



### Outline of General Chemistry

#### Course Description

This course introduces the general principles of chemistry for non-science majors, and includes a lab component. The course covers: the scientific method, measurements and the metric system, matter and energy, atomic theory, chemical bonding and intermolecular forces, chemical reactions, stoichiometry, solutions and concentration, acid-base reactions, equilibrium.

Many schools require Chem 121 as a pre-req for A&P.

#### Course Mechanics:

- 3 hours of lecture a week (or 5 hours of online video)
- One 2-4 hour lab a week with lab report.
- Two midterms (online or in class)
- One final (almost always in class)

A student should expect to spend 5 hours in class (or watching online videos) and an additional 10 hours doing homework and studying **per** week.

#### Topics Covered and Required Prereq skills

Topic	Prereq required
The Atomic Nature of Matter	None
Stoichiometry	Intermediate Algebra (Proportions and Ratios)
Classes of Organic Reactions	None
Gases	Intermediate Algebra (rewriting equations with variables)
Chemical Equilibria	Intermediate Algebra (rational expressions)
Acids & Bases & Aqueous Equilibria	Intermediate Algebra (rational expressions)

#### PREPARING FOR THE COURSE

The following things can be done to help prepare for the course.

**Purchase 3x5 notecards:** There is quite a bit of memorization in General Chemistry. It is a good idea to make flash cards to help memorize the families of molecules, and reaction types.

**Purchase a scientific calculator:** If you do not already own a scientific calculator, purchase one that allows you to see and edit your previous entry. Some calculators that can do this are: TI-30X IIS and the TI-83 both from Texas Instruments.

**Important: Brush up on your intermediate algebra:** If you have old math books, revisit: graphing equations in the form of  $y=mx+b$ , and ratios and proportions. Refresh! Students are much more likely to succeed in Chemistry when their math foundations are fresh and strong.

#### ADDITIONAL RESOURCES

**Solutions Manual:** Often times your course text book will come in 2 packages: one with just the book and the other with the corresponding solutions manual/ study guide. It is recommended to get the package with additional materials if available.

#### Online Chemistry Materials:

<https://www.khanacademy.org/science/chemistry>

#### Online Algebra I Review:

<https://www.khanacademy.org/math/algebra/introduction-to-algebra>

(Relevant topics: Ratios and Proportions, Graphing, and Analyzing Linear Functions)

#### Training Fund Tutoring:

Both online and in-person group tutoring is available by request. Visit:

<http://healthcareerfund.org/tutoring/>