# 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[1] 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.

My 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.

[1] As opposed to "soft" sciences like Sociology.

## 3 Meeting Times

TRC Classroom 2
8:55 A.M. – 10:20 A.M. Fridays

## 4 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 | **Fall Break** |
| 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 | **Winter Break** |
| 2026-01-02 | **Winter Break** |
| 2026-01-09 | **Winter Break** |
| 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 | **Spring Break** |
| 2026-03-27 | Module 14: Kinetics |
| 2026-04-03 | **Good Friday** |
| 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