

CHEM 1009 INTRODUCTORY CHEMISTRY (WSTC)

Credit Points 10

Legacy Code 700155

Coordinator Sashi Kant (<https://directory.westernsydney.edu.au/search/name/Sashi Kant/>)

Description The chemical sciences underpin our understanding in the environmental, forensic, health, medical, biological and physical sciences. This subject familiarises students with the fundamental principles of chemistry and how chemistry shapes the world around us. Students will be introduced to the concepts of atomic structure, the reactivity of substances, the Periodic Table, stoichiometry, and will learn about the structure and reactivity of substances and mixtures in different chemical environments, and exposed to different forms of electromagnetic radiation. Students will explore real world problems and apply the fundamental principles of chemistry to better understand how we may shape our own future.

School Science

Discipline Chemical Sciences, Not Elsewhere Classified.

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 1 subject

Equivalent Subjects CHEM 1008 - Introductory Chemistry

Incompatible Subjects CHEM 1003 - Essential Chemistry 1 CHEM 1004 - Essential Chemistry 1 (WSTC)

Restrictions Students must be enrolled at Western Sydney University, The College. Students enrolled in Extended Diplomas must pass 40 credit points from the preparatory subjects listed in the program structure prior to enrolling in this University level subject. Students enrolled in the combined Diploma/Bachelor programs listed below must pass all College Preparatory subjects listed in the program structure before progressing to the Year2 subjects.

Assumed Knowledge

General Mathematics or equivalent.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Identify key principles and concepts of general, inorganic, physical and electro chemistry.
2. Apply key principles and concepts of chemistry to identify, explain and examine the relationships between micro and macro chemical processes and observations in a number of scientific disciplines.
3. Conduct experiments and examine results to illustrate selected key principles and concepts of chemistry.
4. Safely handle and dispose chemical substances in lab environments.
5. Collaborate effectively in groups on experiments.
6. Communicate chemistry and chemical experiments to a range of audiences using scientific language, chemistry symbols, three-dimensional structures of compounds and conventions of general chemical nomenclature correctly.

Subject Content

1. Acquisition of Knowledge: demonstrating a knowledge of, and applying the principles and concepts of chemistry
 2. Applications of knowledge: recognising that chemistry plays an essential role in society and underpins many industrial, technological and medical advances. Understanding and being able to articulate aspects of the place and importance of chemistry in the local and global community
 3. Communication: presenting information, articulating arguments and conclusions, in a variety of modes, to diverse audiences, and for a range of purposes
 4. Skills and applications of skills: synthesising and evaluating information from a range of sources, including traditional and emerging information technologies and methods; conducting experiments to illustrate key principles and concepts; incorporating qualitative and quantitative evidence into scientifically defensible arguments
 5. Personal and Professional attributes: recognising the creative endeavour involved in acquiring knowledge, and the testable and contestable nature of the principles of chemistry; Demonstrating a capacity for self-directed learning; working collaboratively in teams
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Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Short Answer	20 minutes x 4	20	N	Individual	N
Log/ Workbook	3 hours/ week x 5	20	Y	Individual	Y
Participation	1 hour/ week x 10	10	N	Individual	N
Short Answer	1 hour	20	N	Individual	N
End-of-session Exam	2 hours and 20 minutes	30	N	Individual	N

Prescribed Texts

- Chemistry3 Burrows, Holmans, Parsons, Pilling, Price 2013, 2nd edition OUP
- Recommended: Odyssey Molecular Modelling Software v4.x. Wavefunction Inc

Teaching Periods

Term 1 (2025)

Nirimba Education Precinct

On-site

Subject Contact Phillip Newman (<https://directory.westernsydney.edu.au/search/name/Phillip Newman/>)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CHEM1009_25-T1_BL_1#subjects)

Term 3 (2025)

Campbelltown

On-site

Subject Contact Sashi Kant (<https://directory.westernsydney.edu.au/search/name/Sashi Kant/>)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CHEM1009_25-T3_CA_1#subjects)