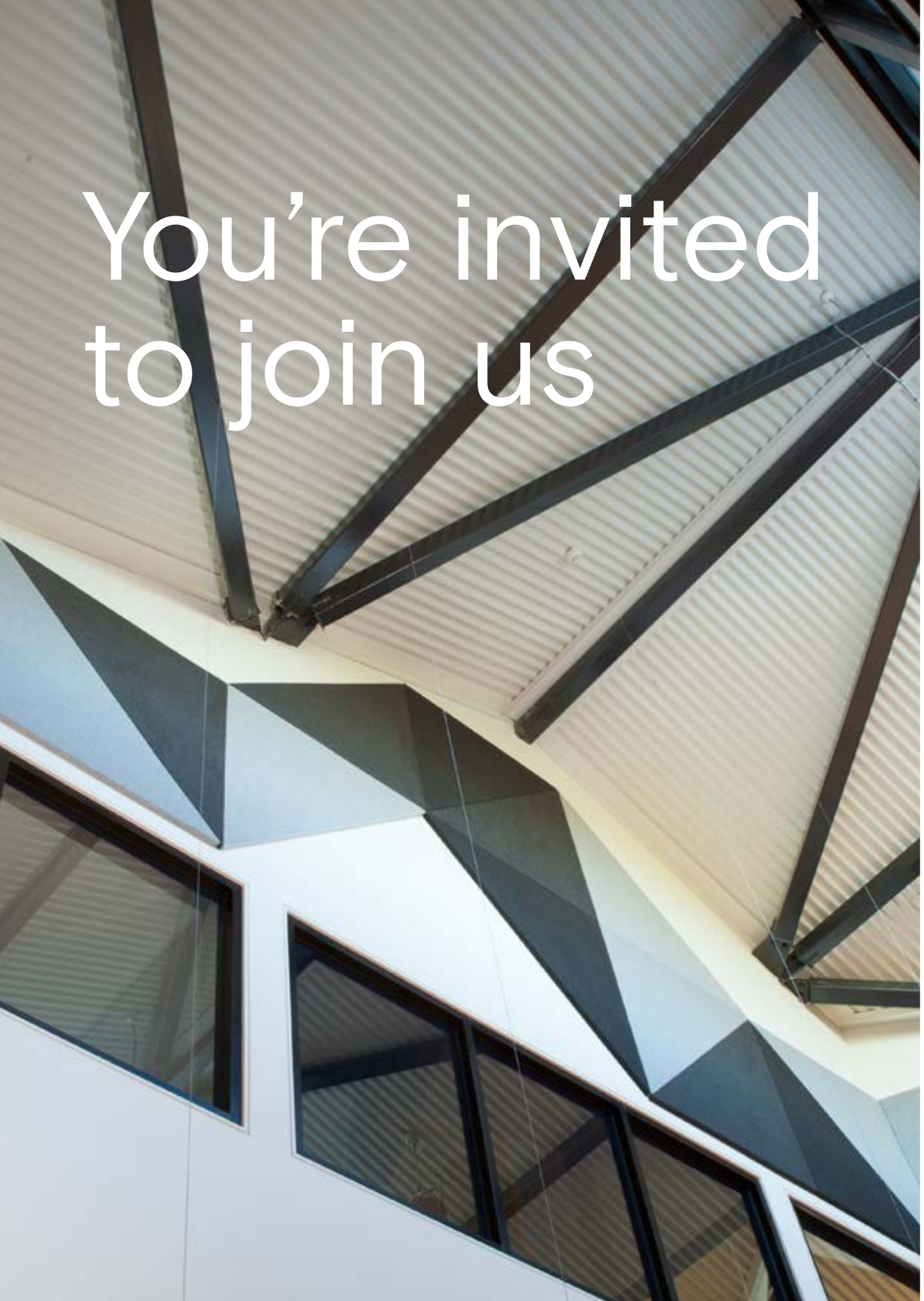
Charles Sturt University

A new chapter in engineering education

Become an industry partner



You’re invited to join us

Shape the future of your organisation

As a Charles Sturt Engineering industry partner, you’ll gain much more than a talented cadet engineer. You’ll be part of an industry-wide network dedicated to developing the engineers of tomorrow – engineers ready to make their mark, and make a valuable contribution to your business.

Charles Sturt Engineering and your organisation

We’re looking for industry partners to work with us to build the future of engineering.

Your organisation will host our student engineers and lead the way with us in establishing a different kind of engineer.

Being a Charles Sturt Engineering industry partner benefits your organisation, and the broader community too. You’ll be contributing to much more than the mentorship of a cadet engineer.

By working with us to create skilled, job-ready graduates, you’ll be helping to:

- boost the agility of your organisation
- facilitate the growth of business and infrastructure
- keep regional tertiary education strong
- increase professional capability
- support your communities
- engage student engineers on pro-bono and socially responsible community projects and activities.

You’ll have an unprecendented opportunity to showcase your organisation to our student engineers. You can trial potential future employees and then employ graduates who are job-ready from day one.

We work with you to solve problems

Our engineering program has been designed to give student engineers an experience like no other.

As a Charles Sturt Engineering industry partner you'll have access to more than just a cadet engineer - you'll gain the support and knowledge of our network of academic staff and our engineering cohort.

Our team-based learning environment can help your business broaden and foster growth opportunities through:

- engagement and networking with students from other organisations
- ongoing professional development for your cadet engineer
- ownership of the intellectual property and outcomes of their projects.

What's in it for your organisation?

You'll gain a work-ready cadet engineer

Your cadet from Charles Sturt Engineering will be ready to hit the ground running. Our diverse cohort, entrepreneurial focus, and agile and innovative curriculum dispel the typical engineer stereotype.

A cadet engineer who is nutured by academics and their cohort

Your cadet engineer will be supported by our academic community and their entire cohort of fellow students.

A cadet engineer who is ready to solve your problems

Your cadet will be continually learning based on what actually works. Plus, they'll be taught using the latest in educational technoloy and teaching methods.

A cadet engineer who is project ready

Your cadet will be supported when undertaking new projects or research that might not occur during 'business as usual'.

An entrepreneurial thinker

Your cadet will have skills in communication and management so they can make a valuable contribution in your organisation and community.

Our **4** key points of distinction

Charles Sturt Engineering is the top Australian emerging leader in engineering education worldwide.*

*The global state of the art in engineering education, 2018, commissioned by Massachusetts Institute of Technology

A new chapter in engineering education

Our course is designed to keep us ahead of the curve in engineering education and innovation. Working in close consultation with our partners and industry advisory committee, we anticipate and respond to the needs of industry and community, and fine-tune our curriculum to meet those needs.

Entrepreneurial graduates

As the only Australian engineering school hosted within a business faculty, we're able to bring together technical excellence and communication, financial and management skills to enhance our graduates' ability to make a difference as leaders in the workplace and society.

An innovative curriculum

We've built this program from the ground up so we can be at the leading edge of educational technology and teaching methods. Our curriculum continues to evolve based on what actually works to meet the current and future needs of our students and our industry partners.

Four one-year embedded paid work placements

After 1.5 years of full-time study at Charles Sturt in Bathurst, student engineers continue their education as cadet engineers working in industry. During paid work placements, the theoretical curriculum is studied online. It's not just learning engineering, it's living it.

A head start on chartered status

The additional time offered by our master's qualification allows Charles Sturt student engineers to achieve much more than the minimum entry level to the profession. Their embedded work in industry provides our graduates with opportunities to demonstrate Chartered Professional Engineer (CPEng) competencies prior to graduation, fast-tracking their path to being recognised as automous professionals.

We're Engineers Without Borders (EWB) Challenge champions

In 2019 we won the People's Choice Award at the EWB Challenge Showcase for our *SunSloth System*. In 2016 Charles Sturt Engineering was awarded Grand Champion EWB Challenge Team for *Creating a Composting Solution.*

Partner with us

Charles Sturt Engineering is seeking industry partners who share our vision of creating innovative and entrepreneurial engineers.

We have rapidly gained a reputation with our industry partners for providing skilled cadets who are work-ready and add value to the workplace.

Our dynamic course is proven to produce cadets who are proactive team members with essential problem-solving skills.

During their time on placement at your organisation, our cadet engineers work to solve real-world challenges by applying academic expertise to your projects.

Steps to becoming a Charles Sturt Engineering industry partner

1. Let's talk, Get in touch to discuss becoming an industry partner.
   Joshua Devitt Engineer in Residence
   Email: engineering@csu.edu.au
   Phone: 02 6338 6300
2. Complete our Memorandum of Understanding (MoU) - a single page expressing your interest in becoming an industry partner.
3. Identify which branches of our Topic Tree (see page 11) you can support in your organisation.
4. Prepare an advertisment for our website so cadets can approach you.
5. Recruit and select your cadet engineer from those who apply.
6. Undertake online industry partner training.
7. Sign the formal paperwork.
8. Your cadet engineer starts placement.

Visit **bjbs.csu.edu.au/engineering-host-info** to find out more.

Placement stages

Pre-placement

October
Placement process commences.

October–May
Shortlisting and interviews.

May
Placement applications close.

June
Online training for industry partners hosting cadet engineers.

During placement

June
Placements commence.

July–June
Cadets and host engineers are contacted periodically by academic support team members to ensure the placement is on track.

June
Placements conclude or are renewed.

Post-placement

July
Placement review forms are due.

About Charles Sturt Engineering

We offer a master's-level qualification over 5.5 years. Student engineers graduate with a Bachelor of Technology (Civil Systems) / Master of Engineering (Civil Systems) and an impressive portfolio of work competencies and experience.

We've planned the course in three phases.

The curriculum is built on three pillars.

- Challenge/Portfolio/Thesis pillar
- Performance Planning and Review pillar
- Topic Tree pillar.

The look and feel of each pillar is very similar from year to year. However, the level of knowledge and skill demonstrated by the student engineers in their portfolio is expected to increase each session, reaching (and exceeding) the Engineers Australia Professional Engineer competencies by the end of stage three.

Phase one (1.5 years)

Student engineers experience three sessions of face-to-face, group-based learning in our purpose-built and award-winning facilities at Charles Sturt's Bathurst campus. Setting the pace for the rest of the course, phase one introduces students to the three learning pillars. At the end of phase one, they are ready to step into their first of four one-year paid work placements.

Phase two (2 years)

The three learning pillars continue as student engineers develop their skills and knowledge while embedded in paid workplace positions. As they start to develop their portfolio and work towards their Cornerstone Thesis, our student engineers continue to study online, learning about theory and developing skills through Performance Planning and Review.

Phase three (2 years)

As their career continues in paid employment, our student engineers have the opportunity to implement and further develop their skills as professional engineers. As they consolidate their engineering portfolio and work towards their Cornerstone Thesis, they continue to study advanced and specialist topics in civil engineering online as they grow from cadet to professional engineer.

Course outline

		Challenge/Portfolio /Thesis pillar	Performance Planning and Review pillar	Civil Engineering Topic Tree pillar
Phase 3	4th Placement – Professional Cadet	Engineering Capstone Thesis (ENG599) 32pt	Engineering Portfolio - Professional (ENG592) 2 pt	Advanced Topics in Civil Engineering (ENG571) 16pt
			Performance Planning and Review - Professional Engineer (ENG580) 4pt	
	3rd Placement – Senior Cadet	Engineering Portfolio – Senior Cadet (ENG490) 28pt	Performance Planning and Review - Senior Cadet (ENG480) 6pt	Topic Tree - Senior Cadet Engineer (ENG473) 24pt
Phase 2	2nd Placement – Intermediate Cadet	Engineering Cornerstone Thesis (ENG399) 24pt	Performance Planning and Review – Intermediate Cadet (ENG380) 6pt	Topic Tree – Intermediate Cadet Engineer (ENG373) 24pt
	1st Placement – Junior Cadet	Engineering Portfolio – Junior Cadet (ENG290) 28pt	Performance Planning and Review – Junior Cadet (ENG280) 6pt	Topic Tree – Junior Cadet Engineer (ENG273) 24pt
Phase 1	Face to Face - Student Engineer	Engineering Challenge 3 (ENG261) 14pt	Performance Planning and Review – Student Engineer (ENG180) 4pt	Topic Tree – Student Engineer (ENG173) 36pt
		Engineering Challenge 2 (ENG162) 14 pt		
		Engineering Challenge 1 (ENG161) 14pt		Topic Tree – Introductory (ENG171) 12pt
		Engineering Challenge 0 (ENG160) 2pt		

Challenge/Portfolio/Thesis pillar

Practical, project-based learning that includes realistic challenges during student engineers' first 1.5 years on campus, as well as real projects brought from work placements and theses over the next four years. Students build a portfolio that shows the work they've done, the knowledge and skills they've acquired, along with a reflective self-assessment of their learning.

Performance Planning and Review pillar

As they grow from student engineer to professional engineer, these subjects play an important role developing students as reflective practitioners. This part of the curriculum is about providing both the student engineers and the academics with a reality check to help them maintain progress at an appropriate rate. It also helps maintain balance between project-based learning and mastery-learning pillars of engineering theory.

Civil Engineering Topic Tree pillar

The Topic Tree is all about giving the student engineers the power to build their knowledge to fit their own learning needs. Rather than being constrained by subjects that define when and where they learn particular material, engagement with the Topic Tree is motivated by the practical challenges of students' project-based learning during their first three sessions, and then in parallel with their industry work placements for the remainder of the degree. So student engineers can harvest knowledge on a 'just-in-time' rather than a 'just-in-case' basis.

Keystone curriculum highlights

We conduct regular performance planning and review processes throughout work placements as our student engineers progress from junior cadets to professional engineers.

Major projects in intermediate and professional placements, where our student engineers tackle a real problem of benefit to their industry employer and solve it under the guidance of their manager, academics and colleagues.

Students develop a portfolio capturing experiences that provide accelerated progress towards acquiring the competencies of a Chartered Professional Engineer, and independent practice.

Frequently asked questions

How do I recruit cadet engineers?

Following the process outlined in our step-by-step guide (on page 9), we will work with you to facilitate the best-fit cadet for your organisation. Industry placements will commence in July each year.

What is expected of our organisation?

You'll provide experienced engineers employed by your organisation to supervise the cadet engineers during their placement. You'll ensure our cadets are provided with appropriate engineering work that is commensurate to their academic year level and ability.

How much do I pay our cadet engineer?

You will need to meet or exceed our minimum salary benchmarks. These benchmarks are based on award obligations and in light of market conditions in our regions.

Visit **bjbs.csu.edu.au/engineering-salaries** for more information.

How many days per week will cadet engineers work?

Four days a week or 80 per cent full-time equivalent with one full day a week for study.

What support do we receive?

Prior to commencement, every industry partner receives a briefing and training about our industry host support network. Our academic staff will continue to support the student engineers and your organisation as students work through their specialist topics in support of their project work. At regular intervals during the work placement, we will arrange reviews to ensure the placements are meeting expectations for both your organisation and the cadet engineer.

How much time will the cadet engineers spend at residential school?

Most placements contain a one-week residential school as part of the underlying subjects. Often this will overlap with our annual EngFest in June.

Can we host more than one cadet engineer?

Yes. You can host as many cadet engineers as you have capacity for, as long as you are able to provide appropriate support and training.

What happens if the placement or the cadet engineer isn't the best fit?

Our performance planning and review process ensures that cadets and organisations can provide feedback on the effectiveness of the placement. Any placement that cannot be made to work effectively may be terminated. The full details of the responsibilities of the student, your organisation and Charles Sturt Engineering will be provided in the formal agreement.

Can cadet engineers do more than one placement with the same organisation?

Yes, as long as their work placement opportunities continue to grow and evolve with their increased capabilities.

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