CHEM 0001 CHEMISTRY (WSTC PREP)

Credit Points 10

Legacy Code 700043

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

Description This subject is a platform to introduce Chemistry to students. It introduces students to the basic concepts required to satisfy the needs of most first year university science subjects in both skill and content areas. It is intended that students will gain a greater understanding of the theoretical concepts covered in the subject by completing the practical component of the subject. Students will also be introduced to professional pathways in science.

School Western Sydney The College

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 0 Preparatory subject

Equivalent Subjects CHEM 0002 - Chemistry (UWSC)

Restrictions

Students must be enrolled at Western Sydney University, The College.

Learning Outcomes

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

1. Identify and describe professional pathways in science.
2. Use the periodic table to make predictions about the physical and chemical properties of elements and the compounds they form.
3. Use equations to calculate relative quantities of reactants and products.
4. Describe the factors that influence the type and rate of chemical reactions.
5. Apply simple stoichiometric relationships.
6. Gather and analyse first and second hand data from scientific investigations and draw conclusions. This can be demonstrated by second hand data analysis in the intra session exams and final exam and by gathering first hand data in the practicals and writing up the practical reports.
7. Use appropriate terminology and reporting styles to communicate information and understanding

Subject Content

1.Introduction to the science learning community.
2.Professional pathways in science and the importance of a knowledge of the key concepts in chemistry and the development of practical skills to all Science majors.
3.Redox ? Electron transfer, oxidation states, half-equations, balanced redox equations, reduction potentials.
4.Periodic Table ? Arrangement of elements, electronic configuration, physical and chemical properties, groups 1,2,7 and 8, metals/non-metals, solids, liquids and gasses, trends in periodic properties.
5.Chemical Bonding - forces between molecules.

6.Chemical Reactions ? Why substances react, the rate of reaction, chemical equations.
7.Quantities in Chemical Reactions ? Reacting quantities, the mole concept, and solids, gasses and solutions.
8.Acids and Bases ? properties and reactions of acids, pH, volumetric analysis, Lowry-Bronsted theory, weak acids and bases.
9.Equilibrium ? Dynamic equilibrium, equilibrium constant ? position and effect of temperature, Ka, pH and K.

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
Poster	200 words including graphics	10	N	Individual	N
Short Answer	60 minutes	25	N	Individual	N
Practical Exam	3 x 2 hour practicals with 1 online submission	25	N	Individual	N
Portfolio	1,000 words	40	N	Individual	N

Teaching Periods

Term 2 (2024)
Nirimba Education Precinct
On-site
Subject Contact Sashi Kant (https://directory.westernsydney.edu.au/search/name/Sashi Kant/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=CHEM0001_24-T2_BL_1#subjects)

Term 1 (2025)
Nirimba Education Precinct
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=CHEM0001_25-T1_BL_1#subjects)