

CHEM 1008 'Introductory Chemistry'

(Tentative Course Outline – a new course to be offered in Fall Term 2022-23 for the first time)

Course Catalog

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.

Course Exclusion

Course Code / Public Exam	Course Title / Exam Subject and Level / Grade attained
HKDSE	Level 3 or above in 1/2X Chemistry or Level 3 or above in 1X Chemistry
A passing grade in AL/AS Chemistry	
Any CHEM course at CHEM 1004 or above	

Key Course Intended Learning Outcomes

Upon completion of this course, students are expected to be able to do the following:

	Course ILOs	Nature of the learning outcomes (A - Knowledge/Content Related; B - Academic Skills/Competencies; C - Others)
1	Develop a microscopic view of the world in terms of atoms and molecules and their changes	A
2	Develop a basic view of mass conservation and energy conservation in chemical reactions.	A
3	Perform stoichiometry problems	A
4	Describe atoms and ions in terms of atomic orbitals, electron configuration, energy quantization, and their relation to the Periodic table	A
5	<u>Communicate</u> knowledge learned orally and in writing with peers and laymen	B
6	<u>Apply</u> knowledge learned and acquire new knowledge from textbooks, reference books and internet sources.	B
7	<u>Work independently</u> to solve problems and assignments	B

Contribution of Learning Outcomes to Programs of Study

	Program of study 1: <u>Bachelor of Science in Chemistry</u>	To be achieved through these course ILOs (Write CILO-1, CILO-2, etc.)
	Program ILOs	
1	Describe the fundamentals of chemistry including the structure, reactivity and properties of chemical substances and the states of matter.	CILO-1, CILO-2, CILO-3, CILO-4
2	Explain the essential facts, principles and theories across the four principal areas of chemistry, i.e. analytical, organic, inorganic and physical.	CILO-1, CILO-2, CILO-3, CILO-4
3	Evaluate and discuss the relevance of chemistry to social and daily life, for example in relation to environmental issues.	CILO-1, CILO-2, CILO-3, CILO-4
4	Communicate effectively both orally and in writing to a professional and/or lay audience.	CILO-5, CILO-6
5	Demonstrate self-awareness and the ability to work independently and collaborate effectively with other people in a team.	CILO-7

Planned Assessment Weightings

Assessment Task	Proportion of Final Grade (%)	Indicate which course ILOs this task is to assess (Write CILO-1, CILO-2, etc.)	Additional Information (optional)
<input checked="" type="checkbox"/> In-class test	10		
<input checked="" type="checkbox"/> Mid-term test	40		
<input checked="" type="checkbox"/> Final exam	40		
<input checked="" type="checkbox"/> Written assignment	10		
<input type="checkbox"/>			