

SC253O/ Chemistry 1 Syllabus

Course Title-----	Chemistry 1
Course Number-----	SC253O
Grades:-----	11-11
High School Credit Value:-----	0.5
Prerequisites:-----	Prerequisite successful completion of Physical Science 1-2 and Algebra 1-2. It is recommended but not required that students are concurrently taking second year Algebra or similar math course like Math Analysis or Trigonometry.
Course Length:-----	Regular courses: 17 weeks CR: 9-17 weeks.
Course Time:-----	Regular courses: 17 week schedule: 75 - 90 minutes per school day (6-7.5 hours per week) Credit Retrieval: 75 - 90 minutes per school day (6-7.5 hours per week) until course completion.

{ Course Description }

Chemistry 1 is the first semester of high school chemistry. Students should have already taken or currently be enrolled in second year Algebra as a prerequisite for the math content in this course. All of the course content and lab instructions are in the Angel web site. Most labs offer a virtual online option, but some may require that a student provide materials to do the lab themselves. The class covers atomic theory, the Periodic Table, and formation of chemical compounds. A semester final is required.

Course Materials:

The materials list for this course is provided in the Orientation folder. Student computers must have volume controls, and headsets are recommended in order to hear tutorials and conduct live sessions with the instructor. The ability to download and install freeware such as Adobe Flash is also recommended.

State Alignments

Washington State Standards guided the design of the course. Learning expectations are found within the course itself.

These are the course standards for first semester chemistry.

1. Scientific progress requires the use of various methods appropriate for answering different kinds of research questions, a thoughtful plan for gathering data needed to answer the question, and care in collecting, analyzing, and displaying the data.
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3. The methods and procedures that scientists use to obtain evidence must be clearly reported to enhance opportunities for further investigation.
4. The ability to solve problems is greatly enhanced by use of mathematics and information technologies.
5. Atoms are composed of protons, neutrons, and electrons. Protons have a positive charge, electrons are negative in charge, and neutrons have no net charge. Atoms of the same element have the same number of protons. The number of neutrons in the nucleus of an atom determines the isotope of the element. The properties of materials are determined by the arrangement and properties of the atoms that compose them.
6. When elements are listed in order according to the number of protons, repeating patterns of physical and chemical properties identify families of elements with similar properties. This Periodic Table is a consequence of the repeating pattern of outer-most electrons.
7. Ions are produced when atoms or molecules lose or gain electrons, thereby gaining a positive or negative electrical charge. Molecular compounds are composed of two or more elements bonded together in a fixed proportion by sharing electrons between atoms, forming covalent bonds.

Course Outline

Unit 1: An Introduction to Chemistry

- Section A – Science and Society
- Section B – Scientific Measurements
- Section C – Safety in the Chemistry Laboratory

Unit 2: Chemistry All Around

- Section A – Classifying Matter
- Section B – Physical Properties of Matter
- Section C – Chemical Properties of Matter
- Section D – Separating Mixtures

Unit 3: Atomic Structure

- Section A – Atomic Theory
- Section B – Atomic Structure
- Section C – Atomic Orbitals and Electron Configurations
- Section D – Atomic Spectra and Quantum Mechanics

Unit 4: The Periodic Table

- Section A – Arrangement
- Section B – Classification of Elements
- Section C – Ions
- Section D – Periodic Trends

Unit 5: Elements Form Compounds

- Section A – Ionic Compounds
- Section B – Covalent Compounds
- Section C – Compound Structure
- Section D – Special Bonds
- Section E – Organic Chemistry

Semester 1 Exam**Course Work**

The course Orientation contains a Schedule where students enter their beginning and end dates and then an individualized list of which assignments are due weekly is generated. This is the ultimate course calendar for each student.

To be successful, students are advised to be current within one week of the individualized course schedule, and contact their teacher weekly to discuss course content and academic progress.

The course work is found in the Angel web site. The official grade book will also be found in Angel. All email communication will take place within Angel. The links to live contact with the instructor are also found within the Angel site.

Grading**Occupational Credit:**

This course may qualify for *occupational credit. Please consult your school counselor for further clarification.

*Please note that FLA901 (Sign Language) does not qualify for occupational credit.