

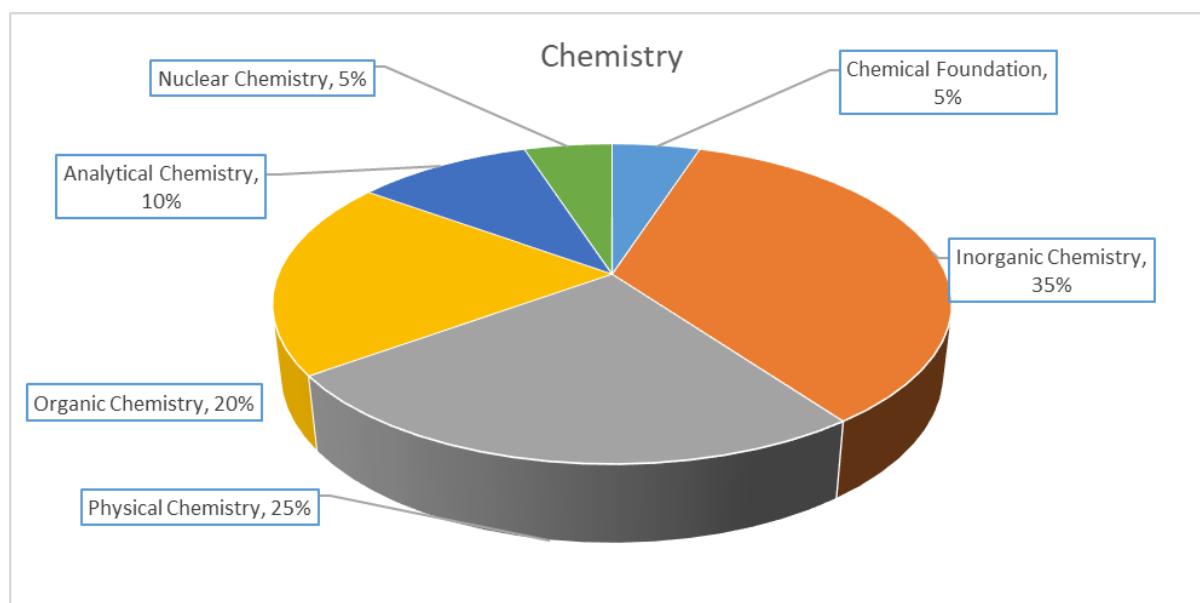
## Chemistry Test Study Guide

**Test Duration:** 2.5 hours

Chemistry Teaching Licensure is a computer-based test that includes 6 major parts: Chemical Foundation, Inorganic Chemistry, Physical Chemistry, Organic Chemistry, Analytical Chemistry and Nuclear Chemistry.

Test sections, questions, and options are randomized. Sections and subsections of the test are timed by the computer. Test takers can see how much time they have throughout the test.

Topic	Weight
Chemical Foundation	5%
Inorganic Chemistry	35%
Physical Chemistry	25%
Organic Chemistry	20%
Analytical Chemistry	10%
Nuclear Chemistry	5%
Total	100%



## Chemistry Test Study Guide

### Part 1: Chemical Foundations

To understand, compare, and, apply concepts related to

- The Scientific Method
- Uncertainty in Measurements
- Dimensional Analysis
- Density
- Units of Measurements
- Significant figures
- Temperature
- Classification of Matter

### Part 2: Inorganic Chemistry

To understand, compare, and, apply concepts related to

- Structure of the atom
- Chemical Bonding
- Gases
- Solutions
- The Periodic Table
- Stoichiometry
- Liquids and Solids
- Acids and Bases

### Part 3: Physical Chemistry

To understand, compare, and, apply concepts related to

- Thermochemistry
- Chemical Kinetics
- Thermodynamics
- Chemical Equilibrium
- Electrochemistry

### Part 4: Organic Chemistry

To understand, compare, and, apply concepts related to

- Saturated Hydrocarbons: Alkanes
- Aromatic Hydrocarbons
- Alcohols
- Ethers
- Carboxylic Acids
- Amines
- Polymers
- Unsaturated Hydrocarbons: Alkenes and Alkynes.
- Alkyl Halides
- Aldehydes and Ketones
- Esters
- Organic Reactions

### Part 5: Analytical Chemistry

To understand, compare, and, apply concepts related to

- Experimental Measurements
- Separation Techniques
- Qualitative Analysis of Inorganic ions
- Chemical Hazards
- Determination of physical properties
- Instrumental Techniques: pH determination, Spectroscopy
- Safety Principles



## Chemistry Test Study Guide

### Part 6: Nuclear Chemistry

To understand, compare, and, apply concepts related to

- Radio Active Decay
  - Nuclear Transformation
  - Nuclear Fusion
  - Half-Life
  - Nuclear Fission
  - Uses of Radio-activity
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