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CSU ENGINEERING

ENGINEERING...  
BUT NOT AS YOU  
KNOW IT

**CSU ENGINEERING**



**YOUR INVITATION  
TO JOIN US AS A  
CSU ENGINEERING  
FOUNDATION  
PARTNER**

SHAPE THE FUTURE OF YOUR ORGANISATION

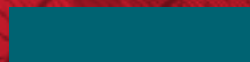
AS A CSU ENGINEERING FOUNDATION PARTNER, YOU WILL GAIN MUCH MORE THAN A TALENTED STUDENT ENGINEER. YOU WILL BE PART OF AN INDUSTRY WIDE NETWORK DEDICATED TO DEVELOPING THE ENGINEERS OF TOMORROW – ENGINEERS READY TO MAKE THEIR MARK, AND MAKE A VALUABLE CONTRIBUTION TO YOUR BUSINESS.



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## CSU ENGINEERING AND YOUR ORGANISATION – BUILDING THE FUTURE OF ENGINEERING

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**CSU ENGINEERING IS LOOKING FOR FOUNDATION PARTNERS TO COMMENCE THE WORK PLACEMENT JOURNEY WITH US IN 2017. OUR FOUNDATION PARTNERS WILL HOST THE FIRST COHORT OF STUDENT ENGINEERS AND WILL LEAD THE WAY WITH US IN ESTABLISHING A DIFFERENT KIND OF ENGINEER.**

**BECOMING A CSU ENGINEERING FOUNDATION PARTNER WILL GIVE YOU ACCESS TO:**

### **A Work-Ready Cadet Engineer**

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

### **A Cadet Engineer who is nurtured by academics and their cohort**

Your Cadet will be supported not just by the CSU academic community but by their entire cohort.

### **A Cadet Engineer who is ready to solve your problems**

Your Cadet will be continually learning based on what actually works and will be taught using the latest in educational technology and pedagogy.

### **A Cadet Engineer who is project ready**

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

### **An entrepreneurial thinker**

Your Cadet will be provided with the skills in communication, finance and management to enhance their ability to make a valuable contribution in your workplace and in your community.

**CSU ENGINEERING WILL WORK WITH YOUR COMPANY TO SOLVE YOUR PROBLEMS.**

CSU Engineering has been designed to give you an experience like no other. As a Foundation Partner you will have access to more than just a Cadet Engineer - you will gain the support and knowledge from a 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, including some who have worked overseas
- ongoing professional development for your Cadet Engineer
- ownership of the intellectual property and outcomes of their project, no matter who has contributed.

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**BEING A CSU ENGINEERING FOUNDATION PARTNER  
BENEFITS YOUR COMPANY AND THE BROADER  
COMMUNITY.**

**JOIN US AS A CSU ENGINEERING FOUNDATION  
PARTNER AND YOU WILL BE CONTRIBUTING TO MUCH  
MORE THAN THE MENTORSHIP OF A CADET ENGINEER.**

**BY CREATING SKILLED, WORK-READY GRADUATES  
YOU WILL BE HELPING TO:**

- BOOST THE AGILITY OF YOUR ORGANISATION**
- FACILITATE GROWTH OF BUSINESS  
AND INFRASTRUCTURE**
- KEEP REGIONAL TERTIARY EDUCATION STRONG**
- INCREASE REGIONAL PROFESSIONAL CAPABILITY**
- SUPPORT LOCAL COMMUNITIES, POSSIBILITY OF  
ENGAGING STUDENT ENGINEERS IN ‘PRO-BONO’,  
SOCIALLY RESPONSIBLE COMMUNITY ACTIVITIES  
AND PROJECTS.**

**OUR PRIORITY RECRUITMENT PROCESS WILL  
PROVIDE AN UNPRECEDENTED OPPORTUNITY  
TO SHOWCASE YOUR COMPANY, TRIAL POTENTIAL  
FUTURE EMPLOYEES AND EMPLOY GRADUATES  
WHO ARE WORK-READY FROM DAY ONE.**

# OVERVIEW



THE CSU ENGINEERING COURSE HAS BEEN DESIGNED TO KEEP US AHEAD OF THE CURVE IN ENGINEERING EDUCATION AND INNOVATION. WORKING IN CLOSE CONSULTATION WITH OUR FOUNDATION PARTNERS AND INDUSTRY ADVISORY COMMITTEE, WE ARE ANTICIPATING AND RESPONDING TO THE NEEDS OF INDUSTRY AND COMMUNITY, AND FINE-TUNING OUR CURRICULUM TO MEET THOSE NEEDS.

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## KEY POINTS OF DISTINCTION:

### AGILE, INDUSTRY FOCUSED AND RELEVANT. IT'S WHAT MAKES CSU ENGINEERING DIFFERENT

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#### ENTREPRENEURIAL GRADUATES

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

#### FOUR ONE-YEAR EMBEDDED PAID WORK PLACEMENTS

After 1.5 years of full-time studies at CSU's Bathurst campus, Student Engineers then proceed with their education as Cadet Engineers in industry. During paid work placements, the theoretical curriculum is studied online. It's not just learning engineering, it's living it.

#### AN INNOVATIVE CURRICULUM

Building a new program from the ground up means we can be at the leading edge of educational technology and pedagogy. Our curriculum will continue to evolve based on what actually works to meet the current and future learning needs of our students and our industry partners.

#### A DIVERSE COHORT

The nature of our cohort means that students learn from diversity, building new skills and expertise not previously associated with being an engineer. The boutique nature of our program allows us to proactively ensure women, regional and indigenous students are strongly represented within our diverse student cohort.

#### A HEAD START ON CHARTERED STATUS

The additional time offered by a Masters qualification allows CSU Student Engineers to achieve much more than the minimum entry level to the profession. The embedded work in industry will provide graduates with opportunities to demonstrate Chartered Professional Engineer (CPEng) competencies prior to graduation, fast-tracking their path to being recognised as autonomous professionals.

CSU ENGINEERING IS SEEKING INDUSTRY PARTNERS WHO SHARE OUR VISION OF CREATING INNOVATIVE AND ENTREPRENEURIAL ENGINEERS. EMPLOYING A CSU STUDENT ENGINEER PROVIDES AN OPPORTUNITY TO BROADEN BUSINESS GROWTH OPPORTUNITIES WHILE CONTRIBUTING TO LOCAL AND REGIONAL INDUSTRIES AND THE COMMUNITIES THEY SERVE.

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**DURING THEIR TIME ON PLACEMENT AT YOUR ORGANISATION, OUR CADET ENGINEERS, MATCHED TO THE NEEDS OF YOUR INDUSTRY, WILL WORK TO SOLVE REAL-LIFE PROBLEMS AND CHALLENGES BY APPLYING ACADEMIC EXPERTISE TO NEW AND CURRENT PROJECTS.**

## **BECOMING A FOUNDATION PARTNER**

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### **STEPS TO BECOMING A FOUNDATION PARTNER**

1. In the first instance, let's talk. Contact CSU Engineering to discuss becoming a Foundation Partner:

Professor Euan Lindsay  
Foundation Professor of Engineering  
Email: [elindsay@csu.edu.au](mailto:elindsay@csu.edu.au)  
Phone: 02 6338 6300  
Mobile: 0477 772 966

2. Complete our Letter of Intent – a single page expressing your desire to be a Foundation Partner
3. Identify which branches of our Topic Tree you can support in your business, so that we can match the right Cadet to your business
4. Sign the formal paperwork
5. Recruit and select your Cadet Engineer from our pool of applicants
6. Industry partners complete online training, culminating in a face-to-face training day
7. Cadet Engineer commences placement

### **KEY DATES**

#### **March 2017**

Student résumés will be provided to industry partners

#### **April 2017**

Short listing and interviews

#### **May 2017**

Offers made

#### **June 2017**

Industry training day held at CSU in Bathurst for all industry partners hosting Cadet Engineers

#### **July – August 2017**

Industry placements commence

#### **September 2017**

Quarterly placement review where CSU evaluates feedback from Cadet Engineers and industry partners to ensure the placement is on track

#### **May – June 2018**

Placement concludes / renewed

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**CSU ENGINEERING'S PROGRAM OFFERS A MASTERS LEVEL QUALIFICATION, OVER 5.5 YEARS. STUDENT ENGINEERS WILL GRADUATE WITH THE BACHELOR OF TECHNOLOGY / MASTER OF ENGINEERING (CIVIL SYSTEMS) AND AN IMPRESSIVE PORTFOLIO OF WORK COMPETENCIES AND EXPERIENCE.**

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## ABOUT THE COURSE

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About the Course

# PHASE 1

### 1.5 YEARS

Three sessions of face-to-face, team-based learning in our purpose-built facilities at CSU in Bathurst, sets the pace for the rest of the course. Phase One introduces the three learning pillars and ensures students are ready to step into the first of four one-year paid work placements.

# PHASE 2

### 2 YEARS

The three learning pillars continue as students develop their skills and knowledge while embedded in paid workplace positions with Foundation Partners. As they start to develop their portfolio and work towards their Cornerstone Thesis, they will continue online study of the underpinning theory and develop their skills through Performance Planning and Review.

# PHASE 3

### 2 YEARS

As their careers continue, students will have opportunities to implement and further develop their skills as a professional engineer. As they consolidate their engineering portfolio and work towards their Capstone Thesis, they will continue to study advanced and specialist topics in civil engineering online as they grow from cadet to professional engineer.

Engineering — but not as you know it



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THE CURRICULUM IS BUILT ON THREE PILLARS  
WHICH PROVIDE A PHASED APPROACH TO  
STUDENT LEARNING AND DEVELOPMENT.

About the Course

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## ABOUT THE COURSE

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### PROJECT AND PORTFOLIO-BASED LEARNING PILLAR

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

### PERFORMANCE PLANNING AND REVIEW PILLAR

As students grow into professional engineers, these subjects play an important role in their development as reflective practitioners. This part of the curriculum provides students and the faculty with a reality check on maintaining progress at an appropriate rate. It also helps maintain balance between project-based learning and mastery-learning pillars of engineering theory.

### TOPIC TREE PILLAR

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

While the look and feel of each pillar will be very similar from year to year, the level of knowledge and skill demonstrated by the Student Engineers in their portfolio is expected to increase each session. By the end of Phase 3, it is expected students will reach (and exceed) the Engineers Australia Professional Engineer competencies.



# COURSE OUTLINE

		Project and Portfolio Based Learning Pillar	Performance Planning and Review Pillar	Civil Engineering Topic Tree Pillar	
Phase 1	Session 1	Engineering Challenge 0	Performance Planning and Review – Student Engineer	Topic Tree – Student Engineer	
	Face-to-face				Engineering Challenge 1
					Engineering Challenge 2
					Engineering Challenge 3
Phase 2	1st work placement	Engineering Portfolio – Introductory	Performance Planning and Review – Junior Cadet	Topic Tree – Cadet Engineer	
		Engineering Portfolio – Developing			
	2nd work placement	Engineering Cornerstone Thesis	Performance Planning and Review – Intermediate Cadet		
	3rd work placement	Engineering Portfolio – Consolidating	Performance Planning and Review – Senior Cadet		
Engineering Portfolio – Advanced					
Phase 3	4th work placement	Engineering Capstone Thesis	Performance Planning and Review – Professional Engineer	Advanced Topics in Civil Engineering	
		Engineering Portfolio – Professional			

Course Outline

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## KEYSTONE CURRICULUM HIGHLIGHTS

**A REGULAR PERFORMANCE PLANNING AND REVIEW PROCESS THROUGHOUT THE WORK PLACEMENTS AS THE STUDENTS PROGRESS FROM JUNIOR CADET TO PROFESSIONAL ENGINEER.**

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**MAJOR PROJECTS IN THIRD AND FIFTH YEAR, WHERE THE STUDENT ENGINEERS TACKLE A REAL PROBLEM OF BENEFIT TO THEIR INDUSTRY EMPLOYER AND SOLVE IT UNDER THE GUIDANCE OF THEIR MANAGER, ACADEMICS AND COLLEAGUES.**

**PORTFOLIO CAPTURING EXPERIENCES THAT WILL PROVIDE ACCELERATED PROGRESS TOWARDS ACQUIRING COMPETENCIES OF A CHARTERED PROFESSIONAL ENGINEER (CPENG), AND INDEPENDENT PRACTICE.**

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**EVENT RESIDENTIAL SCHOOLS WHERE THE COHORT COMES TOGETHER FOR A WEEK TO SOLVE REAL COMMUNITY PROBLEMS AND BUILD NETWORKS OF BENEFIT TO EMPLOYERS AND REGIONS.**

**INTERNATIONAL EXCHANGE OPPORTUNITIES THAT ALLOW THE STUDENT ENGINEERS TO EXPERIENCE ANOTHER CULTURE AND BRING BACK NEW IDEAS.**

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Frequently asked questions

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## FREQUENTLY ASKED QUESTIONS

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### How do I recruit Cadet Engineers?

Following the process outlined in our step-by-step guide, we will work with you to place the best-fit student for your organisation. Industry placements will commence July to August each year.

### What is expected of our organisation?

You will provide experienced engineers employed by your organisation to supervise the Cadet Engineers during their placement. You will ensure these Cadets are provided with appropriate engineering based work which is commensurate to their academic year level and ability.

### How much do I pay our Cadet Engineer?

Cadet Engineers need to be compensated at least to the level suggested by Professionals Australia.

For current advice, please visit:  
[www.professionalsaustralia.org.au/support/rights-wages-conditions/pay-work-experience](http://www.professionalsaustralia.org.au/support/rights-wages-conditions/pay-work-experience)

### How many days per week will Cadet Engineers work?

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

### What support do we receive?

Prior to commencement, every Foundation Partner will receive 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 throughout the work placement, we will arrange reviews to ensure the placements are meeting expectations for both your organisation and the Cadet Engineer.

### How many Foundation Partner will there be?

Our foundation partnerships will be matched to the number of Student Engineers that require a placement. Due to our small and select cohort, there will only be a limited number of placements that we will be required to find and therefore the sooner you secure your placement the better.

### Do we need to pay our Cadet Engineers when they are on residential school?

It is up to you whether you would like to pay them for residential schools.

### How much time will the Cadet Engineers spend at residential school?

We will be running two one-week residential schools throughout each year.

### Can we host multiple Cadet Engineers?

You can host as many Cadet Engineers as you have capacity for as long as you are able to provide the appropriate support and training to all cadets you host.





### What happens if the placement or Cadet Engineers isn't the best fit?

Our performance planning and review process will ensure 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 CSU Engineering will be provided in the heads of agreement.

### Can a Cadet Engineer do more than one year placement with the same organisation?

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



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