



Science

CHEM 150 : Concepts in Chemistry (15 POINTS)

Course Prescription

The fundamentals of chemistry are explored with a view to enhancing understanding of the chemical nature of the world around us and providing a foundation for further study in chemistry. Special attention is paid to familiarisation with the language of chemistry and the chemist's perspective of the properties of matter and its transformations. It is recommended that students with a limited background in chemistry take this course prior to CHEM 110 or CHEM 120.

Course Overview

Why take CHEM150:

CHEM 150 (15 points) introduces foundational chemical concepts including the classification of substances and the ways substances change, different types of chemical reactions and some of the factors that affect these reactions. This course will enable students to gain an understanding of the atomic basis of nature as well as practice some basic laboratory techniques.

Who CHEM150 is designed for:

This course aims to build a solid foundation of chemical concepts so that students may be more confident in exploring chemistry or chemistry-related topics in higher-level courses. This course is good preparation for students going into CHEM110 and/or CHEM120 and/or biological sciences.

Where CHEM150 may lead to:

CHEM150 reinforces students' understanding of fundamental concepts in chemistry. The topics covered in CHEM150 are presented more in-depth in CHEM110 and CHEM120 in the School of Chemical Sciences.

Course Requirements

Restriction: Cannot be taken at the same time as any other chemistry course, or after any successfully completed chemistry course, other than CHEM 100/CHEM 100G

Capabilities Developed in this Course

Capability 1: Disciplinary Knowledge and Practice

- Capability 2: Critical Thinking
 Capability 3: Solution Seeking
 Capability 4: Communication and Engagement
 Capability 5: Independence and Integrity
 Capability 6: Social and Environmental Responsibilities

Graduate Profile: [Bachelor of Science](#)

Learning Outcomes

By the end of this course, students will be able to:

1. Describe and explain chemical reactivity using fundamental tools in the discipline of chemistry (such as the Periodic Table, chemical equations, etc.) (Capability 1, 2, 4 and 6)
2. Predict the amount of product made in a typical chemical reaction given initial quantities of reactants. (Capability 1, 2, 3, 4 and 6)
3. Identify, explain and evaluate how the structures of organic molecules relate to their physical properties and reactivities. (Capability 1, 2 and 6)
4. Identify, describe and analyse types of commonly found chemical reactions using energetic principles. (Capability 1, 2, 4 and 6)
5. Collect and interpret experimental results using scientific language, symbols, and figures. (Capability 1, 4, 5 and 6)

Assessments

Assessment Type	Percentage	Classification
Test 1	15%	Individual Test
Test 2	15%	Individual Test
Final Exam	40%	Individual Examination
Quizzes	5%	Individual Coursework
Tutorials	5%	Individual Coursework
Laboratories	20%	Individual Coursework
6 types	100%	

Assessment Type	Learning Outcome Addressed				
	1	2	3	4	5
Test 1	✓	✓			
Test 2			✓	✓	

Final Exam	✓	✓	✓	✓	
Quizzes	✓	✓	✓	✓	
Tutorials	✓	✓	✓	✓	
Laboratories					✓

You must pass both the practical (laboratory) and theory components independently in order to gain an overall pass in this course.

Tuākana

For more information and to find contact details for the Chemistry Sciences Tuākana coordinator, please see <https://www.auckland.ac.nz/en/science/study-with-us/maori-and-pacific-at-the-faculty/tuakana-programme.html>

Key Topics

Fundamental concepts
 Quantitative chemistry
 Organic Chemistry
 Chemical Reactivity

Special Requirements

Attendance at the laboratories a compulsory part of this course. Students must be wearing safety glasses, covered footwear and a lab coat before entering the laboratory and must keep these on until after exiting the laboratory. Jandals or other open shoes are not satisfactory footwear. Students who wear prescription spectacles are required to wear safety glasses over their spectacles. You must pass both the practical (laboratory) and theory components independently in order to gain an overall pass in this course.

Workload Expectations

This course is a standard [15] point course and students are expected to spend 20 hours per week involved in each 15 point course that they are enrolled in.

For this course, you can expect [6] hours of lectures, a [2] hour tutorial, [6] hour labs (in last half of semester), [4] hours of reading and thinking about the content and [2] hours of work on assignments and/or test preparation.

Delivery Mode

Campus Experience

Attendance is required at scheduled activities including labs and tutorials to complete and receive credit for components of the course.

Lectures will be available as recordings.

The course will not include live online events.

Attendance on campus is required for the tests and exam.

The activities for the course are scheduled as a standard weekly timetable.

A remote version of the course can be made available to students located overseas because of border restrictions, or those with an exemption to study remotely.

Learning Resources

Required course book and laboratory manual

Textbook is recommended

Student Feedback

During the course Class Representatives in each class can take feedback to the staff responsible for the course and staff-student consultative committees.

At the end of the course students will be invited to give feedback on the course and teaching through a tool called SET or Qualtrics. The lecturers and course co-ordinators will consider all feedback.

Your feedback helps to improve the course and its delivery for all students.

Digital Resources

Course materials are made available in a learning and collaboration tool called Canvas which also includes reading lists and lecture recordings (where available).

Please remember that the recording of any class on a personal device requires the permission of the instructor.

Academic Integrity

The University of Auckland will not tolerate cheating, or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student's own work, reflecting their learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the internet. A student's assessed work may be reviewed against online source material using computerised detection mechanisms.

Copyright

The content and delivery of content in this course are protected by copyright. Material belonging to others may have been used in this course and copied by and solely for the educational purposes of the University under license.

You may copy the course content for the purposes of private study or research, but you may not upload onto any third party site, make a further copy or sell, alter or further reproduce or distribute any part of the course content to another person.

Inclusive Learning

All students are asked to discuss any impairment related requirements privately, face to face and/or in written form with the course coordinator, lecturer or tutor.

Student Disability Services also provides support for students with a wide range of impairments, both visible and invisible, to succeed and excel at the University. For more information and contact details, please visit the [Student Disability Services' website](http://disability.auckland.ac.nz) <http://disability.auckland.ac.nz>

Special Circumstances

If your ability to complete assessed coursework is affected by illness or other personal circumstances outside of your control, contact a member of teaching staff as soon as possible before the assessment is due.

If your personal circumstances significantly affect your performance, or preparation, for an exam or eligible written test, refer to the University's [aegrotat or compassionate consideration page](https://www.auckland.ac.nz/en/students/academic-information/exams-and-final-results/during-exams/aegrotat-and-compassionate-consideration.html) <https://www.auckland.ac.nz/en/students/academic-information/exams-and-final-results/during-exams/aegrotat-and-compassionate-consideration.html>.

This should be done as soon as possible and no later than seven days after the affected test or exam date.

Learning Continuity

In the event of an unexpected disruption we undertake to maintain the continuity and standard of teaching and learning in all your courses throughout the year. If there are unexpected disruptions the University has contingency plans to ensure that access to your course continues and your assessment is fair, and not compromised. Some adjustments may need to be made in emergencies. You will be kept fully informed by your course co-ordinator, and if disruption occurs you should refer to the University Website for information about how to proceed.

Level 1: Delivered normally as specified in delivery mode

Level 2: You will not be required to attend in person. All teaching and assessment will have a remote option. The following activities will also have an on-campus/in-person option: Lectures, labs, and tutorials.

Level 3 / 4: All teaching activities and assessments are delivered remotely

Student Charter and Responsibilities

The Student Charter assumes and acknowledges that students are active participants in the learning process and that they have responsibilities to the institution and the international community of scholars. The University expects that students will act at all times in a way that demonstrates respect for the rights of other

students and staff so that the learning environment is both safe and productive. For further information visit [Student Charter](https://www.auckland.ac.nz/en/students/forms-policies-and-guidelines/student-policies-and-guidelines/student-charter.html) <https://www.auckland.ac.nz/en/students/forms-policies-and-guidelines/student-policies-and-guidelines/student-charter.html>.

Disclaimer

Elements of this outline may be subject to change. The latest information about the course will be available for enrolled students in Canvas.

In this course you may be asked to submit your coursework assessments digitally. The University reserves the right to conduct scheduled tests and examinations for this course online or through the use of computers or other electronic devices. Where tests or examinations are conducted online remote invigilation arrangements may be used. The final decision on the completion mode for a test or examination, and remote invigilation arrangements where applicable, will be advised to students at least 10 days prior to the scheduled date of the assessment, or in the case of an examination when the examination timetable is published.