

Chem 309 Video Tutorial Schedule for Spring 2013

This schedule may be changed to support student success.

Watch the indicated Video Tutorials BEFORE the indicated date so that you are ready for our lecture/lab activities.

The Matter and Measurement Lab requires preparation with Video Tutorials.

Watch

by

Date & Day

Video Tutorials

1/21 M

*MLK Holiday

1/23 W

Introduction to Chem 309 (There is no video tutorial for the first day of class.)

1/28 M

Atoms & Elements Part 1: Atomic Structure - Isotopes & the Nucleus

1/30 W

Atoms & elements Part 2: Valence Electrons and the Octet Rule
Compounds Part 1: Ionic Compounds - Formula Units & Nomenclature

2/4 M

Compounds Part 2: Lewis Structures & Molecular Cpds
Shapes and Interactions Part 1: Shapes of Molecules

1/30 or 2/4 Lab

Measurement Part 1: Significant Figures
Measurement Part 2: Scientific Notation
Measurement Part 3: Converting Between Units
Measurement Part 4: Dosage Calculations

2/6 W

No videos to watch

2/11 M

Shapes & Interactions Part 2: Electronegativity and Molecular Polarity
Shapes & Interactions Part 3: Intermolecular Forces (IMFs)
Shapes & Interactions Part 4: IMFs and Solutions

2/13 W

Solutions & Membranes Part 1: Solution Concentrations
Solutions & Membranes Part 2: Membranes, Osmosis, & Tonicity
Solutions & Membranes Part 3: Dilution Calculations

2/18 M

*President's Day Holiday

2/20 W

Solids, Liquids & Gases Part 1: Temperature
Solids, Liquids & Gases Part 2: Energy & Phase Changes
Solids, Liquids & Gases Part 3: IMFs & Boiling Points
Solids, Liquids & Gases Part 4: Pressure
Solids, Liquids & Gases Part 5: Gas Laws

2/25 M

Exam #1

2/27	W	Hydrocarbons Part 1: Structural Formulas—Converting btwn Lewis, Skeletal-line, & Condensed Hydrocarbons Part 2 – Recognizing Isomers: Conformers, Structural, and Geometric
3/4	M	Hydrocarbons Part 3 – IUPAC Nomenclature of Alkanes, Alkenes, Alkynes, and Benzenes Hydrocarbons Part 4 – Structure and IUPAC Nomenclature Review
3/6	W	Organic Functional Groups Part 1: Introduction Organic Functional Groups Part 2: IUPAC Nomenclature Organic Functional Groups Part 3: Esters, Thioesters, & Phosphoesters Organic Functional Groups Part 4: Naming Ethers, Phenols, & Esters
3/11	M	Organic Functional Groups Part 5: IMFs and H ₂ O Solubility Organic Functional Groups Part 6: IMFs and Boiling Points Organic Functional Groups Part 7: Combustion Reactions Organic Functional Groups Part 8: Carboxylic Acids: Acid-Base Chemistry & H ₂ O Solubility Organic Functional Groups Part 9: Amines: Acid-Base Chemistry & H ₂ O Solubility
3/13	W	Chemical Reaction Part 1: Balancing Reactions Chemical Reaction Part 2: Collision Theory Chemical Reaction Part 3: Thermodynamics (Reaction Energy) Chemical Reaction Part 4: Kinetics (Reaction Rates)
3/18	M	Acid & Bases Part 1: Intro with Predicting the Products Acid & Bases Part 2: Inorganic and Organic Acid Nomenclature Acid & Bases Part 3: Bronsted-Lowry Definition & Conjugate Acid Base Pairs Acid & Bases Part 4: Equilibrium Rxns & Le Chatlier's Principle Acid & Bases Part 5: Kw [H ₃ O ⁺] & [OH ⁻] Calcs
3/20	W	Acid & Bases Part 6: pH Calculations Acid & Bases Part 7: Buffers Acid & Bases Part 8: Effects of Cellular pH on Carboxylic Acids, Amines & Phosphates Acid & Bases Part 9: Serial Dilution and pH
3/25	M	*Spring Break
3/27	W	*Spring Break
4/1	M	Rxns of Organic Functional Grps Part 1: Intro & Acid Base Review Rxns of Organic Functional Grps Part 2: Redox Intro Rxns of Organic Functional Grps Part 3: Redox of Alcohols & Carbonyls Rxns of Organic Functional Grps Part 4: Hydration-Dehydration Rxns
4/3	W	Rxns of Organic Functional Grps Part 5: Acyl Transfer Rxns Rxns of Organic Functional Grps Part 6: Phosphoryl Grp Transfer Rxns Rxns of Organic Functional Grps Part 7: Coenzymes & Biochemical Redox Rxns
4/8	M	Exam #2

4/10	W	<p>Introduction to Proteins, Carbohydrates, Lipids and Bioenergetics</p> <p>Proteins and Enzymes Part 1: Amino Acids</p> <p>Proteins and Enzymes Part 2: Chirality and Amino Acids</p> <p>Proteins and Enzymes Part 3: Overview of Protein Structure</p> <p>Proteins and Enzymes Part 4: The Primary Structure of Proteins</p> <p>Proteins and Enzymes Part 5: Secondary Structure of Proteins</p> <p>Proteins and Enzymes Part 6: Tertiary Structure of Proteins</p> <p>Proteins and Enzymes Part 7: Quaternary Structure of Proteins</p>
4/15	M	<p>Proteins and Enzymes Part 8: Introduction to Enzymes</p> <p>Proteins and Enzymes Part 9: Enzyme Inhibition</p> <p>Proteins and Enzymes Part 10: Enzyme Classification & Reaction Catalysts</p> <p>Proteins and Enzymes Part 11: Enzyme Cofactors</p>
4/17	W	<p>Carbohydrates Part 1: introduction and Monosaccharides</p> <p>Carbohydrates Part 2: Stereochemistry of Monosaccharides</p> <p>Carbohydrates Part 3: Disaccharides and Glycosidic Bonds</p>
4/22	M	<p>Carbohydrates Part 4: Polysaccharides</p> <p>Carbohydrates Part 5: Catabolism – Hydrolysis and Glycolysis</p> <p>Carbohydrates Part 6: Other Metabolic Roles of Glucose & Ketone Bodies</p>
4/24	W	<p>Lipids Part 1: Fatty Acids, Fats, and Oils</p> <p>Lipids Part 2: Membrane Lipids</p> <p>Lipids Part 3: Transport across Cell Membranes</p> <p>Lipids Part 4: Cholesterol</p> <p>Lipids Part 5: Eicosanoids</p>
4/29	M	<p>Lipids Part 6: Bile Salts and Lipoproteins</p> <p>Lipids Part 7: Fat Catabolism</p>
5/1	W	<p>Metabolism and Bioenergetics Part 1: Intro and Acetyl CoA</p> <p>Metabolism and Bioenergetics Part 2: The Citric Acid Cycle</p> <p>Metabolism and Bioenergetics Part 3: Electron Transport Chain and Oxidative Phosphorylation</p>
5/6	M	<p>Metabolism and Bioenergetics Part 4: Reduced Coenzymes and ATP</p> <p>Metabolism and Bioenergetics Part 5: Reaction Energies</p>
5/8	W	<p>Nucleic Acids Part 1: Intro and Nucleotides</p> <p>Nucleic Acids Part 2: DNA</p> <p>Nucleic Acids Part 3: RNA and Protein Synthesis</p> <p>Nucleic Acids Part 4: Genetic Mutations</p>
5/13	M	Exam #3
5/15	W	<p>Nuclear Chemistry Part 1: Nuclear Structure Review and Intro to Nuclear Chemistry</p> <p>Nuclear Chemistry Part 2: Nuclear Reactions</p> <p>Nuclear Chemistry Part 3: Half Lives</p> <p>Nuclear Chemistry Part 4: Biological Effects of Ionizing Radiation</p> <p>Nuclear Chemistry Part 5: Nuclear Medicine</p> <p>Nuclear Chemistry Part 6: Fusion vs Fission</p>
5/20	M	Final Exam (10:15 to 12:15 pm)