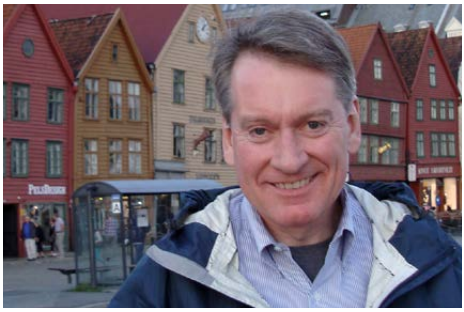
CHEMISTRY
UNDERGRADUATE HANDBOOK
2017

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

SCIENCE

Welcome to the School of Chemical Sciences



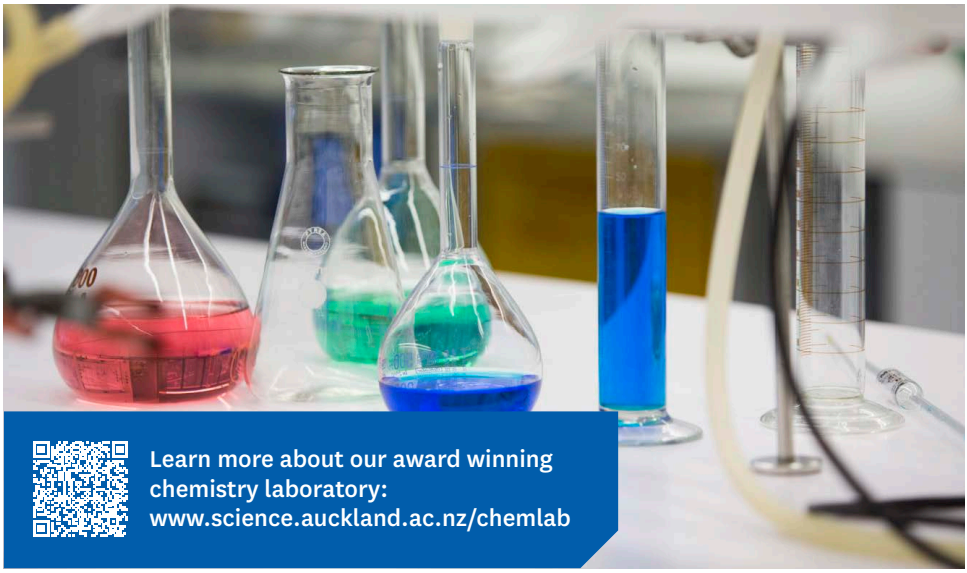
Welcome to Chemical Sciences! Chemistry is the branch of science that deals with the identification of the substances of which matter is composed; the investigation of their properties and the ways in which they interact, combine, and change; and the use of these processes to form new substances. It is of fundamental importance. Chemistry is intrinsically interdisciplinary and plays a key role in related disciplines, such as medicine, engineering, biological science, food science, forensic science, environmental science, and materials science.

We are the largest academic chemistry programme in the country. In addition to pure and applied Chemistry, we offer courses in Medicinal Chemistry as well as Forensic Science, Food Science and Nutrition, and Wine Science.

The School is a stimulating intellectual environment. Over 30 academics and 200 postgraduate students are active in a wide range of research programmes. Our research enhances our teaching programmes, and you can expect to be taught by academics who are leading scholars in their fields.

This handbook describes our activities, including the full range of courses offered, together with information to assist you in planning your degree programmes. You are joining a thriving and exciting School. Welcome!

KEVIN E. SMITH
Head of School



Learn more about our award winning chemistry laboratory: www.science.auckland.ac.nz/chemlab

Bachelor of Science in Chemistry

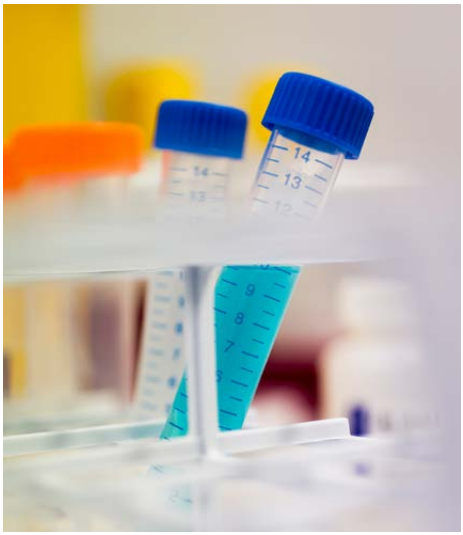
Studying chemistry will help you understand and appreciate the world in which you live. Advances in chemistry have had an enormous influence on our modern lifestyle and standard of living. Inventions such as semiconductors, polymers, pharmaceuticals and advanced materials of all kinds are based on chemical science. The study of chemistry leads to a deep appreciation of the scientific method, particularly the intellectual skills needed to develop new theories and to design experiments to test the validity of these theories.

3 The average number of years it takes to complete a Bachelor of Science degree

You can choose either a single or double major

Preparation for school leavers

Preparatory chemistry online is designed to assist prospective first year chemistry students who have had some years away from formal study, or who do not have a strong background in chemistry.
For more information, go to
www.chemistry.auckland.ac.nz/preparatory



For course planning and enrolment, go to
www.science.auckland.ac.nz/student-centre

Complementary majors

A double major is strongly recommended as it will enhance your career options by providing a broader base of skills and knowledge.

CHEMISTRY +

- Biology
- Geography
- Earth Sciences
- Environmental Science
- Geophysics
- Pharmacology
- Physics
- Physiology

www.science.auckland.ac.nz/doublemajors

Planning your major

BSc

Year 1

CHEM 110	CHEM 120	MATHS 110, 150 or 108					

With appropriate prerequisites can also be filled by Stage II or III. MATHS 110 or MATHS 150 is recommended and MATHS 108 can be an alternative option.

We strongly recommend students take CHEM 120 in Semester One and CHEM 110 in Semester Two; alongside papers from related subjects such as mathematics, physics, biology and statistics.

Year 2

CHEM 210-240	CHEM 210-240	CHEM 210-240					GEN ED
					Any Stage	Any Stage	

We recommend selecting all four CHEM 210-240 courses and consider CHEM 260 as an additional option

Year 3

CHEM 310-340	CHEM 310-340	CHEM 310-392	CHEM 310-392				GEN ED
				Stage III	Stage II or III Science	Stage II or III Science	

1. Courses in a minimum of three subjects listed in the BSc Schedule.
2. At least 180 points (12 courses) must be above Stage 1.
3. Up to 30 points (2 courses) may be taken from outside the Faculty.
4. 30 points (2 courses) must be taken from the appropriate General Education Schedules for BSc students.
5. At least 75 points must be at Stage III, of which 60 points must be in the majoring subject.

To view regulations for majors, and course descriptions, see www.calendar.auckland.ac.nz

BSc degree requires: 360 points (24 x 15 point courses). Each box represents one 15 point course.

It is recommended that students enrol in 8 courses each year.

Undergraduate Chemistry Courses

Stage I

CHEM100/100G	Molecules that Changed the World
CHEM110	Chemistry of the Living World
CHEM120	Chemistry of the Material World
CHEM150	Concepts in Chemistry

Stage II

CHEM210	Physical and Materials Chemistry
CHEM220	Inorganic Compounds Structure, Bonding and Reactivity
CHEM230	Molecules for Life: Synthesis and Reactivity
CHEM240	Measurement and Analysis in Chemistry and Health Sciences
CHEM260	Introduction to Green Chemistry

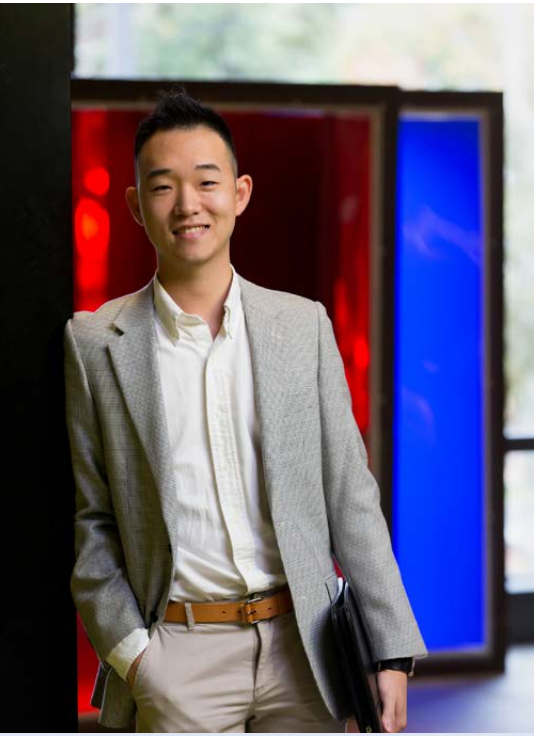
Stage III

CHEM310	Structural Chemistry and Spectroscopy
CHEM320	Design and Reactivity of Inorganic Compounds
CHEM330	Contemporary Organic Chemistry
CHEM340	Advanced Analytical Chemistry
CHEM350, CHEM 350A/B	Topics in Chemistry: Modular Course
CHEM360	Contemporary Green Chemistry
CHEM380	Materials Chemistry
CHEM390	Medicinal Chemistry
CHEM392	Issues in Drug Design and Development

For course descriptions and prerequisite information, go to www.chemistry.auckland.ac.nz/courses

Careers in Chemistry

Career opportunities for Chemistry graduates are many and varied. In industry you might be employed in research and development, quality control, marketing, sales or management. Some of the industries that regularly employ chemists are those involving food, paper, brewing, paint, plastics, ceramics, metals, pharmaceuticals, agricultural products and fertilisers. The public sector employs chemistry graduates for research, analysis and development, both in government laboratories and with regional councils.

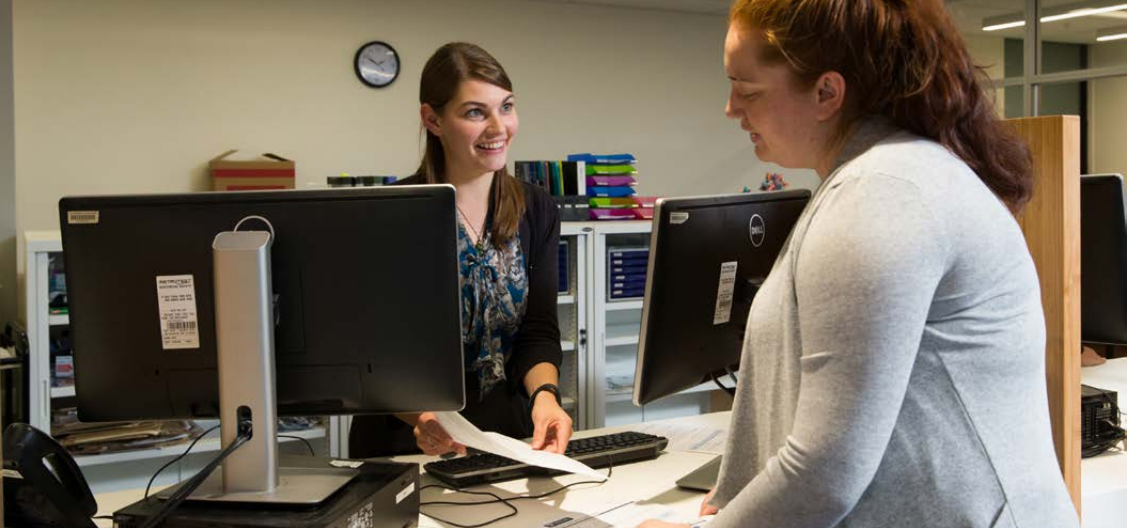


"The great support and the study environment provided by students and staff at the School of Chemical Sciences, makes this a great place to study Chemistry. The lecturers and professors are very friendly and easy to approach, which I owe a lot of my academic success to.

"Whether it is in academia or industry, I hope to find a career path that keeps my passion for science alive."

***Paul Baek** studied a Bachelor of Science majoring in Chemistry (Honours) and is currently working towards a PhD in Chemistry.*

- Analytical Chemist
- Animal Psychologist
- Clinical Researcher
- Drug Company Representative
- Forensic scientist
- Health and Safety Professional
- Healthcare Professional
- Inorganic Chemist
- Materials Chemist
- Organic Chemist
- Pharmaceuticals
- Physical Chemist
- Physiologist
- Regulatory analyst
- Research scientist
- Researcher
- Science writer
- Scientific Officer
- Secondary school teacher
- Toxicologist



Helpful information

Academic dates	www.auckland.ac.nz/dates
Academic Integrity Course	www.auckland.ac.nz/academic-integrity
Accommodation	www.accommodation.auckland.ac.nz
Buy coursebooks and safety glasses	www.science.auckland.ac.nz/resource-centre
Career Development and Employment Services	www.auckland.ac.nz/careers
Course advice and degree planning in Science	www.science.auckland.ac.nz/student-centre
General education	www.auckland.ac.nz/generaleducation
How to apply	www.apply.auckland.ac.nz
How to enrol	www.auckland.ac.nz/enrolment
International students	www.international.auckland.ac.nz
Māori and Pacific students	www.science.auckland.ac.nz/tuakana
Need help?	www.askauckland.ac.nz
Rainbow Science Network for LGBTI students	www.science.auckland.ac.nz/rainbowscience
Scholarships and awards	www.scholarships.auckland.ac.nz
Support for students	www.science.auckland.ac.nz/support

Applications close on December 8.

Questions about Chemistry? Email chemistry@auckland.ac.nz

THE UNIVERSITY OF AUCKLAND
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