



Pre-Built Course: Prep Chemistry

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.

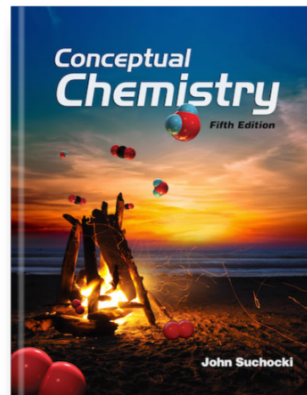
Once a pre-built course is uploaded to your instructor's account, you can modify it as you see fit to "make it your own". This includes updating the FYI pages and setting dates for each lesson so that students know what to study by when. You can also remove select chapter sections you are not wanting 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 Chemistry, 5e

Syllabus: Prep Chemistry
7 Units; 31 Lessons
234 Videos

Unit : A : Particles of Matter
Unit : B : Elements of Chemistry
Unit : C : Atomic Bonding
Unit : D : Chemistry of Solutions
Unit : E : Chemical Reactions
Unit : F : Acids, Bases, and Redox
Unit : G : Organic and Biochemistry



Unit : A : Particles of Matter

Lesson 1 (your date)

FYI page

- 1.1 Science Is a Way of Understanding the Natural World
- 1.2 The Discovery of the Buckyball
- 1.3 Technology Is Applied Science
- 1.4 We Are Still Learning About the Natural World
- 1.5 Chemistry Is Integral to Our Lives
- 1.6 Scientists Measure Physical Quantities

Lesson Reading Quiz

Homework Practice Session

Lesson 2 (your date)

FYI page

2.1 The Submicroscopic World Is Super-Small

2.2 Discovering the Atom

2.3 Mass Is How Much and Volume Is How Spacious

2.4 Density Is the Ratio of Mass to Volume

Lesson Reading Quiz

Homework Practice Session

Lesson 3 (your date)

FYI page

2.5 Energy Is the Mover of Matter

2.6 Temperature Is a Measure of How Hot--Heat It Is Not

2.7 The Phase of a Material Depends on the Motion of Its Particles

Lesson Reading Quiz

Homework Practice Session

Lesson 4 (your date)

FYI page

2.8 Gas Laws Describe the Behavior of Gases

Lesson Reading Quiz

Homework Practice Session

Unit : B : Elements of Chemistry

Lesson 1 (your date)

FYI page

3.1 Matter Has Physical and Chemical Properties

3.2 Elements Are Made of Atoms

3.3 The Periodic Table Helps Us to Understand the Elements

3.4 Elements Can Combine to Form Compounds

Lesson Reading Quiz

Homework Practice Session

Lesson 2 (your date)

FYI page

3.5 There Is A System for Naming Compounds

3.6 Most Materials Are Mixtures

3.7 Matter Can Be Classified as Pure or Impure

3.8 The Advent of Nanotechnology

Lesson Reading Quiz

Homework Practice Session

Lesson 3 (your date)

FYI page

4.1 Physical and Conceptual Models

4.2 The Electron Was the First Subatomic Particle Discovered



4.3 The Mass of an Atom Is Concentrated in its Nucleus
4.4 The Atomic Nucleus Is Made of Protons and Neutrons
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
4.5 Light Is a Form of Energy
4.6 Atomic Spectra and the Quantum Hypothesis
4.7 Electrons Exhibit Wave Properties
Lesson Reading Quiz
Homework Practice Session

Lesson 5 (your date)

FYI page
4.8 The Noble Gas Shell Model Simplifies the Energy-Level Diagram
4.9. The Periodic Table Helps Us Predict Properties of Elements
Lesson Reading Quiz
Homework Practice Session

Unit : C : Atomic Bonding

Lesson 1 (your date)

FYI page
5.1 Radioactivity--the Disintegration of the Atomic Nucleus
5.2 Radioactivity Is a Natural Phenomenon
5.3 Radioactivity Results from an Imbalance of Forces
5.4 Radioactive Elements Transmute to Different Elements
5.5 The Shorter the Half-Life, the Greater the Radioactivity
5.6 Isotopic Dating Measures the Ages of Materials
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
5.7 Nuclear Fission--The Splitting of Atomic Nuclei
5.8 The Mass-Energy Relationship: $E = mc^2$
5.9 Nuclear Fusion--The Combining of Atomic Nuclei
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
6.1 Electron-Dot Structures
6.2 Atoms Can Lose or Gain Electrons to Become Ions
6.3 Ionic Bonds Result from a Transfer of Electrons
6.4 The Electrons of Metallic Bonds Are Loosely Held
Lesson Reading Quiz
Homework Practice Session



Lesson 4 (your date)

FYI page

6.6 Valence Electrons Determine Molecular Shape

6.7 Polar Covalent Bonds--Uneven Sharing of Electrons

Lesson Reading Quiz

Homework Practice Session

Unit : D : Chemistry of Solutions

Lesson 1 (your date)

FYI page

6.8 Molecular Polarity--Uneven Distribution of Electrons

7.1 Four Different Types of Dipole Attractions

Lesson Reading Quiz

Homework Practice Session

Lesson 2 (your date)

FYI page

7.2 A Solution Is a Single-Phase Homogeneous Mixture

7.3 Concentration Is Given As Moles Per Liter

7.4 Solubility Is How Well a Solute Dissolves

7.5 Soap Works by Being Both Polar and Nonpolar

7.6 Softening Hard Water

7.7 Purifying the Water We Drink

Lesson Reading Quiz

Homework Practice Session

Lesson 3 (your date)

FYI page

8.1 Water Molecules Form an Open Crystalline Structure in Ice

8.2 Freezing and Melting Go On at the Same Time

8.3 Liquid Water's Behavior Results from the Stickiness of Its Molecules

Lesson Reading Quiz

Homework Practice Session

Lesson 4 (your date)

FYI page

8.4 Water Molecules Move Freely Between the Liquid and Gaseous Phases

8.5 It Takes a Lot of Energy to Change the Temperature of Liquid Water

8.6 A Phase Change Requires the Input or Output of Energy

Lesson Reading Quiz

Homework Practice Session

Unit : E : Chemical Reactions

Lesson 1 (your date)

FYI page

9.1 Chemical Reactions Are Represented by Chemical Equations



9.2 Counting Atoms and Molecules By Mass
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
9.3 Converting Between Grams and Moles
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
9.4 Chemical Reactions Can Be Exothermic or Endothermic
9.5 Chemical Reactions Are Driven By Entropy
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
9.6 Chemical Reactions Can Be Slow or Fast
9.7 Catalysts Speed Up the Destruction of Stratospheric Ozone
Lesson Reading Quiz
Homework Practice Session

Unit : F : Acids, Bases, and Redox

Lesson 1 (your date)

FYI page
10.1 Acids Donate Protons and Bases Accept Them
10.2 Some Acids and Bases Are Stronger Than Others
10.3 Solutions Can Be Acidic, Basic, or Neutral
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
10.4 Buffer Solutions Resist Changes in pH
10.5 Rainwater Is Acidic
10.6 Carbon Dioxide Acidifies the Oceans
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
11.1 Losing and Gaining Electrons
11.2 Harnessing the Energy of Flowing Electrons
11.3 Batteries Consume Chemicals to Generate Electricity
11.4 Fuel Cells Consume Fuel to Generate Electricity



11.5 Photovoltaics Transform Light Into Electricity
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
11.6 Electrolysis Produces Chemical Change
11.7 Metal Compounds Can Be Converted to Metals
11.8 Oxygen Is Responsible for Corrosion and Combustion
Lesson Reading Quiz
Homework Practice Session

Unit : G : Organic and Biochemistry

Lesson 1 (your date)

FYI page
12.1 Hydrocarbons Contain Only Carbon and Hydrogen
12.2 Unsaturated Hydrocarbons Have Multiple Bonds
12.3 Functional Groups Give Organic Compounds Character
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
12.4 Alcohols, Phenols, and Ethers Contain Oxygen
12.5 Amines and Alkaloids Contain Nitrogen
12.6 Carbonyl Containing Compounds
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
12.7 An Example of Organic Synthesis
12.8 Organic Molecules Can Link to Form Polymers
12.9 A Brief History of Plastics
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
13.1 Biomolecules Are Produced and Utilized by Organisms
13.2 Carbohydrates Give Structure and Energy
13.3 Lipids Are Insoluble in Water
Lesson Reading Quiz
Homework Practice Session

Lesson 5 (your date)

FYI page



13.4 Proteins Are Polymers of Amino Acids
13.5 Nucleic Acids Code for Proteins
Lesson Reading Quiz
Homework Practice Session

Lesson 6 (your date)

FYI page
13.6 Vitamins Are Organic, Minerals Are Inorganic
13.7 Metabolism Is the Cycling of Biomolecules Through the Body
13.8 The Food Pyramid Summarizes a Healthful Diet
Lesson Reading Quiz
Homework Practice Session

