

CHEM 1008 – Introductory Chemistry

School:	School of Science
Subject Area:	Chemistry
Course Credit:	3
Instructor:	TSANG Ming Wai Emily / SHEONG Frederick Fu Kit
Pre-requisite/co-requisite:	Nil

Notes:

- The syllabi provided here is for reference only and may be subject to changes and adjustments as determined by the course instructors.

The Hong Kong University of Science and Technology
Department of Chemistry

CHEM 1008 – Introductory Chemistry (3-credits)

Summer 2023 -2024

Instructors:

Prof. Frederick F.K. Sheong	Prof. Emily M.W. Tsang
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Course Description:

This course targets science or engineering students with very little to no chemistry background. It provides a general introduction to basic principles of chemistry. Key topics include state of matters, atoms and elements, molecules and compounds, atomic structures and periodicity, molecular structures, quantities in chemical reactions, bonding theories, acids and bases, and solution chemistry.

Exclusions: Level 3 or above in HKDSE 1/2x Chemistry OR HKDSE 1x Chemistry, a passing grade in AL/AS Chemistry, any CHEM courses at or above 1004-level

Lecture: Mon, Wed, Fri 14:00 – 17:20

Venue: Rm 2404 (lift 17/18)

Instructor Office Hours: By email appointment

Course Content/Topics:

Chapter 1: Matter and Energy	Chapter 7: Electrons in Atom and the Periodic Table
Chapter 2: Atoms and Elements	Chapter 8: Chemical Bonding
Chapter 3: Molecules and Compounds	Chapter 9: Solids, Liquids, and Intermolecular Forces
Chapter 4: Chemical Composition	Chapter 10: Properties of Solutions
Chapter 5: Chemical Reactions	Chapter 11: Acids and Bases
Chapter 6: Reaction Stoichiometry	Chapter 12: Chemical Equilibrium

Intended Learning Outcomes:

Upon successful completion of this course, students are expected to be able to:

1. Develop a microscopic view of the worlds in terms of atoms and molecules
2. Recognize physical/chemical properties, physical/chemical changes
3. Apply knowledge of states of matter, chemical reactions, stoichiometry, atomic structure, chemical bonding, molecular structure, and intermolecular interactions.
4. Obtain a basic knowledge of solution chemistry, acid-base chemistry, chemical equilibrium.
5. Recognize and appreciate the impact and significance of chemistry to our society.

Course Grading Scheme

Online Quizzes (2 x 10% each)	20%
In-class Midterm Exam	40 %
In-class Final Exam	40 %