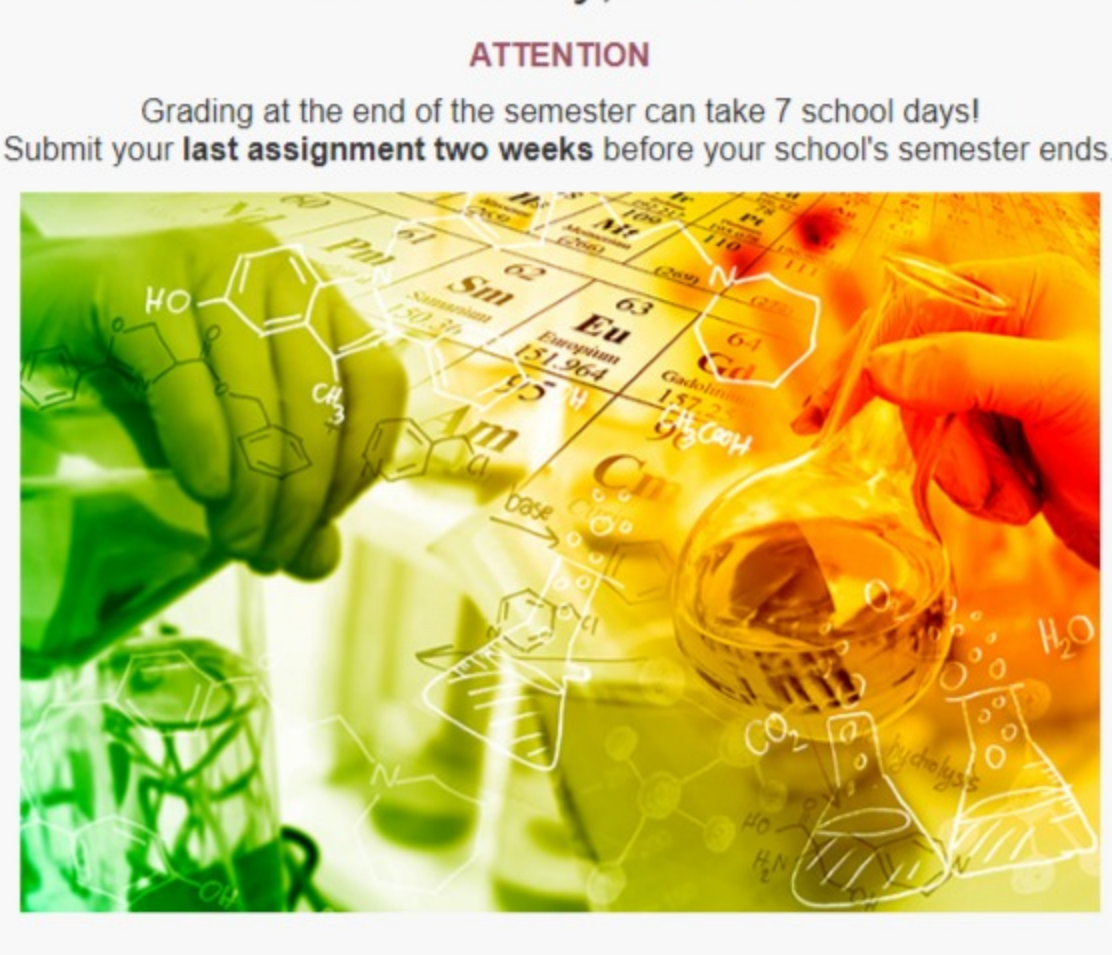
Collapse all

Chemistry, Part 2

ATTENTION

Grading at the end of the semester can take 7 school days!
Submit your **last assignment two weeks** before your school's semester ends.



Lab Requirement

In order to satisfy the laboratory requirement for a chemistry lab science course, two components are required. The first is our online course, and the second is the labs. The lab kit has to be purchased separately--SVHS does NOT provide it. **You cannot pass this course without doing the lab portion.**

Lab Kit Requirement
The kit must be purchased from Quality Science Labs (QSL); it will be delivered through the mail. SVHS and QSL have designed this kit to accompany this course. The same kit can be used for Part 1 of this course. Only one kit needs to be purchased for students taking Chemistry Part 1 and Part 2. **Order your lab kit from QSL here**; at checkout, use the customer code **svhs2691-17** to receive a **20% discount.**

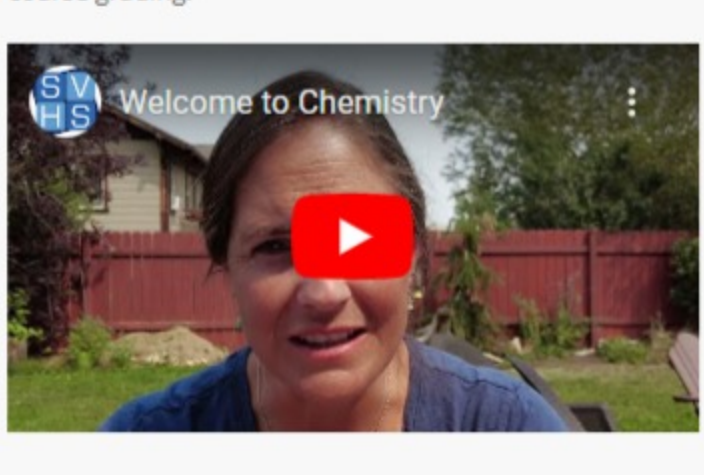
Lab Details and Descriptions
Detailed instructions for the wet labs are provided in the lab kit. You can see a summary description of the **labs covered** in this course. The lab assignments are required to pass this course and come from the labs and materials in the "lab kit" mentioned above.

Unpacking Your Lab Kit

How to Take This Course

Complete all the quizzes and the assignments/labs in each unit. Once the quizzes for a unit are complete, you will have access to the unit test. We recommend you complete the unit assignment/labs before you attempt the unit test. Some questions on the unit test relate to the assignment/lab. You will have access to the final after you have been enrolled in the course for at least 30 days and when all unit tests are completed, and your assignments/labs are graded.

Important: Allow a minimum of 3 school days for an assignment to be graded, longer at the end of a semester. Read the full course instructions to understand the course grading.



Course Instructions

How This Course Works & Suggested Timeline

Submitting Your Assignments

PDF is the required file format for lab reports.
TIP: If your PDF is a large file and too big to upload, compress the PDF file using the free tools available at Ilovepdf.com or Smallpdf.com. Do not create a user account on these websites; it is not required.

Ask The Teacher

Meet your teacher for this course and ask a question.

Need help with the course? We offer online tutoring; find more details about it here.

MANDATORY QUIZ — Completion

You are required to take this quiz before you start the course. To prepare, read the course instructions and the "submitting your assignments" document, watch the video on the how this course works page and review the suggested timeline.

Unit 1: Stoichiometry and Energy

In this unit, you will review writing balanced equations, converting between units, and learn the importance of stoichiometry, the difference between heat and energy, what the enthalpy of a reaction is, and how it is calculated. You will practice the scientific method as you complete the first lab, Enthalpy of Ice and actually measure the amount of heat required to both melt ice and to raise/lower the temperature of water. You will also explore current forms of energy and some "alternative" types of energy used in our world today.

Unit 1 has ONE lab assignment. To help you prepare, a pre-lab lesson is provided before the lab. The Unit Test contains questions related to the lab. Complete **ALL** the work in Unit 1 before moving to Unit 2.
Note - You will not have access to your Unit 3 Test until your Unit 1 lab is graded.

1.0 Introduction
1.1 Stoichiometry
Quiz 1.1 — Completion
1.2 Limiting and Excess Rectants
Quiz 1.2 — Completion
1.3 Percentage Yield
Quiz 1.3 — Completion
1.4 Energy and Heat
Quiz 1.4 — Completion
1.5 Enthalpy
Quiz 1.5 — Completion
1.6 Prelab - Calorimetry and Enthalpy of Ice
Quiz 1.6 — Completion
Unit 1 Lab: Enthalpy of Ice — Completion
1.7 Energy in our world today and tomorrow
Quiz 1.7 — Completion

Unit 2: Solutions and Solubility

Not all matter is in the solid form, and some of the more interesting chemical reactions happen in solutions. This unit discusses the concepts of solutions and solubility. The chemical structure of water, and why water is so important for life. How and why water acts as a wonderful solvent and provides a medium for metabolism. The various factors that affect how well a solid-liquid solute dissolves, including Particle Size, Temperature, Agitation and the Chemical Nature of the solute, particularly polarity (like dissolves like.) How to interpret solubility curves and read solubility curves. To identify and understand saturated, unsaturated, and supersaturated solutions. Colligative properties, freezing point depression, and boiling point elevation. Plus, it will look at the relationship between the amount of solute and the degree of freezing point depression-boiling point elevation.

Unit 2 has TWO lab assignments. To help you prepare, a pre-lab lesson is provided before each lab. The Unit Test contains questions related to the labs. Complete **ALL** the work in Unit 2 before moving to Unit 3.
Note - You will not have access to your Unit 4 Test until your Unit 2 labs are graded.

2.1 Water and Life
Quiz 2.1 — Completion
2.2 Properties of Solutions
Quiz 2.2 — Completion
2.3 The Dissolving Process
Quiz 2.3 — Completion
2.4 Solubility and Saturation
Quiz 2.4 — Completion
2.5 Molarity and Dilutions
Quiz 2.5 — Completion
2.6 Prelab - Solubility
Quiz 2.6 — Completion
Unit 2 Lab#1 - Solubility Product Constant — Completion
2.7 Colligative Properties
Quiz 2.7 — Completion
2.8 Prelab - Freezing Point Depression
Quiz 2.8 — Completion
Unit 2 Lab#2 - Freezing Point Depression — Completion

Unit 3: Acids & Bases

This unit discusses the general properties of acids and bases. The Arrhenius definitions for acids and bases. Bronsted and Lowry's theory of acids and bases. To distinguish between strong and weak acids and bases in terms of the extent of dissociation, reaction with water, and electrical conductivity. The pH scale and consider the effects of acid deposition on limestone buildings and living things. To understand the nature of a strong acid and a strong base. To solve acid-base titration math problems.

Unit 3 has TWO lab assignments. To help you prepare, a pre-lab lesson is provided before each lab. The Unit Test contains questions related to the labs. Complete **ALL** the work in Unit 3 before moving to Unit 4.
Note - You will not have access to your Unit 3 Test until your Unit 1 lab is graded.

3.1 Properties of Acids and Bases and the Arrhenius Theory
Quiz 3.1 — Completion
3.2 Bronsted-Lowry Theory of Acids and Bases
Quiz 3.2 — Completion
3.3 The pH Scale
Quiz 3.3 — Completion
3.4 Prelab: pH and pH Indicators
Quiz 3.4 — Completion
Unit 3 Lab#1 pH and pH Indicators — Completion
3.5 Strong and Weak Acids and Bases and Ocean Acidification
Quiz 3.5 — Completion
3.6 Chemical Equilibrium and Ka
Quiz 3.6 — Completion
3.7 Buffers
Quiz 3.7 — Completion
3.8 Prelab: Buffers
Quiz 3.8 — Completion
Unit 3 Lab#2 - Buffers — Completion

Unit 4: Gases

Gases behave interestingly and predictably, and this unit discusses the behavior of gases in great detail, including the assumptions behind the Kinetic Molecular Theory and some general properties of gases from a molecular perspective. Avogadro's Law, Boyle's Law, Lussac's Law, and Charles' Law. How the ideal gas equation allows one to find the pressure, volume, temperature and/or number of moles in a certain situation.

Unit 4 has TWO lab assignments and a Unit Assignment. To help you prepare, a pre-lab lesson is provided before each lab. The Unit Test contains questions related to the labs. Complete **ALL** the work in Unit 4 before moving to Unit 5.
Note - You will not have access to your Unit 4 Test until your Unit 2 labs are graded.

4.1 Kinetic Molecular Theory of Gases
Quiz 4.1 — Completion
4.2 Pressure, Volume, Temperature
Quiz 4.2 — Completion
4.3 Prelab: Boyles Lab
Quiz 4.3 — Completion
Unit 4 Lab#1 - Boyle's Law Lab — Completion
4.4 Ideal Gas Law
Quiz 4.4 — Completion
4.5 Ideal Gas Law Problems
Quiz 4.5 — Completion
4.6 Prelab: Charles Law
Quiz 4.6 — Completion
Unit 4 Lab#2 - Charles Law — Completion
4.7 Gas Law Stoichiometry
Quiz 4.7 — Completion
Unit 4 Assignment: Climate Change — Completion

Unit 5: Kinetics

The majority of matter is constantly busy, reacting and changing, and this unit discusses how to measure and consider the rate of a reaction. The connection between concentration and reaction rate in terms of the Law of Mass Action and Rate Laws. The equilibrium constant (K) and how it can be calculated in various reversible reactions. Le Chatelier's Principle and how it predicts changes in concentration when "stressing" reactions at equilibrium.

Unit 5 has TWO lab assignments. To help you prepare, a pre-lab lesson is provided before each lab. The Unit Test contains questions related to the labs. Complete **ALL** the work in Unit 5 before moving to Unit 6.
Note - You will not have access to your Unit 4 Test until your Unit 3 labs are graded.

5.1 Rates of Reaction
Quiz 5.1 — Completion
5.2 Reaction Order
Quiz 5.2 — Completion
5.3 Catalysts and Reaction Rate
Quiz 5.3 — Completion
5.4 Prelab: Rates of Reaction - Concentration
Quiz 5.4 Prelab Reaction Rate: Concentration — Completion
Unit 5 Lab#1 - Rates of Reaction - Concentration — Completion
5.5 Equilibrium Constant
Quiz 5.5 — Completion
5.6 LeChatelier's Principle
Quiz 5.6 — Completion
5.7 Prelab: Rate of Reaction - Temperature
Quiz 5.7 — Completion
Unit 5 Lab#2 - Rates of Reaction - Temperature — Completion

Unit 6: Nuclear and Organic Chemistry

In this unit, we will learn about nuclear structure and stability, radioactive decay, and nuclear energy. We will focus on the biological effects of radiation as well as technology related to energy, medicine, geology, and other areas. Then, we will turn our focus to organic chemistry. You will examine why the element carbon results in such a variety of compounds, how those compounds are classified, and the role of organic compounds in biology and industry.

Unit 6 has ONE lab assignment and a Unit Assignment. To help you prepare, a pre-lab lesson is provided before the lab. The Unit Test contains questions related to the lab.
Note - You will not have access to your Unit 6 Test until your Unit 4 labs and assignment are graded.

6.1 Introduction to Nuclear Chemistry
Quiz 6.1 — Completion
6.2 Radioactive Decay and Half-Life
Quiz 6.2 — Completion
6.3 Uses of Radioisotopes and the Effects of Radiation
Quiz 6.3 — Completion
6.4 Introduction to Organic Chemistry
Quiz 6.4 — Completion
6.5 Organic Chemistry and Biology
Quiz 6.5 — Completion
6.6 Organic Chemistry in Everyday Life
Quiz 6.6 — Completion
Unit 6 Lab - Design Your Own Experiment - Concentration — Completion
Unit 6 Assignment: Chemistry Careers — Completion

Final Exam

You will have access to the final after you have been enrolled in the course for at least 30 days and when all unit tests are completed, and all your labs and assignments are graded.

Warning: You have only ONE attempt at the final. Are you ready to take the final? We highly recommend you take the practice final first, and if you are weak in any area, review the relevant course material again. You have unlimited attempts at the practice final; it will help you to prepare.

Remember, if you want to improve your grade in this course, you need to do that BEFORE you take the final exam.

Good Luck!!

Practice Final

Course Completion & Requesting a Transcript

Warning - If you are waiting for a resubmitted assignment to be graded, do NOT generate any course completion record until the teacher has graded it.

Transcript - Send a transcript to your school to report the credits you earned. A transcript will list all the courses you have taken with us, including those still in progress.

Course Certificate - This link cannot be accessed until you have completed the final. Upon satisfying this requirement, the link will become active.

Feedback - Before you go, we would appreciate your opinion on the course; please take 1 minute to complete the feedback form. We hope you enjoyed this course!

Course Feedback

Thank you for taking this course! Let us know what you think about it.

Request a Transcript

Notify your school that you have completed your course. Send them a transcript by email or mail. A transcript will list all the courses you have completed and those in progress.

Certificate of Completion

Not available unless: The activity **Final Exam** is marked complete