

# Chemistry

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Psalm 107:23–32

## 1 Overview

This is an introductory Chemistry class. Our goal is to lay a solid foundation for studying “hard” sciences<sup>1</sup> through high school and college.

We’ll keep Psalm 107:23–32 in mind as we begin to exploring chemistry together. Chemistry can feel a bit overwhelming, like being lost at sea, but those who take risks see the wonders of God.

Our goals for this course are:

- to cultivate a love of “hard” sciences, especially chemistry,
- to build good math habits, especially as they pertain to physical sciences, and
- to build a good foundation of skills for problem-solving

## 2 Prerequisites/Corequisites

There will be some overlap with **Physical Science**, don’t be discouraged if there’s a lot of review to start!

We will use basic algebra a *lot*. We’ll go as far as logarithms for pH calculations. I plan to use class time to review/refresh math topics as we go, so don’t let that scare you. If you have finished **Algebra I**, you should be fine. If you haven’t yet finished Algebra I *but are willing to put in the effort*, you should be fine.

If you don’t understand the math, you need to ask.

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<sup>1</sup>As opposed to social sciences like Sociology.

### 3 Course Pace and Class Time

There are 16 modules in the text book, so we will cover one module every two weeks, with some exceptions (see Table 1). *Please plan to have read and/or worked through each module in preparation for class.* We will review the module's material in the class, answering student questions as a priority. The pace might be a bit different from what you've done in the past, so give yourself some time to adjust.

At the end of each module are practice problems: I plan to assign every problem in the book as home-work. You have been warned.

We will have several quizzes through the class to ensure we're all up to date. At the end of each quarter there will be a take-home exam.

### 4 Expectations

This will be a math-heavy class. Come with a **scientific calculator**, a solid **three-ring binder**, plenty of **looseleaf paper**, **pencils** and plenty of **erasers**.

I relish questions, especially questions that show you have been listening. Bring plenty of those.

### 5 Meeting Times

TRC Classroom 2

8:55 A.M. – 10:20 A.M. Fridays

### 6 Topics

I have included a weekly break-down of topics in Table 1. We'll refine our schedule as we go: I anticipate some topics will take less time to cover than others.

Date	Topic
2025-08-22	Module 1: Measurement and Units
2025-08-29	Module 1: Measurement and Units
2025-09-05	Module 2: Energy, Heat, and Temperature
2025-09-12	Module 2: Energy, Heat, and Temperature
2025-09-19	Module 3: Atoms and Molecules
2025-09-26	Module 3: Atoms and Molecules
2025-10-03	Module 4: Classifying Matter and Its Changes
2025-10-10	Module 4: Classifying Matter and Its Changes *
2025-10-17	<b>Fall Break</b>
2025-10-24	Module 5: Counting Molecules and Atoms in Chemical Equations
2025-10-31	Module 5: Counting Molecules and Atoms in Chemical Equations
2025-11-07	Module 6: Stoichiometry
2025-11-14	Module 6: Stoichiometry
2025-11-21	Module 7: Atomic Structure
2025-12-05	Module 7: Atomic Structure
2025-12-12	Module 8: Molecular Structure
2025-12-19	Module 8: Molecular Structure
2025-12-26	<b>Winter Break</b>
2026-01-02	<b>Winter Break</b>
2026-01-09	<b>Winter Break</b>
2026-01-23	Module 9: Polyatomic Ions and Molecular Geometry
2026-01-30	Module 9: Polyatomic Ions and Molecular Geometry *
2026-02-06	Module 10: Acid/Base Chemistry
2026-02-13	Module 10: Acid/Base Chemistry
2026-02-20	Module 11: The Chemistry of Solutions
2026-02-27	Module 12: The Gas Phase
2026-03-06	Module 13: Thermodynamics
2026-03-13	Module 13: Thermodynamics *
2026-03-20	<b>Spring Break</b>
2026-03-27	Module 14: Kinetics
2026-04-03	<b>Good Friday</b>
2026-04-10	Module 14: Kinetics
2026-04-17	Module 15: Chemical Equilibrium
2026-04-24	Module 15: Chemical Equilibrium
2026-05-01	Module 16: Reduction/Oxidation Reactions
2026-05-08	Final Review

Table 1: (Tentative) Class Schedule