



valuable se.41.89 reW n.4864l/k ()TJJO Tc 10.414sj  
and legal considerations

### Career and study information continued

UC students can choose to complete a minor alongside Civil Engineering in either:

- Structural Engineering
- Water and Environmental Systems Engineering

For more information, visit:

[www.canterbury.ac.nz/study/academic-study/subjects/civil-engineering](http://www.canterbury.ac.nz/study/academic-study/subjects/civil-engineering)

## What skills can graduates gain?

Through studying a degree in Civil Engineering, graduates develop a valuable set of skills that are transferable to a range of careers within and outside of engineering. These skills can include:

- Practical application of engineering technology and science
  - Design skills and an understanding of computer design software
  - Awareness of environmental, ethical, cultural and legal considerations
  - Analytical and critical thinking
  - Logical and
- For more information, visit:

## What jobs and activities might graduates do?

Graduates with this degree are employed in a range of jobs — 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?'

### Civil engineer

- Consult with stakeholders on requirements
- Plan and design structures and systems
- Analyse the strength and capacity of structures and systems

### Structural engineer

- Design and supervise the construction of structures
- Investigate and analyse the site conditions
- Refurbish and strengthen existing structures

### Environmental engineer, ecological engineer, waste management expert

- Test environmental samples for pollution
- Minimise the project's environmental impact
- Design waste management systems

### Water engineer, water resources engineer

- Design water-related systems e.g. pipe work
- Monitor the progress of water projects
- Check water-related systems for possible issues

### Project engineer, project manager

- Manage a project plan, budget and schedule
- Supervise a project's daily progress
- Liaise with project staff and clients

### Fire engineer

- Use modelling software to prepare reports, specifications and drawings
- Conduct forensic engineering for insurance/legal purposes
- Design and inspect safety systems

### Geotechnical engineer

- Analyse the geologic data to identify important hazards and the likely future behaviour of the site when developed
- Determine an area's suitability for construction
- Make construction recommendations

### Transportation engineer

- Design, test and improve transport systems and structures

- Create plans to meet changing transportation needs and population patterns
- Research and analyse traffic patterns

### Site engineer

- Survey and level the building site
- Check accuracy of construction plans/materials
- Oversee the quality of building work

### Humanitarian engineer

- Apply skills to help developing communities
- Develop resource solutions with local groups
- Problem solve in challenging environments

### Bridge engineer

- Plan, design and model new bridge projects
- Oversee implementation progress
- Liaise with project staff and clients

### Examples of other job titles and careers include:

- Civil and structural engineering: Infrastructure engineer, Land development engineer, Dam safety engineer, Stormwater engineer, Transmission line engineer
- Environmental engineering: Sustainability engineer, Natural resources engineer, Hydrotechnical engineer, Groundwater officer
- Transportation engineering: Road maintenance engineer, Traffic management coordinator
- Engineering management: Operations officer, Consultant, Business consultant, Consent planning consultant
- Other specialised engineering roles: Research engineering officer, Design engineer, Quality control engineer, Utilities site engineer
- Data analysis and modelling: Analyst, Analytical technician, BIM engineer, Hydraulic modeller, Estimator.

## Further study options

Various further study options relating to Civil Engineering are available, from postgraduate certificates, and master's degrees to PhD. Some courses are run in block-mode, enabling participants to fit study around work commitments.

For further UC study options visit:  
[www.canterbury.ac.nz/pg-cnre](http://www.canterbury.ac.nz/pg-cnre)

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.

## 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](http://www.canterbury.ac.nz/life/jobs-and-careers)



