

What skills can graduates gain?

Chemical Formulation Design graduates develop skills in creative design, formulation science, and business and marketing to design and prototype products, and commercialise ideas for many industries. These skills can include:

- Understanding of the design process – from idea generation to commercialisation
- Technical understanding and hands-on experience in formulating a wide range of functional products
- Design of packaging, marketing and consumer perception studies
- Employment of design tools, including computer aided design (CAD) and graphic processing software
- Critical thinking and application of logic to proposed design solutions
- Creativity, problem solving, initiative and enterprise
- Self-management, resilience and adaptability
- Teamwork, collaboration, planning and organisation
- Oral and written presentations.

Applied learning

Applied learning opportunities are available such as practical team-based projects, entrepreneurship courses, and the use of dedicated product innovation spaces. These experiences deepen graduates' skillset, awareness of others, working knowledge and employability.

What do employers look for?

Many employers look for generic skills such as communication, client/customer-focus, bicultural competence, cultural awareness, teamwork and initiative.

With technology, globalisation, and other drivers changing society, skills such as resilience, problem solving, and adaptability are important.

Skills that are likely to grow in importance include analytical and creative thinking, systems thinking and technological literacy.*

*World Economic Forum: www.weforum.org/

What jobs and activities might graduates do?

Chemical Formulation Design studies may lead to a career in product formulation and manufacturing or more broadly into any industry that employs graduates with a scientific background and creative mentality – see some examples below.

Note: This list is not exhaustive, and some jobs may require further study, training or experience. It is recommended to start with the section 'How can I gain a sense of career direction?'

Product development scientist

- Research a client's brief, an organisational or social need, or a gap in the market
- Design and develop prototype sample formulations within budget
- Commercialise products through trials, industry submissions and production runs
- Improve existing products and comply with quality standards and industry regulations

Quality manager, quality control technician

- Ensure that products, processes and systems meet quality and regulatory standards
- Develop policies and procedures
- Solve problems, make decisions and support others to achieve these standards

Laboratory technician

- Test raw materials and evaluate results
- Analyse finished products and keep records for quality management purposes
- Maintain lab supplies, equipment, chemicals

Product / manufacturing manager

- Manage a specific product or line of products that are already in the market
- Coordinate production of approved prototype
- Oversee operations and logistics
- Handle product enquiries, complaints, orders

Marketing analyst, portfolio analyst, business development manager

- Conduct market research into product usage and audience preferences
- Analyse performance of existing products or identify new requirements
- Prepare business cases for product changes
- Market the products, develop new business opportunities and increase sales

Formulation scientist

- Develop and optimise chemical formulations for various products such as cosmetics, pharmaceuticals, adhesives, coatings, and personal care products

Principal / senior formulation scientist

- Lead business initiatives on new products, and manage budgets
- Manage formulation development staff
- Lead the formulation and manufacturing processes

Research scientist

- Conduct research to develop new materials, improve processes, or solve technical problems related to formulation chemistry
- Design experiments, analyse data, and collaborate to develop and improve products

Examples of other job titles and careers include:

- Chemist
- Research and design cosmetic chemist.

Further study options

UC offers a range of higher qualifications through the School of Product Design.

Further study may facilitate career benefits such as specialist skills, entry into a specific occupation, higher starting salary, faster progression rate, and advanced research capability.

It is important to determine which, if any, further study options align with future career aspirations.

For further UC study options visit:

📄 www.canterbury.ac.nz/study/academic-study

How can I gain a sense of career direction?

Understanding yourself and others is important to gain a sense of direction. This grows with experience; therefore, trying new things and reflecting on an ongoing basis is important.

Career planning checklist

Discover and reflect on:

- Your values, interests, strengths, abilities, and aspirations
- Your connection to whānau, people, and places
- Lifestyle preferences and location
- The skills you want to gain, use, or enhance

Engage in a variety of experiences to learn about:

- How you want to contribute to society, the environment, and global challenges
- The tasks, responsibilities and work environments you prefer
- Your work values, priorities and interests

Learn more and gather career and study information

(refer to page one of this resource)

- Speak with people working in careers that interest you; check the realities of a job/career
- Gather information from various sources

Identify your next steps

- Talking to a career consultant can help you to identify your next steps. Visit: www.canterbury.ac.nz/life/jobs-and-careers



