

EPPREP 940: Introduction to Undergraduate Chemistry

Callaghan & Ourimbah
Summer 2 - 2024



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

The Pathways and Academic Learning Support Centre recognises and respects the unique history and culture of Aboriginal and Torres Strait Islander peoples and their unbroken relationship with the lands and the waters of Australia over millennia. We are dedicated to reconciliation and to offering opportunities for Aboriginal and Torres Strait Islander peoples to access and succeed in higher education. The Centre is committed to providing a culturally safe and inclusive environment for all.

OVERVIEW

Course Description	This preparation course aims to introduce students to a broad range of topics within the field of chemistry and develop basic skills in chemical calculations. It is designed for students who are not confident that their prior studies in chemistry are adequate for the demands of undergraduate science and is a useful review for students planning to study chemistry in engineering. Students intending to study the biological or life sciences are advised that an understanding of chemistry is beneficial. This course is organised to present fundamental chemical concepts with particular emphasis placed on topics required for CHEM1010/CHEM1110 or CHEM1020/CHEM1120.
Academic Progress Requirements	Nil
Requisites	This course is only available to domestic students enrolled in NUPrep Bridging and Refresher [22223].
Contact Hours	Lecture Face to Face On Campus 2 hour(s) per day for 5 day(s) starting Week 1 Self-Directed Learning Self-Directed 1 hour(s) per day for 5 day(s) starting Week 1 It is expected that you will spend at least one hour per day practicing skills and consolidating your learning. Tutorial Face to Face On Campus 1 hour(s) per day for 5 day(s) starting Week 1
Unit Weighting	5
Workload	Students are required to spend on average 20 hours of effort (contact and non-contact) including assessments per 5 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator	Callaghan Mr Hayden Robertson Email: Hayden.Robertson@newcastle.edu.au	Ourimbah Mrs Angela Bailey Email: Angela.Bailey@newcastle.edu.au
Teaching Staff	Other teaching staff will be advised on the course Canvas site.	
School Office	Callaghan Ground Floor, General Purpose Building (GP) Ph: 02 4921 5558 enabling@newcastle.edu.au	Ourimbah HO 168, Humanities Building Ph: 02 4348 4076 enabling@newcastle.edu.au

SYLLABUS

Course Content	The course will focus on: <ul style="list-style-type: none">• Lewis diagrams and chemical bonds• Molecular shape, VSEPR• Bond polarity and intermolecular forces• Types of chemical reactions, redox reactions• Law of conservation of mass• Calculating quantities for chemical reactions, Molarity• Acids and bases, pH• Gases and chemical equilibrium• Hydrocarbons and organic compounds containing oxygen, nitrogen and sulphur.
Course Learning Outcomes	On successful completion of this course, students will be able to: <ol style="list-style-type: none">1. Name ionic and molecular compounds2. Draw Lewis structures and describe intermolecular forces3. Determine bond order and molecular shape4. Calculate molar mass, use Avogadro's number and perform molar conversions5. Balance chemical equations and use stoichiometry6. Calculate molarity and solve solution concentration problems7. Calculate pH and understand acid/base strength8. Solve redox equations9. Explain the effect of pressure, temperature and volume on gases10. Understand the concept of equilibrium in chemical reactions and Le Chatelier's principle11. Name, draw and identify carbon compounds and functional groups.
Course Materials	A scientific calculator is required. All other course materials will be provided on the course Canvas site. Students are not required to purchase a textbook.

ASSESSMENTS

This course has 5 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Quiz 1	Friday 16th February 11:59pm	Individual	20%	1, 2, 3
2	Quiz 2	Friday 16th February 11:59pm	Individual	20%	1, 4, 5
3	Quiz 3	Friday 16th February 11:59pm	Individual	20%	1, 4, 5, 6, 7, 8
4	Quiz 4	Friday 16th February 11:59pm	Individual	20%	1, 9, 10
5	Quiz 5	Friday 16th February 11:59pm	Individual	20%	1, 11

Late Submissions	Completion of each assessment item is necessary for a pass grade in this course. Extensions of time may be granted in consultation with your Course Coordinator.
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Assessment 1 - Quiz 1

Assessment Type	Quiz
Description	Exercise designed to demonstrate an understanding of matter and basic measurements used in chemistry
Weighting	20%
Due Date	Friday 16th February 11:59pm
Submission Method	Online
Assessment Criteria	Correct answers
Return Method	Online
Feedback Provided	Feedback will be provided upon completion of the quiz

Assessment 2 - Quiz 2

Assessment Type	Quiz
Description	Exercise designed to demonstrate an understanding of matter and basic measurements used in chemistry
Weighting	20%
Due Date	Friday 16th February 11:59pm
Submission Method	Online
Assessment Criteria	Correct answers
Return Method	Online
Feedback Provided	Feedback will be provided upon completion of the quiz

Assessment 3 - Quiz 3

Assessment Type	Quiz
Description	Exercise designed to demonstrate an understanding of matter and basic measurements used in chemistry
Weighting	20%
Due Date	Friday 16th February 11:59pm
Submission Method	Online
Assessment Criteria	Correct answers
Return Method	Online
Feedback Provided	Feedback will be provided upon completion of the quiz

Assessment 4 - Quiz 4

Assessment Type	Quiz
Description	Exercise designed to demonstrate an understanding of matter and basic measurements used in chemistry
Weighting	20%
Due Date	Friday 16th February 11:59pm
Submission Method	Online
Assessment Criteria	Correct answers
Return Method	Online
Feedback Provided	Feedback will be provided upon completion of the quiz

Assessment 5 - Quiz 5

Assessment Type	Quiz
Description	Exercise designed to demonstrate an understanding of matter and basic measurements used in chemistry
Weighting	20%
Due Date	Friday 16th February 11:59pm
Submission Method	Online
Assessment Criteria	Correct answers
Return Method	Online
Feedback Provided	Feedback will be provided upon completion of the quiz

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Grade	Description
Ungraded Pass (UP)	There are no marks associated with this result and you have met the level requirements to pass the course.
Fail (FF)	Failure to satisfactorily achieve assessment objectives or compulsory course requirements. A fail grade may also be awarded following disciplinary action.

Communication Methods

Email is the principal form of communication at the university and within this course. Always use your student email (NUmail), rather than a private email address, and check this regularly. As Course Coordinator I will try to respond to your email within three (3) working days. I will not normally respond to emails over the weekends. Please be courteous in your email communication and in the online space. The University of Newcastle has a [Code of Conduct](#) that covers all communications in the University for staff and students.

Canvas is used to distribute course material, announcements and other information. It is also used for online quizzes and to allow students to track their individual progressive assessment results via Grades.

Discussions forums in Canvas can be used to ask questions about minor issues. Students are strongly encouraged to use these to communicate with each other, discuss issues relating to the course, and solve minor problems.

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for Adverse Circumstances must be lodged via the online Adverse Circumstances system for all individual assessment items worth 30% or greater **by 11:00pm on the day the assessment is due**. For assessment items less than 30%, you will need to contact your Course Coordinator by 11:00pm on the due date of the assessment item.

Before applying you must refer to the [Adverse Circumstances Affecting Assessment Items Procedure](#) and the [Adverse Circumstances Affecting Assessment Items Policy](#).

Please note that students must submit their adverse circumstances application via the online Adverse Circumstances system by 11:00pm on the due date of the assessment item, even if you are using a [Reasonable Adjustment Plan \(RAP\)](#) as your supporting documentation.

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. Please refer to the [Student Academic Integrity Policy](#).

Workplace Health and Safety Requirements

There are no specific WH&S requirements for this course.

Important Policy Information

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the [policies and procedures](#) that support a safe and respectful environment at the University.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Timetable

Your timetable for this course is available via the myUni Student Portal and can also be found [here](#).

Software	Free Microsoft Office software is available to enrolled students here and includes 5 TB of free cloud storage with OneDrive.
Written Assessment Word Limits	Word limits for your written assessments includes headings, sub-heading, in-text citations, quotes and referencing but does not include the list of references, appendices and footnotes. You will not receive a penalty for exceeding the word limit (there is a tolerance of up to 10%), but any work after the maximum word limit may not be included within the allocation of marks.

This course outline was approved by the Director, PALS. No alteration of this course outline is permitted without Director approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.
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