

Engineering Work Experience – Expectations for Students and Employers

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1. Introduction

This document sets out expectations and responsibilities of the student, the industry employer and the University of Canterbury in relation to engineering work experience. This is not an employment agreement but a statement of the University's expectations of the experience and the duty for health and safety. We expect there is a commitment between the industry employer and the student to enter into an employment relationship on terms agreed between the industry employer and the student.

Engineering students complete an intermediate year, followed by three professional years of study in one of nine engineering degree disciplines: chemical and process, civil, computer, electrical and electronic, forestry, mechanical, mechatronics, natural resources, and software. Engineering students are required to complete a total of 800 hours (100 days) of Engineering Work Experience. There is a general expectation that students will be remunerated. The work may be full or part time.

2. Requirements for Engineering Work Experience

The 800 hours (100 days) of work experience are expected to familiarise the student with the practical and professional aspects of the engineering profession. Students are expected to become familiar with the application of engineering within the organisation.

The work is ideally completed in two sizeable periods of nominally 400 hours, at different organisations, with a report submitted on each period. However, separate periods of work with the same employer may be combined in order to accrue the minimum number of hours required (320) to submit a report. Where students are combining periods, a minimum full-time period of 160 hours is required to be completed over the summer holiday period.

Both main periods of work may be with the same employer, but if so the work should be sufficiently varied to provide the student with a range of experiences.

If there is a possible conflict of interest (e.g. working at the same organisation as a family member), students must provide full disclosure and get pre-approval from the Work Experience Coordinators.

COVID-19 Impact

We understand that COVID-19 has had an impact on business and appreciate the industry experience you are extending to our students.

Workplace-based learning should be managed within the specific public health control measures that apply to the type of workplace under each COVID-19 Alert Level.

The Standards and Accreditation Board has agreed to grant universities the discretion to waive up to 400 hours of work experience for students who are scheduled to complete their studies before December 2021 but it is expected that universities and students to continue to use best endeavours to secure the full 800 hours of work experience for their students or themselves.

3. Duty for Health and Safety

Industry employer

The student becomes an employee of the industry organisation for the duration of the work experience. The industry employer is considered to be the person conducting the business or undertaking (PCBU) in terms of the New Zealand Health & Safety at Work (the "HSAW Act"). Consequently, the industry employer is responsible for the health and safety of the student.

Under the HSAW Act, the industry employer is required to provide a specific induction programme for employees on the first day or as reasonably practicable thereafter, which includes but is not limited to:

- Training on safe and correct work practices including but not limited to the control measures for risks and the use of tools, machinery and equipment – **the University does not provide students with task-specific training or task-specific risk assessment.**
- The procedures for students to follow if they become aware of any hazards or risks, including but not limited to: informing the student who the health and safety representatives are in the workplace and how to access first aid and complete hazard/incident forms; and informing the student how to report health and safety and wellbeing matters such as accidents, incidents, injuries, illnesses, harassment and discrimination;
- Informing the student about emergency and evacuation procedures.

The industry employer is also required to:

- Have sufficient staffing resources to provide skilled and close supervision of student workers;
- Provide correctly fitting personal protective equipment (e.g. hi viz vests when working around traffic areas, safety footwear, hard hats, ear muffs, masks or respirators, etc);
- Provide and maintain safe plant (e.g. machinery, equipment, tools) and structures (e.g. buildings, frameworks, pipelines, quarries);
- Provide and maintain safe systems of work (i.e. use control measures to eliminate or minimise risks and set methods to safely carry out tasks);
- Report all notifiable events (death, notifiable illness/injury or notifiable incident) involving the student to the University (as well as WorkSafe) as soon as possible. Reporting should be in writing to: engpracticalwork@canterbury.ac.nz

The University expects all of the above obligations to apply to employers whether they are in New Zealand or outside of New Zealand.

Students

Students, as employees of the industry employer, are required to:

- Comply with all of the industry employer's rules, policies and procedures covering health and safety;
- Comply with all instructions from the industry employer relating to health and safety, including the wearing of personal protective equipment;
- Ensure their personal work safety while at work;
- Take reasonable care so that their acts or omissions do not adversely affect the health and safety of other persons;
- Ensure that they have received a specific health and safety induction on their first day of work, or as reasonably practicable after, to ensure they have a sound understanding of the hazards and risks associated with the work and understand safe work practices and methods.

Students have the right to refuse to undertake work activities if they consider them to be unsafe.

Students are required to describe and reflect upon health and safety practices at their place of employment in their formal work experience reports. This is a critical aspect of the training of professional engineers.

Students are also required to promptly report any incident, accident, injury or illness which occurs at work, such as:

- An injury or illness that requires hospitalisation for immediate treatment;
- The amputation of a body part;
- A serious head injury, eye injury, burn or spinal injury;
- Loss of bodily function (e.g. consciousness, speech, movement of limb, etc);
- Serious lacerations (cuts) which cause muscle, tendon, nerve or blood vessel damage or impairment;
- Contracting a serious infection where work is a significant contributing factor;
- An injury or illness that requires medical treatment within 48 hours of exposure (such as inhalation of toxic chemicals);
- An unplanned or uncontrolled incident that exposes workers or others to serious risk (such as exposure to a substance escaping or leaking, an explosion or fire, an electric shock, a thing falling from height, collapse or partial collapse of a structure or ventilation interruption);
- Bullying and/or harassment.

In the first instance students should report it to the industry employer. Students must also report it to the University as soon as possible. Reporting is to be in writing to: health-safety@canterbury.ac.nz using either a copy of the organisation's reporting form, or on the University Event Report.

Students who feel distressed in the work place should discuss that with the organisation, and if that fails or is impractical to do, are then invited to contact the Work Experience Coordinators on 03 369 4274/369 3531 or Security on 0800 823 637/03 369 2888. If in doubt about the best course of action, the College of Engineering are available over the summer to provide advice.

4. Successful Work Experience

We appreciate the involvement of industry in helping the next generation of engineers gain experience in a work environment. Characteristics of successful work experience include the following:

Provide diversity of work experiences. Do give the student a variety of tasks. This may be difficult in a very small organisation. It is emphasised that the work should not necessarily be designed to make the student into a tradesperson. Our requirements are described in Competency 3 as:

The student is able, for a practice field of choice, to:

3.1 (a) Explain the practical or operational processes whereby engineering is implemented (there is no necessity to undertake physical work), or (b) Have conducted practical engineering tasks in industry under the supervision of an engineering tradesperson, technician, technologist or engineer, or (c) Identify where the key attributes of quality arise in the practical application, and what the industry does to manage quality.

3.2 Apply engineering knowledge and skills to contribute to designing a solution for an engineering problem. This may involve investigating a problem, analysing data, use of design tools, simulation, modelling, etc. There is an expectation that documentation will be produced. Contribution to a group project is acceptable.

It is the student's responsibility to manage their professional development towards the competencies set by the University, and the student is encouraged to discuss this with their line manager. The employer can help by giving the student tasks aligned with those competencies, e.g. to conduct a risk assessment, and to be involved in engineering problem-solving. It is requested that students have an alternative person in the organisation to contact when their line manager is unavailable.

Expose the student to organisational processes. Do provide the opportunity for the student to gain an insight into the management and operation of the organisation. This could include:

- observation of staff relationships
- the need for breaks and regular hours
- the amount of work achievable by one person in a day
- the different skill levels of a sample of the workforce

- the organisation structure and skills of the organisation
- how sales and delivery are achieved
- customer relationships
- how product development and research applies
- stores and/or inventory control, workshop layouts
- production management planning, safety systems, quality control, etc.

5. Process

- 1. Student initial preparation.** While at university, students complete a workshop training course relevant to their type of engineering, a first aid course, learn basic awareness of worker and PCBU responsibilities under the Act, and learn to apply the risk assessment methodology. **Generally this will be completed prior to industry work experience, but scheduling constraints make this uncertain, and students vary in their practical ability, so industry organisations should ascertain the actual level of skills of students before putting them onto tasks. The University does not provide students with task-specific safety training or risk assessment.**
- 2. Employer establishes the employment contract.** Students contact prospective employers directly. Employers can expect a CV and an indication of period available for work (start and finish dates). The employment decision is made solely by the industrial organisation, as well as the employment contract. The University of Canterbury is neither a partner in the employment contract nor an employment broker.
- 3. College staff may visit student in the workplace.** While it is not possible to visit all students completing work experience, College staff do try to visit some students each summer in their place of work to see how they are progressing. This is part of our commitment to our students and their work integrated learning.
- 4. Employer confirms work with the College.** Please complete the attached employer report form with the student at the end of the period of employment. The student is expected to return this form to the College of Engineering when submitting the report on their work. Work will not be credited until confirmation is received from the employer. Unsatisfactory reports may be discussed with the employer and the student, and may result in the work not being credited for the Degree.
- 5. Student writes report.** Students must submit to the University of Canterbury a report on their work. It is helpful that the employer appreciates students will be expected to take notes of their observations, and take some pictures (with employer permission), to enable them to prepare a professional and illustrated work report. The student may also include technical documentation to which they have contributed at the workplace – these are considered the intellectual property of the employer, unless the parties advise of other agreements.

6. Confidentiality

The student's report and supporting documents will be treated as confidential by the University of Canterbury. Reports will normally be assessed by only one academic member of staff. Students must include a declaration in the report to the effect that they will not disclose the contents of the report to any other party.

Thank you for employing a student from the College of Engineering, University of Canterbury. Work experience in industry is an essential part of the degree course and the College greatly appreciates your assistance in providing students with learning that contributes to their understanding of engineering practice.

Contact details

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