Transmutation
13.4 Radiometric Dating
Lesson Reading Quiz
Homework Practice Session

Lesson 5 (your date)

FYI page
13.5 Nuclear Fission
13.6 Mass-Energy Equivalence



13.7 Nuclear Fusion
Lesson Reading Quiz
Homework Practice Session

Unit : D: Astronomy

Lesson 1 (your date)

FYI page
26.1 The Solar System and its Formation
26.2 The Sun
26.3 The Inner Planets
26.4 The Outer Planets
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
26.5 Earth's Moon
26.6 Failed Planet Formation
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
27.1 Observing the Night Sky
27.2 The Brightness and Color of Stars
27.3 The Hertzsprung-Russell Diagram
27.4 The Life Cycles of Stars
27.5 Black Holes
27.6 Galaxies
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
28.1 Looking Back in Time
28.2 Cosmic Inflation
28.3 and 28.4 Relativity
28.5 Dark Matter
28.6 Dark Energy
28.7 The Fate of the Universe
Lesson Reading Quiz
Homework Practice Session

Unit : E: Elements of Chemistry

Lesson 1 (your date)

FYI page
14.1 Chemistry: The Central Science
14.2 The Submicroscopic World



14.3 Physical and Chemical Properties
14.4 Determining Physical and Chemical Changes
14.5 Elements to Compounds
14.6 Naming Compounds
14.7 The Advent of Nanotechnology
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
15.1 Electron-Dot Structures
15.2 The Formation of Ions
15.3 Ionic Bonds
15.4 Metallic Bonds
15.5 Covalent Bonds
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
15.6 Polar Covalent Bonds
15.7 Molecular Polarity
15.8 Molecular Attractions
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
16.1 Most Materials Are Mixtures
16.2 The Chemist's Classification of Matter
16.3 Solutions
16.4 Solubility
16.5 Soaps, Detergents, and Hard Water
16.6 Purifying the Water We Drink
16.7 Wastewater Treatment
Lesson Reading Quiz
Homework Practice Session

Unit : F: Chemical Reactions

Lesson 1 (your date)

FYI page
17.1 Chemical Equations
17.2 Counting Atoms and Molecules by Mass
17.3 Reaction Rates
17.4 Catalysts
17.5 Energy and Chemical Reactions
17.6 Chemical Reactions Are Driven by Entropy
Lesson Reading Quiz
Homework Practice Session



Lesson 2 (your date)

FYI page

18.1 Acids Donate Protons; Bases Accept Them

18.2 Relative Strengths of Acids and Bases

18.3 Acidic, Basic, and Neutral Solutions

18.4 Acidic Rain and Basic Oceans

Lesson Reading Quiz

Homework Practice Session

Lesson 3 (your date)

FYI page

18.5 Losing and Gaining Electrons

18.6 Harnessing the Energy of Flowing Electrons

18.7 Electrolysis

18.8 Corrosion and Combustion

Lesson Reading Quiz

Homework Practice Session

Lesson 4 (your date)

FYI page

19.1 Hydrocarbons

19.2 Unsaturated Hydrocarbons

19.3 Functional Groups

19.4 Alcohols, Phenols, and Ethers

19.5 Amines and Alkaloids

19.6 Carbonyl Compounds

19.7 Polymers

Lesson Reading Quiz

Homework Practice Session

