

A  
P  
  
C  
H  
E  
M  
I  
S  
T  
R  
Y

**Unit 1**

Atomic Structure and Properties

**Unit 1**

**Unit 2**

Compound Structure and Properties

**Unit 2**

**Unit 3**

Properties of Substances and Mixtures

**Unit 3**

**Unit 4**

Chemical Reactions

**Unit 4**

**Unit 5**

Kinetics

**Unit 5**

**Unit 6**

Thermochemistry

**Unit 6**

**Unit 7**

Equilibrium

**Unit 7**

**Unit 8**

Acids and Bases

**Unit 8**

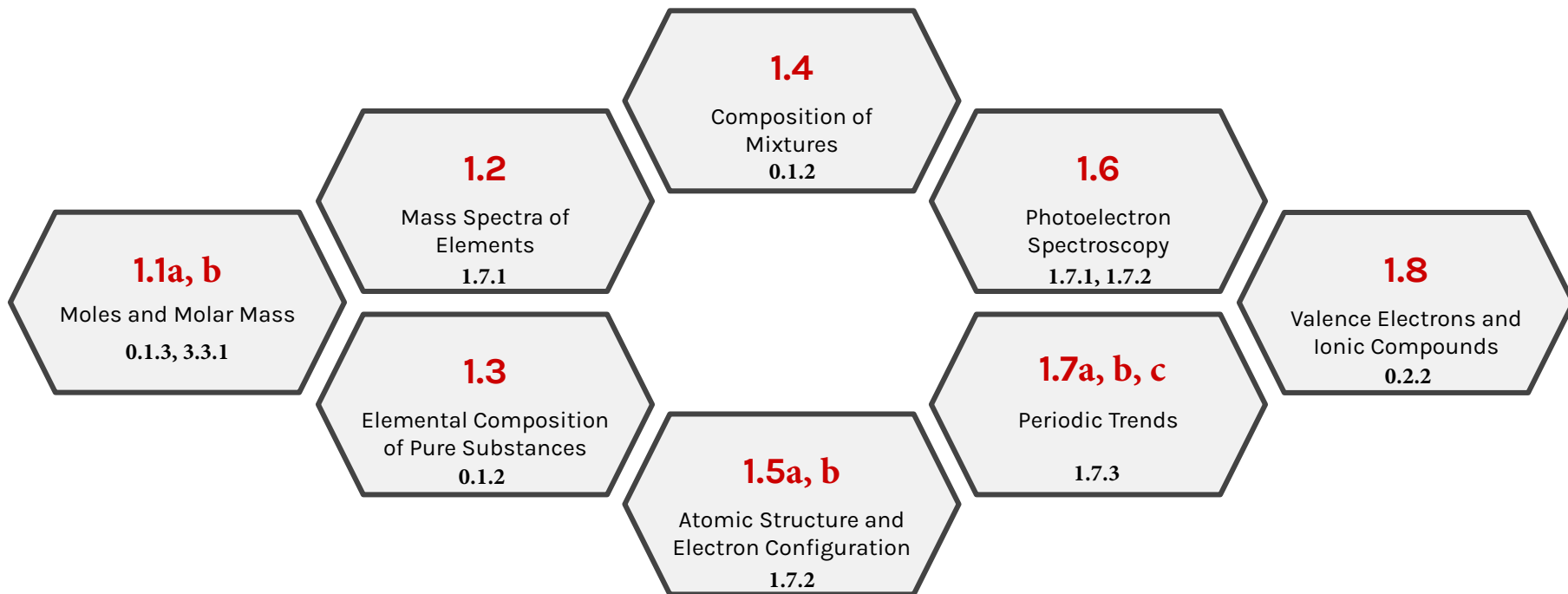
**Unit 9**

Thermodynamics and Electrochemistry

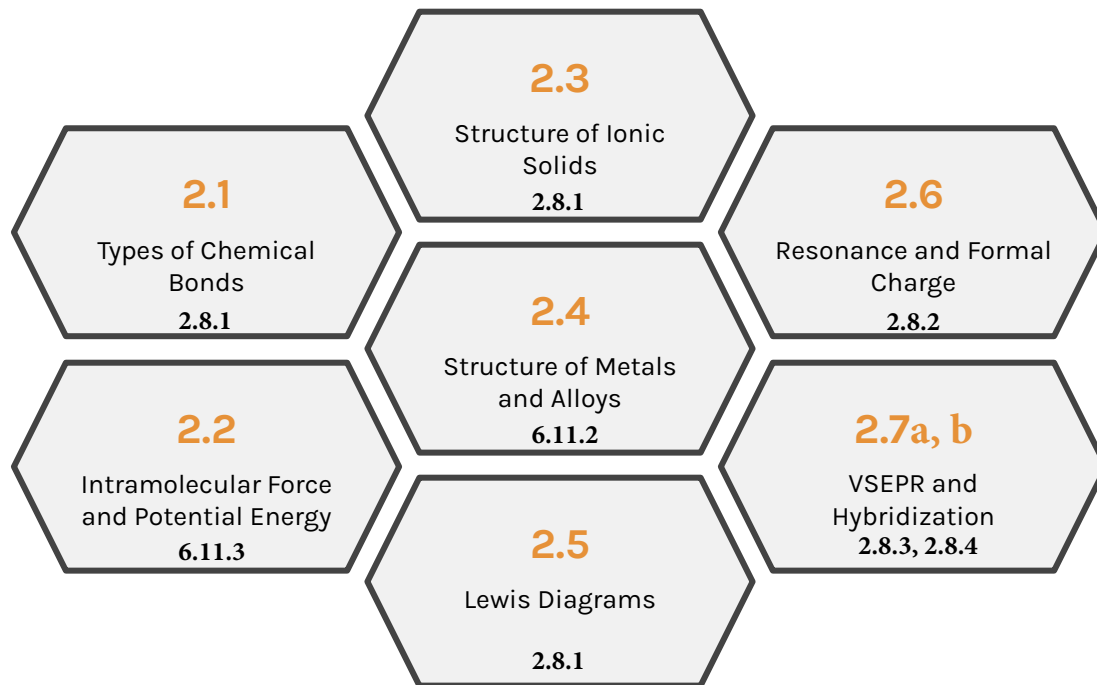
**Unit 9**

A  
P  
  
C  
H  
E  
M  
I  
S  
T  
R  
Y

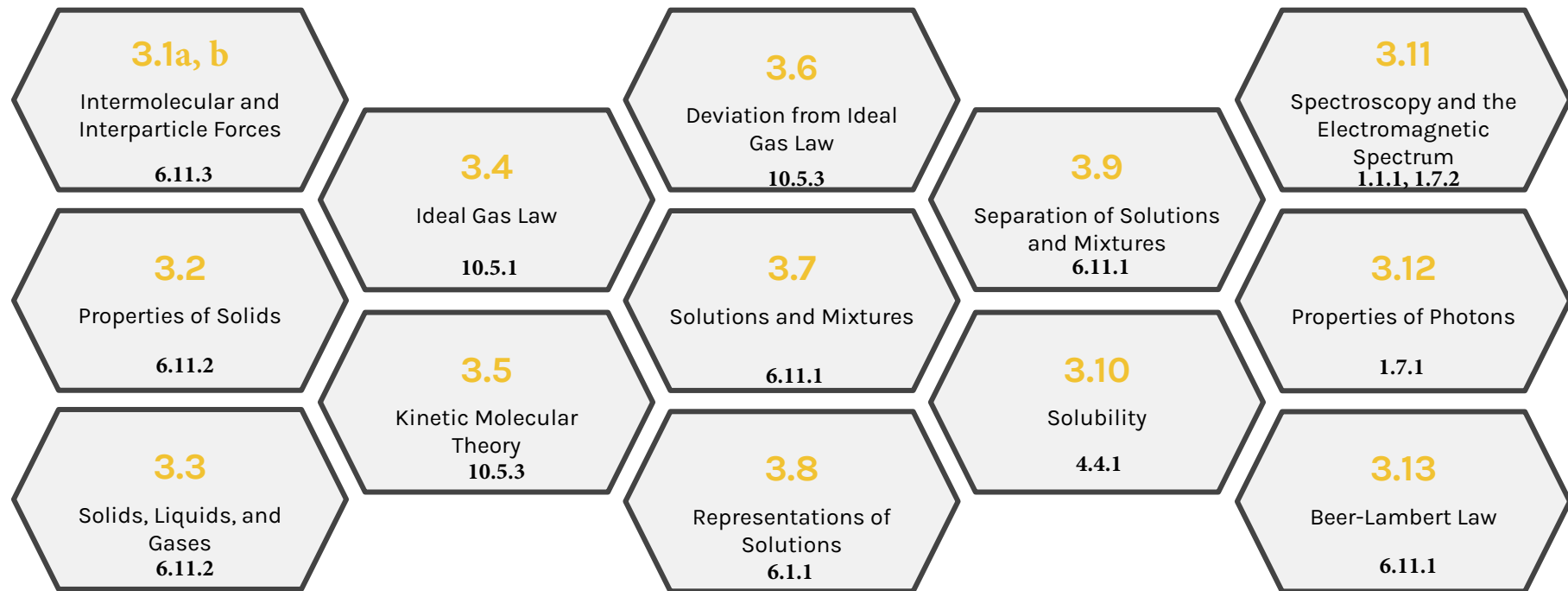
7-9% Exam Weighting



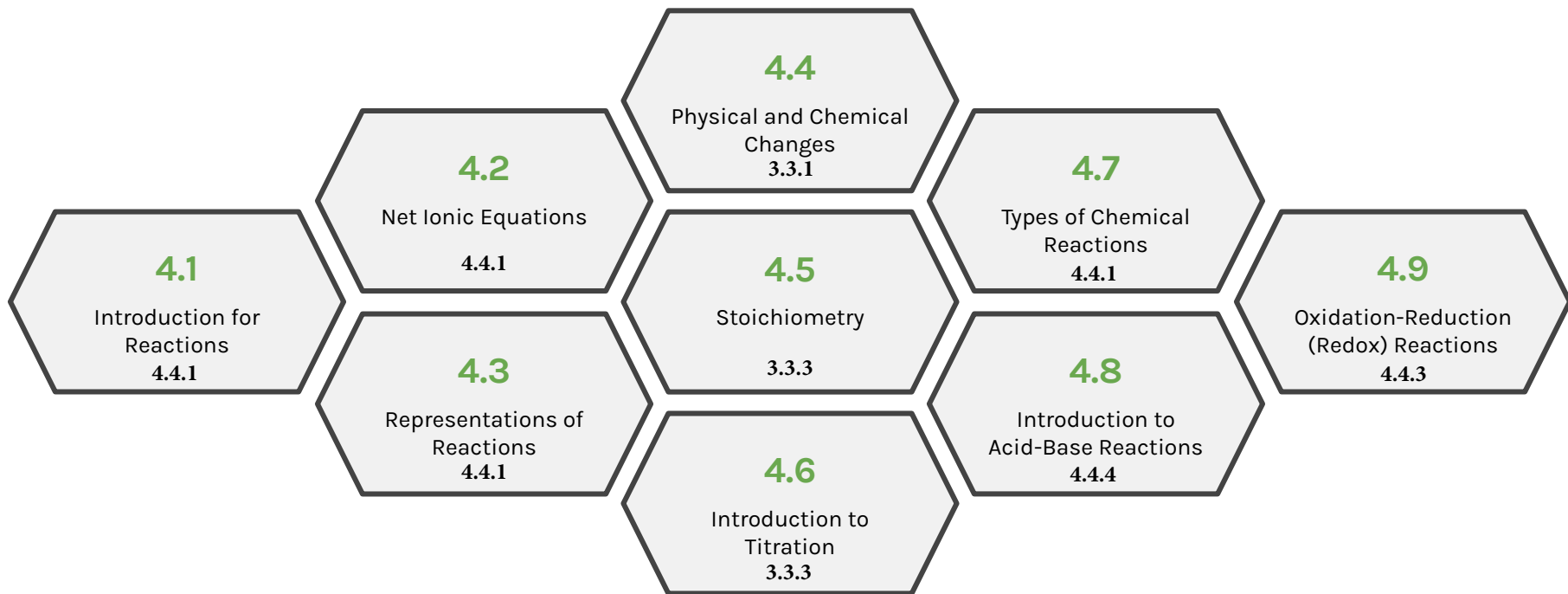
## 7-9% Exam Weighting



18-22% Exam Weighting



7-9% Exam Weighting



7-9% Exam Weighting

**5.1**

Reaction Rates

13.12.1

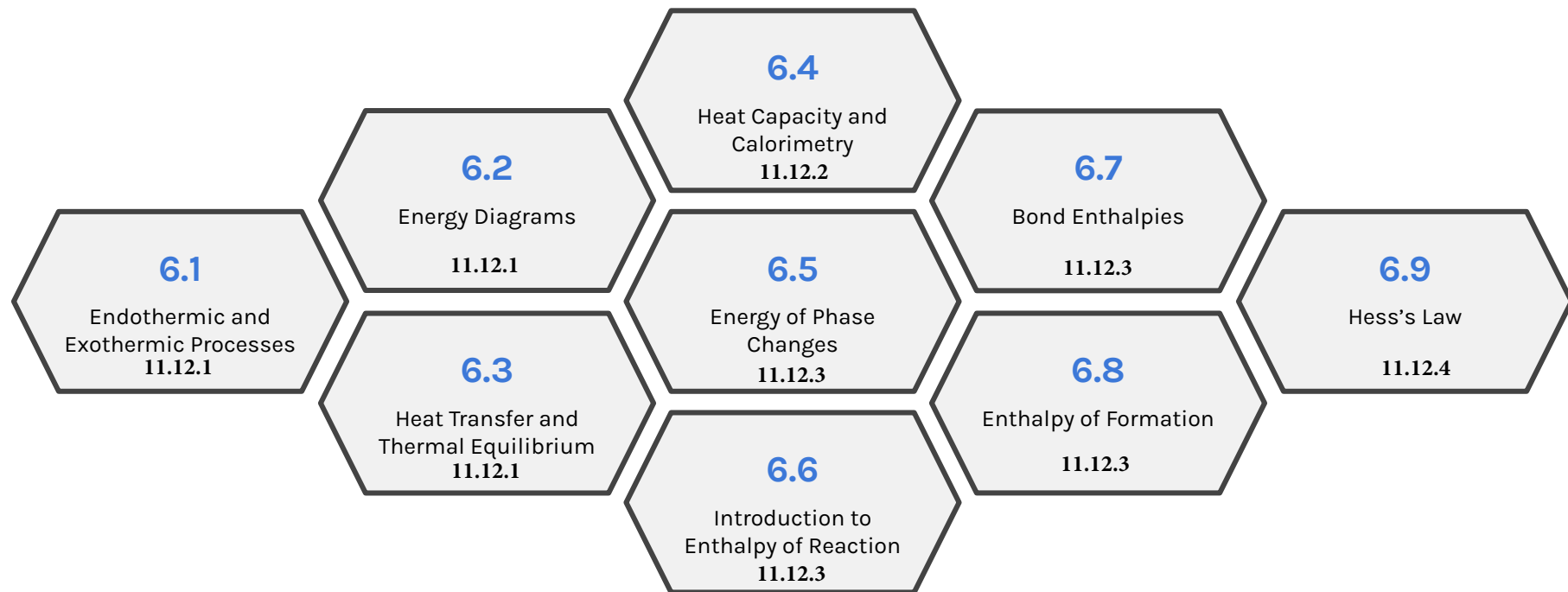
**5.2**Introduction to Rate  
Law  
13.12.1**5.3**Concentration Changes  
Over Time  
13.12.1**5.4**Elementary Reactions  
13.12.1**5.5**

Collision Model

13.12.2

**5.6**Reaction Energy Profile  
13.12.2**5.7**Introduction to  
Reaction Mechanisms  
13.12.2**5.8**Reaction Mechanism  
and Rate Law  
13.12.2**5.9**Pre-Equilibrium  
Approximation  
13.12.4**5.10**Multistep Reaction  
Energy Profile  
13.12.4**5.11**Catalysis  
13.12.5

7-9% Exam Weighting



## 7-9% Exam Weighting

7.1

Introduction to  
Equilibrium  
7.13.1

7.2

Direction of Reversible  
Reactions  
7.13.1

7.3

Reaction Quotient and  
Equilibrium Constant  
7.13.1

7.4

Calculating the  
Equilibrium Constant  
7.13.1

7.5

Magnitude of the  
Equilibrium Constant  
7.13.1

7.6

Properties of the  
Equilibrium Constant  
7.13.2

7.7

Calculating  
Equilibrium  
Concentrations  
7.13.2

7.8

Representations of  
Equilibrium  
7.13.2

7.9

Introduction to Le  
Châtelier's Principle  
7.13.3

7.10

Reaction Quotient and  
Le Châtelier's Principle  
7.13.2

7.11

Introduction to  
Solubility Equilibria  
7.13.3

7.12

Common-Ion Effect  
7.13.3

## 11-15% Exam Weighting

**8.1**Introduction to Acids  
and Bases**8.14.1****8.2**pH and pOH of Strong  
Acids and Bases**8.14.3****8.3**Weak Acid and Base  
Equilibria**9.15.4****8.4**Acid-Base Reactions  
and Buffers**9.15.4****8.5**

Acid-Base Titrations

**9.15.3****8.6**Molecular Structure of  
Acids and Bases**8.14.1****8.7**pH and  $pK_a$ **8.14.2****8.8**

Properties of Buffers

**9.15.1****8.9**Henderson-Hasselbalch  
Equation**9.15.2****8.10**

Buffer Capacity

**9.15.2****8.11**

pH and Solubility

**9.15.5**

## 7-9% Exam Weighting

9.1

Introduction to Entropy

13.12.1

9.2

Absolute Entropy and  
Entropy Change

13.12.1

9.3

Gibbs Free Energy and  
Thermodynamic  
Favorability

13.12.1

9.4

Thermodynamic and  
Kinetic Control

13.12.1

9.5

Free Energy and  
Equilibrium

13.12.2

9.6

Free Energy of  
Dissolution

13.12.2

9.7

Coupled Reactions

13.12.2

9.8

Galvanic (Voltaic) and  
Electrolytic Cells

5.16.1

9.9

Cell Potential and Free  
Energy

5.16.2

9.10

Cell Potential Under  
Nonstandard  
Conditions

5.16.3

9.11

Electrolysis and  
Faraday's Law

5.16.5

AP  
C  
H  
E  
M  
I  
S  
T  
R  
Y

**Unit 1**

Atomic Structure and Properties

**Unit 1**

**Unit 2**

Compound Structure and Properties

**Unit 2**

**Unit 3**

Properties of Substances and Mixtures

**Unit 3**

**Unit 4**

Chemical Reactions

**Unit 4**

**Unit 5**

Kinetics

**Unit 5**

**Unit 6**

Thermochemistry

**Unit 6**

**Unit 7**

Equilibrium

**Unit 7**

**Unit 8**

Acids and Bases

**Unit 8**

**Unit 9**

Thermodynamics and Electrochemistry

**Unit 9**

AP  
C  
H  
E  
M  
I  
S  
T  
R  
Y