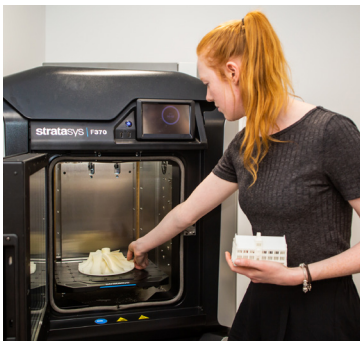
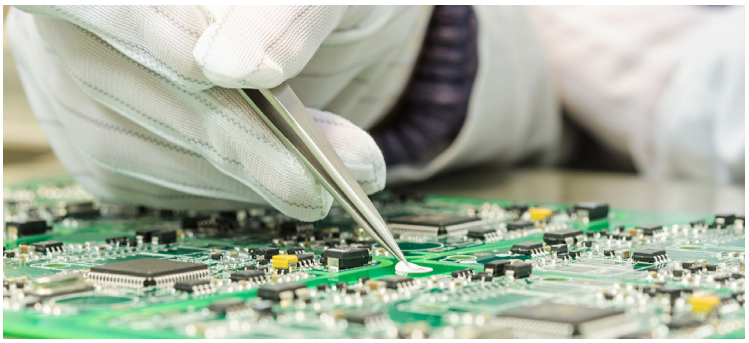
Faculty of Engineering

Engineering | Product Design

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Collaborate



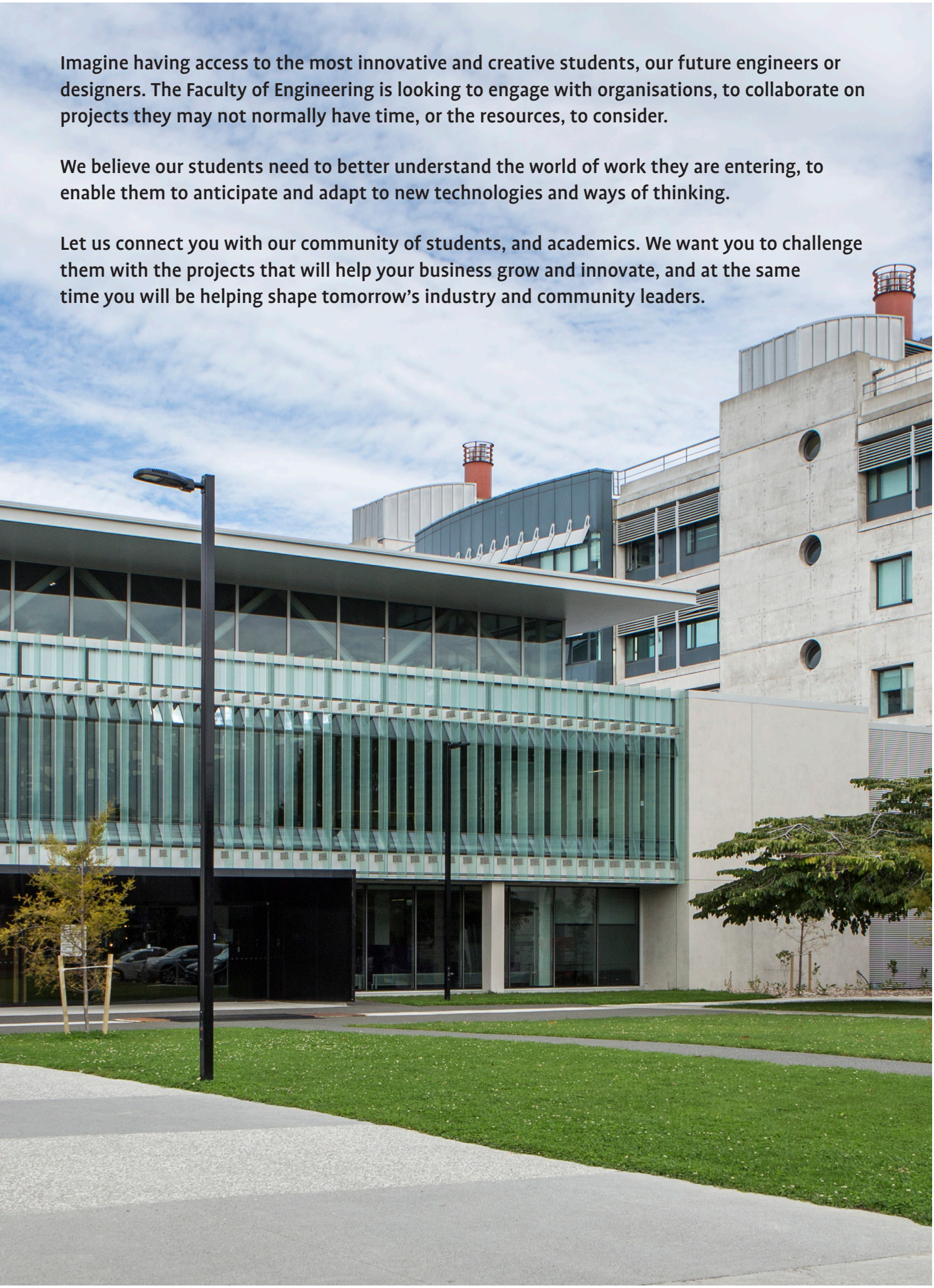


What could you do if you had access to the most innovative and creative students, to our future engineers or designers?

Imagine having access to the most innovative and creative students, our future engineers or designers. The Faculty of Engineering is looking to engage with organisations, to collaborate on projects they may not normally have time, or the resources, to consider.

We believe our students need to better understand the world of work they are entering, to enable them to anticipate and adapt to new technologies and ways of thinking.

Let us connect you with our community of students, and academics. We want you to challenge them with the projects that will help your business grow and innovate, and at the same time you will be helping shape tomorrow's industry and community leaders.



Becoming an industry project sponsor

This is an opportunity to have students or groups of students (undergraduate or postgraduate level students are available) complete a project that may have been sitting on your books for some time but has not yet been started due to resource constraints in your organisation.

Sponsor organisations nominate a staff member as the project owner. The primary role of the project owner is to guide the student as they complete their project or internship (this is often the person who would know the most about the project/internship at hand). Over the initial meetings, both the project owner and student will discuss and clarify the expectations of the project/internship and then meet at least once weekly, or as mutually agreed upon (this can be achieved face to face or online).

The sponsor is encouraged to be actively involved and provide professional and technical support and direction. It is our experience that sponsors enjoy the process of working with students and derive a great deal of value from the often unique, interesting and alternative perspectives that students bring to their project(s).

Types of Projects and Internship areas

Field of study or research

- aerospace
- agritech and irrigation
- autonomous vehicles
- bioengineering and healthcare
- biomass/bio-energy
- construction
- cosmetics formulations
- deep learning
- engineering management
- food processing
- health and safety
- holograms
- image segmentation
- marine
- natural language processing
- personal care
- text analytics
- text sentiment
- transport
- UAVs

Types of project undertaken

- automation
- business opportunity analysis
- commercialisation analysis
- cost effectiveness and feasibility investigations
- data analytics
- energy management
- field data collection
- forecasting
- gamification
- inspection/measurement
- machine evaluations (productivity and ergonomics)
- machine learning
- manufacturing
- market studies
- mobile and web applications
- power systems
- process optimisation
- Product Formulations
- social network analysis
- soft sensors
- surface treatments
- visual object detection

Sponsored projects are not restricted to the above fields or technologies. A sponsor may also specify development tools and technologies and the methodology that the team should use for the project.

"This final year project collaboration scheme between industry and the University is highly successful. With a concise project proposal the results were simply beyond expectations. It was great to engage with the University and help the development of future engineers whilst gaining important business knowledge in the process. We will not hesitate to engage in this process again."

Wayne Mason- Senior Technical Leader Fisher & Paykel Appliances

Why collaborate with us?

In a fast-changing global environment, we recognise the need to develop graduates with the skills and personal attributes needed by industry, and communities in New Zealand and around the world.

Connect with students

UC is a source of talent and our partnerships with forward-thinking organisations are essential to the development of our computer scientists, engineers, foresters, mathematicians and product designers. We have opportunities with both undergraduate and postgraduate students.

- Partner with us to create individual or group projects for our students.
- Share your expertise as a guest lecturer.
- Create internship opportunities for students.
- Showcase your company, and industry, through student visits.
- Help our students become work ready.

Find talented employees

We provide opportunities to recruit the best students and recent graduates to your business.

- Send your recruitment message directly to students through our CareerHub.
- Raise your profile at our Careers Fairs, events, and employer information sessions.

Collaborate with world-class experts

Draw on the expertise of our people and utilise our specialists and facilities to build your organisation's capability. Explore opportunities by engaging with UC academics in collaborative research partnerships.

Keep your team up-skilled

A number of UC's qualifications are available as block courses which allows professional engineers to keep up-to-date with their industry. Additionally, some courses can be taken without being part of a qualification if you have a specific interest.

CHEM 230/

Working with you?

Opportunities for organisations

Sponsoring projects, and internships are a great way to participate in education, complete projects you wouldn't normally have time for, and get in-depth research or consultancy for your organisation. Students are available at many levels of study, in teams or as individuals. Students' areas of study include all disciplines of Engineering, Forestry, Maths and Product Design. Projects and internships culminate in the production of a prototype, report or case study that is made available to your organisation.

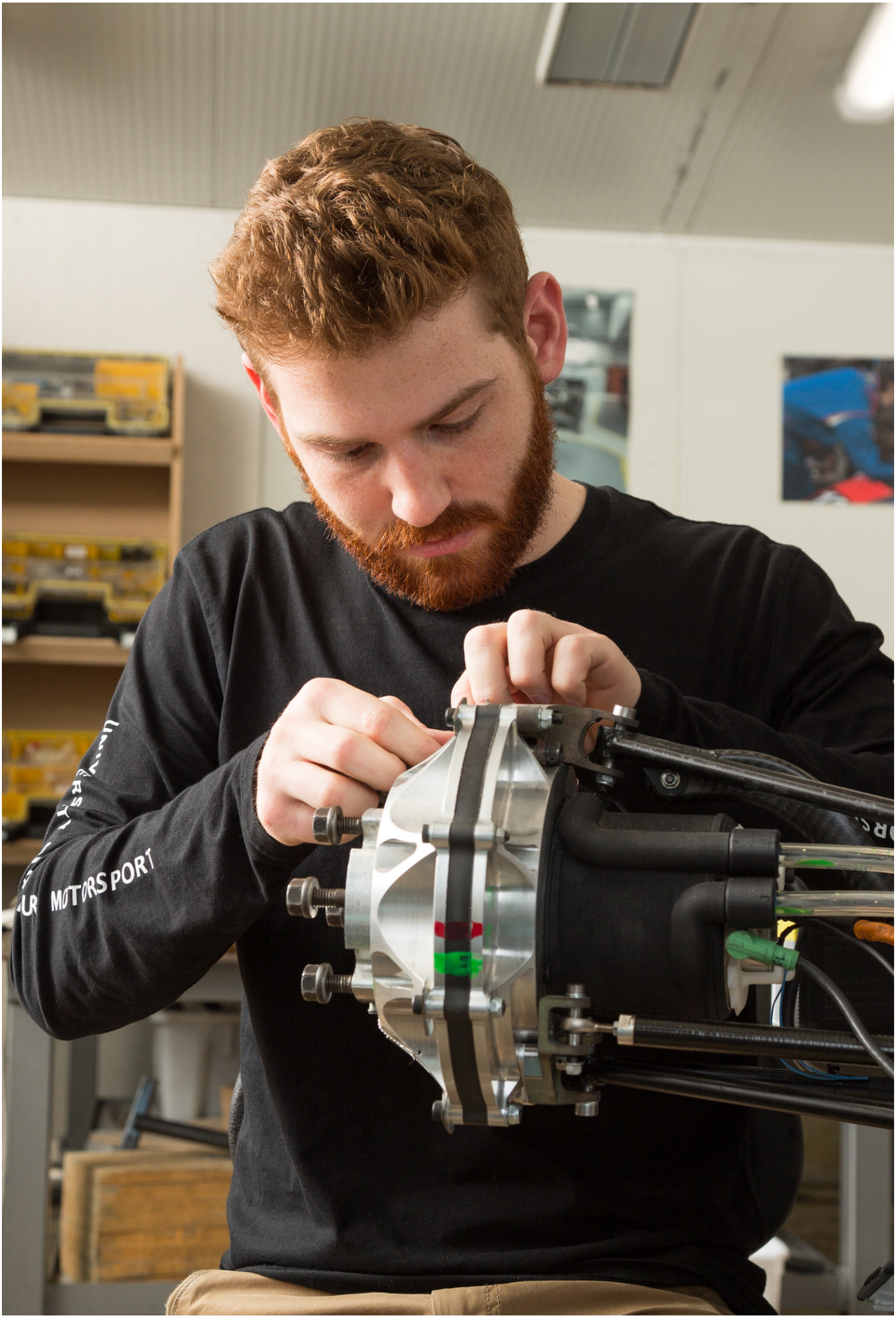
* Multidisciplinary teams possible
** Postgraduate students only
# Please contact us for sponsorship options

Engagement type	Students' programme of study - Bachelor of Engineering with Honours	Duration	Start	Participants
Project	Chemical and Process Engineering	8 mths	Feb 2023	Individual/Group
Project	Civil Engineering	4 mths	July 2023	Individual/Group
Project	Computer Engineering	8 mths	Feb 2023	Group*
Project	Electrical and Electronic Engineering	8 mths	Feb 2023	Group*
Project	Forest Engineering	up to 8 mths	Flexible	Individual
Project	Mechanical Engineering	8 mths	Feb 2023	Group*
Project	Mechatronics Engineering	8 mths	Feb 2023	Group*
Project	Natural Resources Engineering	8 mths	Feb 2023	Individual/Group
Project	Software Engineering	8 mths	Feb 2023	Individual/Group
Engagement type	**Students' programme of study - Bachelor of Product Design**	**Duration**	**Start**	**Participants**
Project	Applied Immersive Game Design	14 wks	July 2023	Individual/Group
Project	Chemical Formulation Design	14 wks	July 2023	Individual/Group
Project	Industrial Product Design	14 wks	July 2023	Individual/Group
Engagement type	**Students' programme of study - Bachelor of Forestry Science**	**Duration**	**Start**	**Participants**
Project	Bachelor of Forestry Science	up to 8 mths	Flexible	Individual
Engagement type	**Students' programme of study - Masters**	**Duration**	**Start**	**Participants**
Internship Project	Applied Data Science	12 wks	Nov 2022	Individual/Group**
Research Project	Applied Data Science	12 wks	Nov 2022	Individual/Group**
Project	Engineering in Management	18 wks	Sept 2022	Individual#

What is the difference between a project and internship?

Projects are consultancy based and require a clear scope discussed between sponsor and student(s). Projects are typically based at UC. An internship involves a project that is typically based at your organisation with some level of supervision by the host organisation. The scope of both the internship and project must be defined in order for students to meet their academic requirements.

PWM


MOTORSPORT

Project sponsorship options

Platinum Sponsor

The Platinum sponsorship package includes:

- A team of four final year undergraduate or, in some cases, postgraduate students.
- The sponsor sets the goal and direction of the project to suit their business needs.
- Up to 1000 hours of student work.
- Up to 30 hours of academic staff supervision.
- Up to 80 hours of technician time.
- Use of software, fabrication, measurement, testing facilities, and specialist equipment.
- Confidentiality is designed into the programme and students sign a non-disclosure agreement. Project outcomes will only be shared publicly if and when the sponsor agrees.

The use of four-person teams makes it possible to undertake projects with a reasonably large scope. Where the project allows, teams can be multidisciplinary. Teams project value can be, in some cases, equivalent to a $40,000-$100,000 development effort.

Sponsorship cost and commitment includes:

- A contribution of $9750 (+ GST) to the College of Engineering.
- Sponsor provides point of contact ("project owner").
- The sponsor supplies necessary specialist equipment, hardware, software, licenses, or materials.
- Sponsor authorisation for project related expenses is gained in advance. Costs will be invoiced to sponsors.

Gold Sponsor

The gold sponsorship package includes:

- A final year undergraduate or, in some cases, postgraduate student.
- The sponsor sets the goal and direction of the project to suit their business needs.
- Up to 250 hours of student work.
- Up to 30 hours of academic staff supervision.
- Up to 80 hours of technician time.
- Use of software, fabrication, measurement, testing facilities, and specialist equipment.
- Confidentiality is designed into the programme and students sign a non-disclosure agreement. Project outcomes will only be shared publicly if and when the sponsor agrees.

Sponsorship cost and commitment includes:

- A contribution of $2500 (+ GST) to the Faculty of Engineering.
- Sponsor provides point of contact ("project owner").
- The sponsor supplies necessary specialist equipment, hardware, software, licenses, or materials.
- Sponsor authorisation for project related expenses is gained in advance. Costs will be invoiced to sponsors.

Please note: Some departments may only except Platinum sponsorship, as the projects are completed by groups of students.

Whilst Sponsorship is a common way to engage with our students on projects, there are different options. These are considered on a case by case basis and we will work with you to find something suitable.

Projects outcomes

Project outcomes typically include: proof of concept or prototypes; analysis; feasibility studies; or, test data. Outputs include progress reports, a final report, a presentation or a demonstration, in addition to project meetings throughout the year.

Sponsors often say that their project provided an effective way to meet future recruits and it is quite common for students to subsequently become employed by their sponsor.

For our students, industry projects are a key element for their learning and development. The opportunity to work on real-world problems, and collaborate with real clients, is one of the final steps to ensuring our graduates are industry ready.

Projects selection

For a project to be selected, it must satisfy the following requirements to ensure it benefits both the students and the sponsor:

- The Department is able to offer appropriate academic expertise and appropriate resources.
- Students have prerequisite skills to undertake the project.
- The project is suitable in technology, content and scope.
- There are no existing or potential conflicts of interest for the University or the Department.

In our experience, projects are of particular benefit to industry when the work does not distract from the normal operation of the business/organisation or have time-critical outputs from students.

"Our sponsor project was targeted on the important viticulture and horticulture industries. Based on a set of very specific parameters from growers, the University team further developed both the design and prototype builds under our guidance. We estimate that our charitable donation to the university for their final-year research projects cost us the equivalent of six weeks of labour in the workshop, but moved our understanding of the solution forward by around twelve months. That is a win-win for everyone involved."

Elton Hyde, Lyndon Engineering

Submit a project for 2023

or summer project for 2022

If you have a project idea - half a page is sufficient at this stage (the brief can be refined later) - please email the following information to engindustry@canterbury.ac.nz:

- Title of the project.
- Contact name and contact details for the project.
- Summary of your expected project outcomes, for example, what you want to achieve or the problem you would like to solve.
- Constraints and/or expectations that need to be taken in to account for the project.
- Type of sponsorship option (platinum/gold).
- Indicative number of students your business/organisation would like to sponsor for the project.
- Support (time, resource & equipment) your business/organisation will provide (in addition to sponsorship).
- Any other information you consider relevant.

Or complete the online form: **www.canterbury.ac.nz/engineering/industry/project-sponsorship**

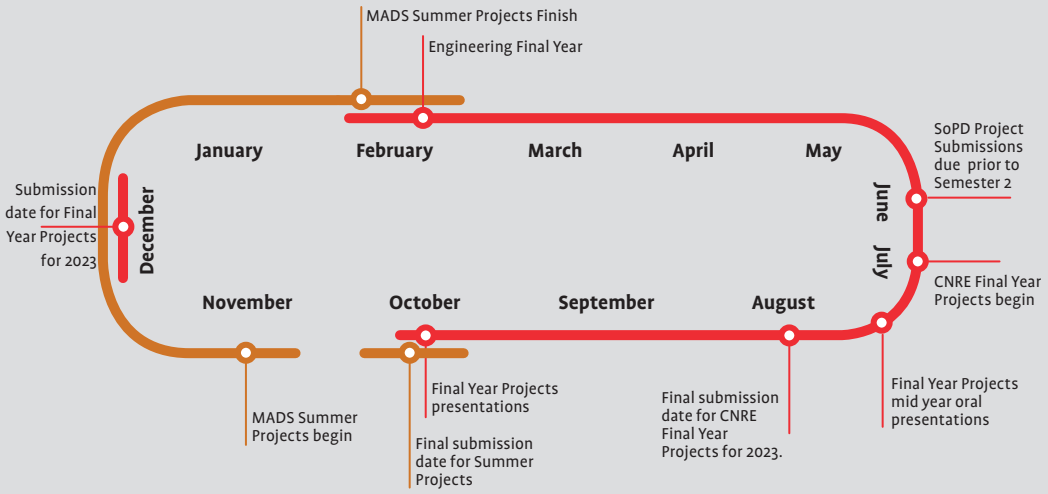
PROJECT TIMELINE:

With exception of Civil & Natural Resources Engineering (CNRE) & School of Product Design (SoPD), the preferred submission date for a Final Year Project idea is: Wednesday, 21st December 2022, for projects to be started in February 2023.

For CNRE it is Friday, 12th August 2022, for projects to be started in July 2023.

For SoPD, FYPs run in Semester 2 only, with submissions required by the end of June.

Master of Applied Science (MADS) Summer Project final submission date for an idea or project is: Friday, 30th September 2022 for projects to be started in November 2022.



As student numbers are limited and vary from year to year, we recommend starting this process early to avoid missing out on having your project selected.

Contact us

To find out more about these opportunities contact:

Industry Engagement Team

Faculty of Engineering, University of Canterbury
Tel: +64 3 369 04222
Email: engindustry@canterbury.ac.nz
Web: www.canterbury.ac.nz/engineering/industry

Please note that information in this document may be subject to change.