



# NORTHGATE ACADEMY

## Chemistry – Matter and Energy - Course Syllabus

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### Description:

This course presents molecular and descriptive chemistry from a Creation-based, Christian perspective. Start off with subatomic particles and the periodic table and graduate into balancing chemical equations and understanding chemical bonds. Learn about metals and nonmetals, solutions and colloids, and chemical thermodynamics and kinetics. With almost 400 figures and charts, Section and Chapter Reviews, and 32 articles that relate chemistry to everyday-life, students will develop an understanding and appreciation for chemistry.

**Textbook:** Chemistry: Precision and Design (A Beka – Code 202274)

### Course objectives:

- Understand basic topics of Chemistry including: Elements, Compounds, Gases, Thermodynamics, Periodic Table, Solutions, Colloids, Acids, Bases, and Radioactivity.
- Show understanding of material through written assignments, quizzes, and final exam.

### Contents:

#### Semester A

Chapter 1 – An Introduction to Chemistry	Chapter 6 – Chemical Thermodynamics
Chapter 2 – Matter: The Substance of Chemistry	Chapter 7 – Electrons and Atomic Structure
Chapter 3 – Stoichiometry: Elements & Compounds	Chapter 8 – The Periodic Table
Chapter 4 – Chemical Reactions	Chapter 9 – Bonds and Intermolecular Force
Chapter 5 - Gases	

#### Semester B

Chapter 10 – Selected Nonmetals and Compounds	Chapter 15 – Acids, Bases, and Salts
Chapter 11 – Selected Metals and Semimetals	Chapter 16 – Oxidation-Reduction Electro
Chapter 12 – Solutions and Colloids	Chapter 17 – Nuclear Chemistry
Chapter 13 – Chemical Kinetics	Chapter 18 – Organic Chemistry
Chapter 14 – Chemical Equilibrium	

### Grading Scale

A = 90-100%  
B = 80-89%  
C = 70-79%  
D = 60-69%  
F = under 59%

### Grade Weighting

Quizzes.....	35%
Written Assignments...	35%
<u>Final Exam.....</u>	<u>30%</u>
	100%