

What can I do with a degree in Biochemistry?

Biochemistry.



Career planning: what do I need to know?

Knowledge of yourself is important for career decision making. Start by looking at your personal goals, abilities, values and interests to explore study and career options that are relevant to you. Some of these may change over time, so it is important to self-reflect and evaluate your career on an ongoing basis.

What do employers look for?

Many employers look for generic skills such as communication, customer-focus, cultural awareness and teamwork. With technology and globalisation changing the nature of society, skills such as resilience, problem solving and adaptability are valuable at work as well as in life.

How can I develop these skills?

- Some skills are developed through your degree
- Extra-curricular activities can help, for example

getting involved in clubs, mentoring, cultural groups, part-time work or volunteering

- Be open to professional and personal development opportunities. Whether it is undertaking an internship, overseas exchange, skills seminar, or joining an industry group — these activities will enhance your employability.

What else should I know?

The career options in this brochure are examples only and the list is not exhaustive. Some careers may require further study beyond a first degree or additional work experience. Some pathways and degrees have a recommended school background. Find more subject details at www.canterbury.ac.nz/subjects/bchm

If this brochure does not answer your questions, talking to an expert such as a career consultant can help you to identify the next steps in your career decision making journey.

www.canterbury.ac.nz/careers

What is Biochemistry?

Biochemistry brings together a number of branches of science with a view to understanding the chemistry of life. Such a unique and privileged position at the interface of the traditional sciences makes for a dynamic and exciting discipline. It provides basic insight into biological processes such as enzyme action, drug action, genetic engineering, photosynthesis and colour vision.

Biochemistry is at the cutting edge of contemporary science, research and industry. Biochemical innovation is critical in adding value to Aotearoa New Zealand's agricultural production, advancing medicine and understanding the fundamentals of the biological world around us.

Some knowledge of Biochemistry is useful for any student majoring in Biological Sciences and many areas of Chemistry.



AT A GLANCE

3,600+

people work across seven Crown Research Institutes, NZ's largest science research hubs

\$1.4b

Aotearoa New Zealand's natural products industry is worth NZ\$1.4 billion annually*

\$75k

a junior to mid-level biochemist can earn up to \$75,000 a year**

What skills have UC graduates gained?

Through their Biochemistry degree, graduates gain a valuable set of transferable skills such as:

- Analytical and problem solving
- Good planning and organisation
- Oral and written communication
- Teamwork and leadership
- Capacity to think creatively, logically and quantitatively
- Mathematical and computer competencies
- Observation, research and development abilities.

Applied learning opportunities are available such as laboratory sessions, and fieldtrips. These experiences deepen your skillset, awareness of others, working knowledge and employability.

Where have UC graduates been employed?

Biochemists are found working in a number of different industries. Recent UC graduates were employed in:

- Pharmaceuticals industry eg, Baxter Healthcare
- Government bodies eg, Rotorua District Council

- Diagnostic departments in hospitals eg, Canterbury District Health Board
- Crown Research Institutes eg, Plant and Food Research, Institute of Environmental Science and Research, Landcare Research
- Laboratories eg, Canterbury Health Laboratories
- Food and beverage producers eg, Deep South Ice Cream, Goodman Fielder
- Manufacturing and processing companies eg, Izon Science Ltd
- Biotechnology organisations
- Agribusiness eg, Livestock Improvement Corp, Ballance Agri-Nutrients
- Software companies eg, Jade Software Corporation
- Water management eg, Hydroxsys Ltd
- Health and beauty care organisations
- Engineering consultancies eg, Aurecon
- Secondary schools teaching biology, chemistry and other science subjects
- Tertiary sector eg, Lincoln University, Ara Institute of Canterbury, Otago School of Medicine, Charité – Universitätsmedizin Berlin
- Their own company or self-employed as a consultant eg, Ethique

For more examples of employers who recruit UC students and graduates go to www.canterbury.ac.nz/recruitingemployers

* www.naturalproducts.co.nz

** www.careers.govt.nz/jobs-database/science/science/biochemist

What jobs and activities do UC graduates do?

Graduates with this degree are employed in a range of jobs — see some examples below.

Note: Some of the jobs listed may require postgraduate study. See the 'Further study' section.

Biochemist

- Studies the composition of all living things
- Develops and tests new pharmaceutical products
- Studies how disease or vaccines interact

Research scientist, researcher, research and development assistant

- Undertakes experimental lab work and develops scientific solutions to problems
- Carries out field and lab tests, records data
- Conducts analysis and writes technical reports
- Communicates results/impacts to various audiences such as policymakers and the public

Manufacturing scientist, product formulation specialist

- Researches a client's brief, a social need, or a gap in the market
- Designs and develops prototype sample
- Commercialisation through trials, industry submissions and production runs
- Complies with quality standards/regulations

Laboratory / field technician

- Plans and carries out research experiments
- Maintains and calibrates equipment
- Liaises with scientists and industry personnel
- Collects and collates data, and drafts reports

Data analyst, bioinformatician

- Analyses data and models techniques to solve problems
- Gains insight for decision-making purposes

Biotechnology technician

- Tests micro-organisms and monitors data
- Develops and tests methods
- Assists with developing new products

Medical laboratory technician

- Carries out tests on samples eg, blood, tissue
- Communicates results to patients and/or medical professionals

Pharmacy technician

- Receives, issues and keeps records of prescriptions
- Helps pharmacists prepare and give medicines
- Maintains stock and helps run the pharmacy

Secondary school teacher

- Plans and delivers instructional lessons
- Evaluates performance and provides feedback
- Sets and marks assignments and tests

Science journalist, technical writer

- Researches specialist scientific publications
- Interviews scientists, medical staff, academics
- Writes and edits scientific articles, journals, organisational documents eg, reports, manuals

Entrepreneur and CEO

- Develops an idea to form their own business
- Gets involved in a start-up
- Offers their services as a consultant

Get started at www.canterbury.ac.nz/careers/Entrepreneurship/getting_started.shtml

UC Careerhub

UC students and alumni can find details of internships, job vacancies and tips at www.careerhub.canterbury.ac.nz

What professional bodies can people link to?

As they progress, students and graduates often join professional bodies or organisations relevant to their area of interest. These organisations can provide regular communications and offer the chance to network with others.

- Royal Society of New Zealand
www.royalsociety.org.nz
- New Zealand Society for Biochemistry and Molecular Biology
<http://nzsbmb.science.org.nz>
- Australasian Association of Clinical Biochemists
www.aacb.asn.au
- Australian and New Zealand Society for Comparative Physiology and Biochemistry
www.anzscpb.curtin.edu.au
- New Zealand Microbiological Society
www.nzms.org.nz
- New Zealand Association of Scientists
<http://scientists.org.nz>

Social media networks such as LinkedIn, Facebook and Twitter can provide avenues to keep up-to-date with industry knowledge, networking opportunities, events and job vacancies.

Why do further study and what are my options?

Postgraduate study can facilitate career benefits such as specialist skills, higher starting salary, and advanced research capability. It can also lead to an academic job. It is important to determine which, if any, further study will help your career.

Biochemistry graduates can progress into a number of programmes from honours to master's and PhD level. These develop advanced research skills and provide the chance to specialise.

Some prepare for a career through further training eg, in teaching, communication, management, forensic science, product formulation.

Useful links

UC Careers, Internships & Employment
www.canterbury.ac.nz/careers

Careers New Zealand
www.careers.govt.nz

UC qualifications and courses
www.canterbury.ac.nz/courses

Crown Research Institute careers
www.careers.sciencenewzealand.org

Physicians and Scientists for Global Responsibility
www.psg.org.nz

NZBIO www.nzbio.org.nz



Rudranuj Bundela



Studying towards a Bachelor of Science in Biochemistry

What is Biochemistry?

Biochemistry is the study of the chemistry of life. Because living processes are an essential component of biology, many diverse fields from zoology to molecular biology to structural biology are closely linked to the field of biochemistry.

Biochemists are responsible for significant contributions to the fields of medicine, agriculture and nutrition.

What do you enjoy about studying it?

Despite so much that is already known, there are many things that are constantly being discovered in the field of Biochemistry. Something that might seem true today, might not be true tomorrow. Working in the lab is always a fun experience as well.

Where do you see it taking you?

Ever since I was young I saw myself in a white lab coat working in a pristine laboratory somewhere. Within Biochemistry, I thoroughly enjoy the field of drug development and design.

I wish to lead a successful research group that produces meaningful results that have an impact on the lives of people who are less privileged than I am.

How was your internship experience?

I managed to land an internship with a commercial medical diagnostics lab in India because of an excellent letter of recommendation by one of my lecturers. It gave me crucial insights into the field of Biochemistry and provided a 'real-world' example of the kinds of things we learn in lectures. I would highly recommend it to other students as it helps visualise the kind of immediate impact this field has on people's lives.

Read more online

Read Rudranuj's full story about his university experience on our profiles website. UC students and alumni make a difference in varied ways around the globe. Find out where Biochemistry graduates are now at www.canterbury.ac.nz/profiles

The information in this brochure was correct at the time of print but is subject to change.

More information

UC students seeking study advice.

Biochemistry Programme
Te Rāngai Pūtaiao | College of Science

Biochemistry is taught as a collaboration between Chemistry and Biological Sciences. Our teaching staff have a unique blend of skills and expertise. The result is an exciting undergraduate curriculum and a vibrant research environment.

UC is home to the Biomolecular Interaction Centre, dedicated to the research of molecular interactions critical to biological function. It includes academics and collaborators from Crown Research Institutes, universities, and Callaghan Innovation.

T: +64 3 364 2100
E: collegeofscience@canterbury.ac.nz
www.canterbury.ac.nz/science

Anyone seeking careers advice.

Careers, Internships & Employment
Te Rōpū Rapuara

CIE offers intending and current students and recent graduates a wide range of services, including individual career guidance, seminars, career resources and student and graduate employment opportunities.

T: +64 3 364 3310
E: careers@canterbury.ac.nz
www.canterbury.ac.nz/careers
[UCCareersEmployment](#)

Prospective students seeking study advice.

Student Liaison
Te Rōpū Takawaenga

Student Liaison provides intending students with information about the university system in general and the courses, qualifications, support and facilities available at UC.

Ōtautahi | Christchurch
T: 0800 VARSITY (0800 827 748)
E: liaison@canterbury.ac.nz

Tāmaki-makaurau | Auckland
T: 0800 UCAUCK
E: auckland@canterbury.ac.nz

Te Whanganui-a-Tara | Wellington
T: 0800 VARSITY (0800 827 748) ext 93231
E: wellington@canterbury.ac.nz
www.canterbury.ac.nz/liaison