

## Curriculum Map: AP Chemistry 20-21

Course: AP CHEM Sub-topic: Uncategorized

Grade(s): 11

**Course Description:** Advanced Placement Chemistry follows the program of study recommended by the College Board for their advanced placement program in chemistry. It is designed as a continuation of the first year chemistry survey course extending into problems and theory traditionally considered in the first year of a college chemistry program. The course will serve as an excellent preparation for those students who would select engineering, pre-medicine, or any of the physical sciences as their undergraduate major.

b. This course is structured around the six big ideas articulated in the AP Chemistry curriculum framework provided by the College Board. These big ideas are as follows:

- Structure of Matter
- Properties of Matter (characteristics, states and forces of attraction)
- Chemical reactions
- Rates of chemical reactions
- Thermodynamics
- Equilibrium

**Course Textbooks, Workbooks, Materials Citations:** Textbook – Zumdahl, Steven S., and Susan A. Zumdahl. Chemistry 9 th Edition. Brooks/Cole, Cengage Learning, 2014.

Class notes,

### Unit: Review Unit

This Curriculum Map Unit has no Topics to display

### Unit: Solution Chemistry

#### Topic: Measurements of Concentration

Minutes for Topic: 86

#### Topic: Dilution

Minutes for Topic: 43

#### Topic: Solubility rules

Minutes for Topic: 86

#### Topic: Double replacement reactions

Minutes for Topic: 129

#### Topic: Solution Stoichiometry

Minutes for Topic: 86

### Unit: Thermochemistry

#### Topic: Nature of Energy

Minutes for Topic: 86

#### Topic: Enthalpy and Energy Flow

Minutes for Topic: 43

#### Topic: Calorimetry

Minutes for Topic: 152

#### Topic: Heat of Fission and Fusion

Minutes for Topic: 129

#### Topic: Phase Diagrams

Minutes for Topic: 43

## **Unit: Equilibrium**

### **Topic: Equilibrium**

Minutes for Topic: 86

### **Topic: Mass Action Laws**

Minutes for Topic: 129

### **Topic: ICE Tables**

Minutes for Topic: 215

### **Topic: Le Chatlieir's Principle**

Minutes for Topic: 86

### **Topic: Solubility Products**

Minutes for Topic: 129

### **Topic: Common Ion Effect**

Minutes for Topic: 43

## **Unit: Acid-Base Chemistry**

### **Topic: Definitions of Acids**

Minutes for Topic: 129

### **Topic: Strong vs Weak Acids**

Minutes for Topic: 129

### **Topic: pH and pOH**

Minutes for Topic: 129

### **Topic: Autoionization of Water**

Minutes for Topic: 86

### **Topic: Conjugate Acid/Base Pairs**

Minutes for Topic: 172

### **Topic: Buffers & Henderson-Hasselback**

Minutes for Topic: 172

### **Topic: Titrations of Weak Acids/Bases**

Minutes for Topic: 172

## **Unit: Oxidation and Reduction**

### **Topic: RedOx Basics**

Minutes for Topic: 172

### **Topic: Activity Series**

Minutes for Topic: 129

### **Topic: Single Replacement Reactions**

Minutes for Topic: 86

### **Topic: Electrochemical Cells**

Minutes for Topic: 215

### **Topic: Nernst Equation**

Minutes for Topic: 129

## **Unit: Chemical Kinetics**

### **Topic: Rate of Reaction**

Minutes for Topic: 129

### **Topic: Catalysts**

Minutes for Topic: 86

### **Topic: Reaction order**

Minutes for Topic: 215

**Topic: Reaction Mechanisms**

Minutes for Topic: 172

**Unit: Thermodynamics**

**Topic: Laws of Thermodynamics**

Minutes for Topic: 129

**Topic: Spontaneity and Entropy**

Minutes for Topic: 172

**Topic: Gibb's Free Energy**

Minutes for Topic: 129

**Topic: Energy and Equilibrium**

Minutes for Topic: 129

**Topic: Rate and Spontaneity**

Minutes for Topic: 129