



SMUCE

SOCIETY OF MONASH UNIVERSITY CHEMICAL ENGINEERS

CAREERS GUIDE 2022

YOUR LINK
WITH INDUSTRY

This publication was supported by the Clubs & Societies Council,
a division of the Monash Student Association (Clayton) Inc.



*To the engineers and
problem solvers of tomorrow*

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NOTE FROM THE AUTHORS



The Society of Monash University Chemical Engineers is proud to present our much-awaited annual Careers Guide for the year 2022.

This work is the result of strenuous research and correspondence with real-world company representatives, the artistic vision and finesse of our designer, Sienna Fernando, and the relentless support and assistance of the entire SMUCE committee. This Guide is more than just a compendium of industry-relevant information. It is so much more than just a resource for you to smoothly transition from university life to the job market. The 2022 SMUCE Careers Guide embodies the SMUCE ethos of being your link to industry.



SMUCE is a not-for-profit student society founded by erstwhile chemical engineering students with the singular aim to create a network of support and knowledge for the future chemical engineering cohort. Thus, much of what we provide, including this Guide, is possible due to the generous monetary contributions of our Industry Partners. We are especially grateful for our Platinum Sponsors, the Monash Engineering and the Department of Chemical Engineering and Biological Engineering. We are thankful for the support of our Gold Sponsors, iChemE and Wood. We would also like to thank all our Industry Partners and Supporters for their unwavering guidance and support which led us to develop rich and meaningful

connections with the process design industry. Your contributions not only support the students of today but also shape the engineers of tomorrow.

We are indebted to the SMUCE committee, especially the Industry Team. Jacqui and I have poured our hearts into this and we are proud of the work we present today. The hours spent scouring company contacts, making calls and crafting the very bones of this Guide have been the foundation of this Guide. These hours paved the way for our incredible designer, Sienna, to bring to fruition the work you hold in your hands. We hope this Guide is a powerful tool in your arsenal to whet your skills.

We are thankful to you, our dear reader, for choosing this resource. We hope that with every page you peruse, you are instilled with the sense of hope—the kind of hope that comes with knowing how to better face the future.

Warmest regards,



Elena Pereira
Industry Vice President 2022



Jacqui Greer
Industry Liaison Officer 2022

NOTE FROM THE HEAD OF DEPARTMENT



Welcome to the SMUCE Careers Guide 2022! The Society of Monash University Chemical Engineers has been producing this important guide to future opportunities for over 8 years. In it they provide links to great jobs you can start right now as well as additional educational opportunities such as our brand new Masters of Biological Engineering, the Masters of Professional Engineering, and the PhD program.

In addition to this wonderful Careers Guide, SMUCE provides a bridge and introduction to Student Team activities and actively supports teaching and learning in the department informally and via group-ups. SMUCE also reviews all of our undergraduate units each semester and provides direct student feedback to myself, our Director of Education, and the unit coordinators. This timely and valuable advice helps us to provide the best student experience in our classes.

I would particularly like to acknowledge SMUCE for their partnership with the department as we worked together in the early stages of the pandemic to adjust our teaching to the pandemic. None of us had experienced that teaching and learning environment before - and we had much to learn together to navigate the challenges of making our time together less remote.

SMUCE is a key piece of the community of scholars in the Department of Chemical & Biological engineering at Monash and we look forward to many more years of collaboration on building the best student experience.

Best wishes for 2022!

Kind regards,
Mark Banaszak Holl

ALL ABOUT
SMUCÉ

The image features the text "ALL ABOUT SMUCÉ" in a bold, white, sans-serif font, arranged in three lines. The letters are interconnected with a white molecular structure consisting of small circles (atoms) and lines (bonds). The structure is layered behind the text, with some lines and circles overlapping the letters, creating a sense of depth and a scientific or technological theme. The background is a dark teal gradient.

WHO ARE SMUCE?

The Society of Monash University Chemical Engineers (SMUCE) is a student-run society bridging the gap between classrooms and the world outside university. It serves as a link between students, academics, and industry.

SMUCE connects industry professionals to one of the best chemical and biological engineering departments in the southern hemisphere. Our vision is connecting students with industry for mutual benefit, and we are proudly sponsored and supported by various industry partners.

Since 1962, SMUCE has aimed to provide students with opportunities for industry exposure throughout their academic years.

Industrially, SMUCE organises weekly seminars, publishes many materials such as the annual Careers Guide, promotes job opportunities, networking nights, runs site tours and many more activities to achieve this goal.

Socially, SMUCE organises several events to facilitate networking opportunities between students, different year levels, and academic staff. Such events include BBQs, game competition nights and our annual SMUCE Academic Dinner.

We strive to expose our fellow students to the chemical engineering world by regularly inviting industry members to share their wisdom through our hugely popular Industry Seminar Series. We also work closely with the Department of Chemical and Biological Engineering by providing feedback from the students to the teaching team.



The SMUCE Careers Guide is published annually. It includes employability tips, academic profiles and most importantly, company profiles. These profiles showcase company cultures and opportunities, as well as other important statistics and information. With 2 nominations for Best Publication by Monash Clubs & Societies, the demand for our careers guide grows every year.

OUR SOCIALS

Connect with our club by following us on **Facebook, Instagram or LinkedIn**

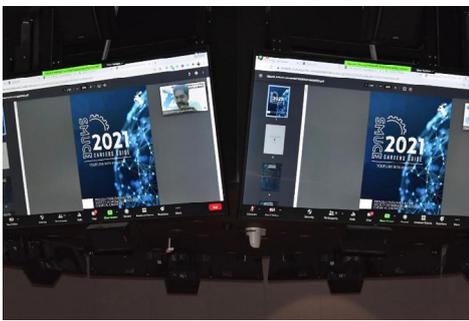
Events will be advertised through these channels so make sure you stay tuned!

To find out more about SMUCE and our upcoming events check out our **website**:

<https://www.smuce.org>

To become a member of SMUCE check out the following link:

<https://clubs.msa.monash.edu/organisation/7423/>



**OUR
SPONSORS**

The text 'OUR SPONSORS' is rendered in a bold, white, sans-serif font. The letters are interconnected by a network of thin white lines and small white circular nodes, creating a digital or molecular aesthetic. The 'OUR' is positioned above 'SPONSORS'. The background is a dark blue gradient with a subtle light flare in the upper left corner.

INTRO

SMUCE upholds its tradition of linking students with industry professionals and as such has a major focus with connecting aspiring graduates with their future employers.

Our Club would not be possible without the support of our industry partners.

From engineering services, to the chemical engineering professional industry and our faculty, SMUCE is very fortunate to have a wide range of sponsors and supporters.

PLATINUM SPONSORS



MONASH University
Engineering

For more information visit:
<https://www.monash.edu/engineering>

Engineers possess a rare combination: a seamless blend of the practical and the creative. It's a profession that tackles society's challenges and makes the world a better place to live. What better place to study engineering than the best faculty for engineering in Australia, us.



MONASH
University

MONASH
CHEMICAL
ENGINEERING

For more information visit:
<https://www.monash.edu/engineering/departments/chemical>

At Monash, we see potential in everything. We thrive in that pivotal space where engineering, chemistry, biology, physics and mathematics intersect. And we're ranked number 1 in Australia for Chemical and Biological Engineering - so we're the perfect place to develop your potential too.

GOLD SPONSORS

wood.

Wood Group Inc. is a multinational energy service company, operating in a variety of sectors from oil and gases, mining to renewable and sustainable energies. With a plethora of sectors, comes a plethora of job opportunities, ripe with career progression.

For more information visit:
<https://www.woodplc.com/>

IChemE ADVANCING
CHEMICAL
ENGINEERING
WORLDWIDE

The Institute of Chemical Engineering (IChemE) is a global professional community focused on building and supporting a network of chemical engineers globally. IChemE aspire to be a peer-group leader with its vision to be recognised as a significantly valued organisation with contributions to several chemical, processing and biochemical industries.

For more information visit:
<https://www.icheme.org/>

SUPPORTERS

Some of our valued industry partners extend beyond monetary compensation and support SMUCE's efforts and initiatives such as our annual Careers Guide and our networking nights.



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MOTT
MACDONALD



Professionals
Australia



**ABOUT
CHEMICAL
ENGINEERING**

The text is presented in a bold, white, sans-serif font, arranged in three horizontal lines. The words 'ABOUT', 'CHEMICAL', and 'ENGINEERING' are stacked vertically. A white molecular structure, consisting of interconnected lines and small circles representing atoms, is overlaid on the text. The structure starts at the top left, passes through the letters of 'ABOUT', continues through 'CHEMICAL', and ends at the bottom right, passing through 'ENGINEERING'. The overall composition is centered and set against a dark blue background with a subtle gradient.

WHAT IS CHEMICAL ENGINEERING?

Chemical engineering is a diverse field and can often be hard to define by both those inside and outside the profession. On a large scale, chemical engineers are enablers: they're people who make things happen efficiently on a large industrial scale. Often this involves creating a process to turn a raw material and turning it into a useful, commercial end product. Chemical engineers strive to make this process with the lowest cost, time and labour requirements as well as having the lowest environmental impact. In order to make a processing plant come to life, we leverage skills in chemistry, physics, mathematics and even economics.



Chemical engineers are in great demand because of the large number of industries that depend on the synthesis and processing of chemicals and materials. In addition to traditional careers in the chemical, energy, and oil industries, chemical engineers experience increasing opportunities and often pioneer new sectors in biotechnology, pharmaceuticals, electronic device fabrication, carbon capture and environmental engineering.

They produce a range of materials, from fuels and fertilisers to processed foods, beer and wine, polymers and pharmaceuticals. The unique training of the chemical engineer becomes essential in these areas when processes involve the chemical or physical transformation of matter.



CHEMICAL ENGINEERS ARE ENABLERS: THEY'RE PEOPLE WHO MAKE THINGS HAPPEN EFFICIENTLY ON A LARGE INDUSTRIAL SCALE



INDUSTRIES FOR CHEMICAL ENGINEERS



PHARMACEUTICALS

With an aging population to the threat of cancer, new diseases and ruthless pandemics, Australia's pharmaceutical industry has been growing steadily over the past few decades. The market size for pharmaceutical product manufacturing in Australia is 11 billion dollars which includes 782 businesses with over 15,000 employees. From manufacturing vaccines to antibiotics, vitamins and diagnostic testing agents the pharmaceutical industry has a lot to offer chemical engineers.



CONSULTANCY

Engineering consultancy services often involve the design, development and construction of infrastructure projects, machinery, processes and systems. Chemical engineers leverage a strong analytical capability and a unique drive to solve problems, as such many consulting firms hire engineers in their teams. This industry has expanded over the past five years and now has a market size of 48 billion dollars which includes 49,658 businesses with 140,000 employees. Consultancy firms offer advisory services, feasibility studies, preparation of initial and final designs and technical services during project constructions.



FOOD & BEVERAGE

The Australian food and beverage industry is noted as Australia's biggest manufacturing sector, generating roughly \$50 billion per year, employing a majority of chemical and process engineers. With over 32% of the total manufacturing Australia is responsible for, food and beverage is a secure and future-proof industry sector. A diverse range of food products is available for manufacturing given the large climatic diversity across the continent, from the tropical north to the temperate south. In regards to dairy, the bulk of milk production takes place in Australia's south east, particularly in the Murray, Western and Gippsland regions.

INDUSTRIES FOR CHEMICAL ENGINEERS



MINING & MINERALS

The mining and minerals industry in Australia accounts for over 10.4% of its total economy, making it the largest economic contributor to Australia's GDP. The minerals industry is a major contributor to investment, high-wage employees, export logistics as well as government revenue and as such, there is a surplus of 1.1 million jobs in the mining, technology and mineral sector. According to JobOutlook, 17% of all chemical engineers are employed in the mining sector, with a specialisation on 19 useful minerals from over 350 operating mines, Australia wide. Victoria is a rich source of brown coal, single handedly generating 70% of the state's electricity. Mineral mining occurs in all states of Australia, the Northern Territory and Christmas Island, with an exception in the ACT.



OIL & GAS

Australia's oil and gas industry has held a critical place in the development of the country's present-day economy. With increasing global demand, the export volume of LNG has tripled since 2008 predominately in Carnarvon and Perth regions which are based in Western Australia. For chemical engineers in this industry there are many areas to work such as: upstream operations which involves using catalysts, polymers and new molecules to boost productions or alternatively downstream operations which focus on the hydrocarbons once they are out of the ground.



PAINT

The paint and coatings manufacturing industry has been strong over the past few decades. Industry revenue has boomed to 3.2 billion with the sector employing 36,000 people and expanding on an international scale.

INDUSTRIES FOR CHEMICAL ENGINEERS



PLASTICS & CHEMICALS

The plastic and chemical industries have a wide range of applications from the manufacturing of plastic food packaging to pipes, fertilisers and chemical feedstocks for other processes.



WASTEWATER

The wastewater industry plays an everyday yet integral role to all Australians. It has an annual revenue of \$22.68 billion and employs 27,000 people across its four sub-sectors: water catchment, sewerage, drainage services and pipeline transport. From delivering and treating water for irrigation and human consumption pumping to the effective removal and recycling of water, there is plenty to be done for engineers in the water industry.



MANUFACTURING

The manufacturing industry is inherently very broad, but what is of most interest to chemical engineers are the sectors like pulp and paper production and metals and materials fabrication. These sectors involve an array of processes which need to be designed, optimised and monitored.



TYPES OF CHEMICAL ENGINEERS

As previously mentioned, the career pathway of a chemical engineer is diverse and versatile. With a variable job description comes an extensive list of possible job opportunities.

For some context, read the content below for a brief idea of the sheer variety a degree in chemical or process engineering can take you.

PETROLEUM ENGINEER

An engineer who develops plans to drill in oil and gas fields, and then effectively recover it. They are responsible for designing equipment to extract oil and forms of hydrocarbon gas from onshore and offshore reserves deep underground, whilst leveraging minimal cost, minimal waste and high efficiency.



NUCLEAR ENGINEER

An engineer who designs nuclear equipment, such as reactor cores, radiating shields, and associated instrumentation. They are directly related to operating and maintenance activities of nuclear power plants to ensure that they meet safety and efficiency standards.



PROCESS ENGINEER

An engineer who develops, configures, and optimises industrial processes from inception through to start up and certification. They also assess processes, take measurements, and interpret data, to convey insight to stakeholders.



ENERGY ENGINEER

An engineer who designs, develops, or evaluates energy-related projects or programs to reduce energy costs or improve energy efficiency during the designing, building, or remodeling stages of construction.



FOOD ENGINEER

An engineer who utilises the latest innovative technology to process, package, preserve and improve food products.



MATERIALS ENGINEER

An engineer who evaluates materials and their respective (and often unique) properties and likewise also develops machinery and processes to manufacture materials for use in products to meet specialised design and performance specifications.



MINING ENGINEER

An engineer who typically designs and develops mines and determines the best way to extract metal or minerals with an emphasis on low cost, low waste, and high savings. They also develop new equipment or direct mineral-processing operations to separate minerals from dirt, rock and other materials.



BIOCHEMICAL ENGINEER

An engineer who designs ways of getting biological tissues and groups of specialised cells to control biological and metabolic processes, and then to obtain a manufacturable and commercial product in a way that is ethical, efficient and financially viable. Environmental engineer is an engineer who conducts hazardous-waste management studies in which they evaluate the significance of a hazard on the surrounding environment, as well as advises necessary stakeholders regarding sustainability measures and long-term impact.



PRODUCTION ENGINEER

An engineer who monitors the production operations, ensuring processes adhere to safety protocols, and evaluating staff performance, strategising on maximizing productivity to deliver efficient results that would drive revenue/increase profitability.



PHARMACEUTICAL ENGINEER

An engineer who is involved in the manufacturing of pharmaceuticals in processes that convert chemical and biological materials into pharmaceutical products and therapies. They are also responsible for ensuring the quality, safety and purity of the products.



**PROFESSIONAL
DEVELOPMENT.**

HOW TO: RESUME

Resumes get your foot in the door. Your resume is the first impression that you will give your future employer, from the first time they hear your name, recognise your talents or consider your experiences. SMUCE has taken the initiative to provide you with some scaffolding to help build a

robust resume that can showcase your strengths (and weaknesses) and help you make that next leap into your career. Include the following sections in your resume and remember to use uniform formatting, dot points and/or short paragraphs and concise language.

EDUCATION

Valedictorian of your double degree cohort? Battling the waves of a middle-of-the-road WAM or GPA? Quite apt in your academic grades?

Whether you are 2 years from graduation or even 2 months out, your employers care about your educational experience and academic background. Like most of your peers, details about your education will be of the most interest to potential employers unless you have any industry-related experience. Whether it be a summer-unit you picked up, a passion for a core engineering subject or a passion project that turned into research, education is important.

Many academics and professionals might argue that academic excellence is by no means a good way to measure a candidate's suitability and capability in the workforce. However, academic prowess can delineate other desirable qualities.

Academic excellence can be a testament to a hard-working work-ethic, and an innate drive to succeed whereas mid-range grades and scores might actually demonstrate qualities of perseverance and determination. Your grades might be concrete, but the way your employers perceive them can be altered. Generally speaking, your education section should include the extent of your tertiary education as well as necessary and interesting subjects that might pertain to the job.

WORK EXPERIENCE

Whether you summered at a Fortune 500 company or coached a handful of teenagers at indoor soccer, experience is experience.

Even though it may seem meaningless or silly to list some of your experiences, focus on the skills you ascertained, developed and championed during your time. That being said, it is best to come to the table with industry-specific work experience, relevant prior part-time jobs and experiences that highlight the type of employee you are as well as the technical skills you bring. If experience is where you draw a blank, recall relevant and job-specific activities that highlight your capabilities as an employee. As a tip, look at the initial job description and pay attention to these specific job skills and try to recall your experiences in lieu of the description. Remember to include previous experiences that demonstrate your soft skills as they are highly regarded by employers and are also often included in job descriptions.

TIP:

When describing your role use a key action-based word to begin the sentence and then quantify your achievements and learnings.

LEADERSHIP & VOLUNTEERING

Whether you realise it or not, you've been a part or led someone or something - built plans and prototypes, directed projects or even inspired people. Engineering firms and your future employers consider this to be your "third dimension" or unique quality that keeps you competitive and successful in the role you are applying for.

If you are a member / student member of any professional associations, for example, Engineers Australia or IChemE, mention this on your resume as it demonstrates your interest and commitment to the engineering profession. Like with any section, be specific and detailed when explaining your leadership experiences and previous projects.

Remember show don't tell!

PERSONAL SKILLS & ATTRIBUTES

Many professionals will argue that chemical engineering firms don't care if you play the guitar, speak conversational Fijian, or like to go fishing. Although this section is not 100% necessary, it gives a better insight of yourself to the employer. A chemical engineer with a passion for music. A process engineer who has taken the time to perfect a language. A research student who likes to unwind with fishing on the weekends.

This is how your employer makes sure you're the type of person they want to work with 8 hours a day.

TIP:

Try to include skills that demonstrate desirable qualities about yourself.



HOW TO: COVER LETTER

When applying for jobs the cover letter is often overshadowed by your resume, however, in most cases, it is just as important, if not more and could make or break your chances of being considered for a job.

Your cover letter is your chance to really sell yourself as an employee and to elaborate on your skills and experience in a way that makes them so much more relevant to the role you are applying

for than on your resume. Try to also inject a bit of personality into your cover letter and give a bit of an insight into the type of individual you are, setting yourself out from the competition.

SMUCE has taken an initiative to provide you with 5 practical steps to write a professional cover letter that can show employers that you are the best fit for their position

1. MAKE IT PERSONAL

Try to avoid addressing letters to Sir/Madam/ To Whom It May Concern, as it is incredibly impersonal and gives the impression that you are sending the letters out to anyone and everyone. Instead, do some digging in the job application itself or on LinkedIn to research your hiring members or even your Team Leader. The cover letter should be a more personalised form of your resume, specifically targeting your employer's requests.

2. SPECIFICITY IS KEY

In a paragraph or two demonstrate why you want to work for this employer and why they should want you. It is essential that you demonstrate within these paragraphs your ability to gather the most relevant information from a range of sources to state your claim as a suitable candidate.

Highlight the skills, expertise, qualities and employment experience you have included in your resume that you believe are most relevant to the requirements of the position. Make sure that you can demonstrate how you meet the selection criteria, and how what you have to offer relates to both the current and future needs of the employer.

3. SHOW PASSION

You need to be enthusiastic and show them that you really want the opportunity. Your choice of language can help to do so, for example; *"I would love the opportunity to discuss this further."* Be passionate about your career and demonstrate your ambition to progress within the company.

4. BE POLITE & FRIENDLY

Getting your personality to shine through words can be difficult, but not impossible. Using positive words, as well as really powerful vocabulary can help demonstrate an innate passion and drive for the role. One of the very best things as a young engineer is passion and drive. Use that to your advantage, however, remember to be polite and humble.

5. FINISH STRONG

What do you want to happen next? Confirm that you have attached your resume and any other requested documents. Finish on a positive and compassionate note, thanking the employer for their time and expressing interest in attending an interview and hearing back from them.

HOW TO: LINKEDIN

LinkedIn is the world's largest professional social media network, with millions of members looking to connect with others in their field. It is quite a useful tool in a budding chemical engineers toolbox and is a great way to map out career plans, network with like-minded people, keep up to date with innovation in your field, and explore a large population of opportunities and employers.

You can use LinkedIn to join professional associations, participate in group discussions, keep up with industry news and search for jobs.

If you are new to the networking scene, the standard LinkedIn Welcome tutorial will help guide you through the basics of setting up your personal profile, subscribing to personal interests and fields as well as expanding your professional networks. So we recommend getting started there!

If you are a seasoned veteran or just an eager-eyed undergraduate with a thirst for ambition, these 10 tips should help spruce up that page!

1. FRAME YOURSELF

A strong personal photo is always a great addition to your LinkedIn profile. Ensure it is professional, well-lit and puts your best foot forward. It's a great idea to wear what you would to work and smile with your eyes!

2. HEADLINES AREN'T JUST FOR NEWSPAPERS

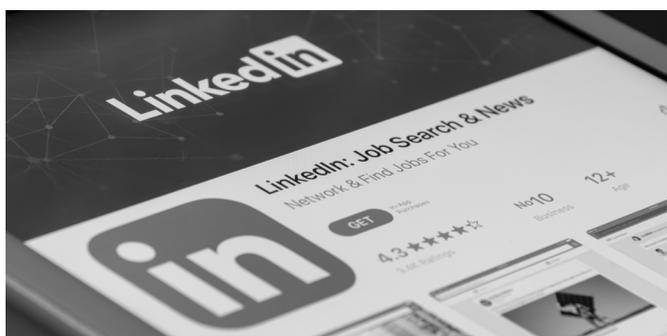
Conventionally, a headline outlines your job title and the organisation in which you work for. However, a LinkedIn headline offers you the possibility to briefly outline your interest and extracurricular activities to demonstrate a well-rounded person.

3. GROW YOUR NETWORK

Networking is the aim of the game here. Through networking, you can gain important career information and put yourself in the best position to acquire a preferred role. Your network should include friends, lecturers, workmates, employers and professionals.

4. NETWORK REQUESTS

When networking, and you come across a potential contact, take the time to write a personalised message as part of the LinkedIn network request. Be direct, polite and delineate the reason why you'd want to stay in touch and connect. Always remember, networking is a two-way street!



**STEPS 5-10
OVER THE PAGE**

HOW TO: LINKEDIN

5. LINKEDIN RESUME

Always remember, your resume is the shortest version of your professional and academic capabilities. It should merely tempt your employer to pick up your resume and do his research on you. The bulk and details of your capabilities should be your LinkedIn profile, from extra-curricular activities, organisations, likes and interests, passions and pet-projects. Elaborate on!

6. LINKEDIN LEARNING

LinkedIn Learning is a wonderful tool in your forever learning arsenal. From over 5,000 courses on the platform, it's a great way to expand your skillset and really re-evaluate any fields you mastered. Courses extend from personal financing, business and entrepreneurship, soft skills like public speaking and confidence, as well as technical skills like programming and coding.

7. POST REGULARLY

This tip applies to almost all social media platforms. The rationale is simple, to ensure you have a memorable and continued presence on the platform and on your contacts and network, you need to post frequently and quality content. Whether it be a work milestone, a cool project you're working on, asking for help on a technical task, publicising how you coped with a work or uni scenario, keep your social network social!



8. SKILL UP

We would suggest you focus a bit more on this section, as it helps to substantiate the description in your headline and summary and its pathways for others to endorse you. Refrain from listing unnecessary skills and try to depict skills that impact your career!

9. TAKE A SKILL ASSESSMENT

A skills assessment is an online test that enables you to demonstrate the level of your expertise and display a Verified Skills badge on your profile. As per the data, it's 30% guaranteed that you will be hired for the role you applied for if your profile shows verified skills. So have an immense focus on this section.

10. HAVE A PASSION FOR LEARNING

Employers love to see a passion for lifelong learning. You will have the opportunity to add a course certificate to your LinkedIn profile when you complete a course on LinkedIn Learning. To do this you can go to the learning history of your LinkedIn learning account.

HOW TO:

CPD

Continuous Professional Development

Continuous Professional Development (CPD) is a compulsory professional practice requirement for all Bachelor of Engineering and Master of Professional Engineering students at Monash Clayton. CPD is part of meeting the Engineers Australia Stage 1 Competency Standard to be a Professional Engineer.

It is also an opportunity to engage in business and engineering-related activities, build your employability skills and grow your professional networks and contacts.

There are 3 steps to pass the CPD unit:

STEP 1

First you must complete a minimum of 420 hours of professional practice activities outside the classroom.

STEP 2

Then you should create a written record detailing how the activities have helped you develop your employability skills.

STEP 3

Finally, answer assessment questions reflecting on the key Engineering Australia Stage 1 competencies.



For more information visit:

<https://www.monash.edu/engineering/current-students/professional-development/continuous-professional-development>

HOW TO: STUDENT FUTURES

Unique to Monash, this award-winning online platform helps you identify, record and present the employability skills you acquire during the course of your study.

You don't even need previous work experience!

Student Futures helps you prepare for interviews, craft a comprehensive resume, and assist you in refining your overall career readiness. You will enjoy continued access to the platform for up to twelve months after you complete your studies. It's a great guide to help you on your career path.



EXPLORE YOUR CAREER OPTIONS

- Learn about the nine key employability skills that employers look for.
- Find out from graduates how they gained their employability skills at Monash.
- Conduct a regular skills evaluation to monitor the progress of your employability skills.

APPLY FOR JOBS

- Use Student Futures to help craft your resumes, cover letters, LinkedIn profiles, and answers to key selection criteria.
- Practice answering interview questions using over 65 pre-defined scenarios or create your own scenarios.
- Generate your own Student Futures certificate, which summarises your completed Monash activities to potential employers.

BUILD YOUR EMPLOYABILITY SKILLS

- Search for opportunities to develop specific employability skills.
- Record and reflect on the skills you are building through your experiences, across your studies, Monash activities and activities outside of Monash.

For more information visit:

<https://www.monash.edu/engineering/current-students/professional-development/continuous-professional-development/student-futures>

C O M P A N Y
P R O F I L E S

The image features the text 'COMPANY PROFILES' in a bold, white, sans-serif font, arranged in two lines. The letters are interconnected by a network of white lines and small circles, resembling a molecular or network diagram. The background is a dark teal gradient.



“Breakthroughs that change patients’ lives”

ABOUT US

Pfizer is one of the world’s premier biopharmaceutical companies, with a portfolio of some of the world’s most well known medicines, vaccines and therapeutics.

With over 40 manufacturing sites globally, Pfizer provides hundreds of essential medicines and vaccines to patients in more than 125 countries. Locally, the Mulgrave manufacturing site is a key contributor in the fields of oncology and antibiotics.

Step inside the world of Pfizer and you’ll discover that every single person who works here plays an essential part in making breakthroughs that change patients’ lives.

Whether we’re driving an ambitious cycle of discovery and research or working to get vital treatments to the people that need them, our innovative thinking is dedicated to one cause: helping the health of millions of people, all over the world. Pfizer Australia employs colleagues in a variety of fields including science, medical, regulatory affairs, manufacturing, sales and marketing, health economics.

ABOUT YOU

Pfizer embodies the following values and is thus looking for students who will also uphold and reflect the values of Pfizer and its people:

Courage refers to challenging convention, especially in the face of uncertainty or adversity. We aim to live this value by thinking big, speaking up and being decisive.

Excellence happens when we perform at our best together. We do this when we remain focused on what matters, agree on process and measure outcomes.

Equity means that every person deserves to be seen, heard, and cared for. We aim to create a culture that is inclusive, acts with integrity and reduces healthcare disparities.

Joy refers to the feeling of joy at work and personally. Pfizer colleagues find joy when they take pride, recognise one another, and have fun.

JOIN US

Being headquartered in New York, most of Pfizer’s internship and graduate programs are offered in the United States. Unfortunately the same comprehensive graduate programs aren’t offered in Australia.

INTERN

GRAD

To stay up to date with any changes please visit:

<https://www.pfizer.com/about/careers>



PHARMACEUTICALS

“To help people do more,
feel better, live longer”

ABOUT US

We have three global businesses that research, develop and manufacture innovative pharmaceutical medicines, vaccines and consumer healthcare products. Every day, we help improve the health of millions of people around the world with leading pharmaceuticals like Panadol, Advil, Ventolin, Centrum etc. Our goal is to be one of the world’s most innovative, best performing and trusted healthcare companies.

Our engineers are involved in all elements of the design, development and delivery of our products to patients and consumers. We manufacture a huge range of different pharmaceutical and consumer healthcare products. By integrating talented teams of engineers and scientists we can deliver four billion packs of medicines and healthcare products every single year around the world whilst efficiently meeting stringent quality and safety standards.

ABOUT YOU

An engineering and manufacturing placement at GSK will provide you with the opportunity to gain first-hand experience at a manufacturing site. Ensure to keep your CV tailored, minimal and concise and don’t be afraid to make your cover letter stand out!

The IBL program is truly a great opportunity and keeps you competitive compared to your cohort. However, please ensure you are a citizen/permanent resident and able to defer a year of study and work full time.

Find out more:

au.gsk.com/en-au/careers/students/

JOIN US

GSK is one of the only companies that offers the IBL program, developed for undergraduate University students in their penultimate or final year of study upon commencement of the program. This twelve-month, full-time IBL program is the perfect opportunity for students to launch their career, offering invaluable hands on work experience in a friendly and supportive environment.

INTERN

Upon completion, IBL students will have built on their university learning and gained a competitive edge for all future career paths.

Applications for the GSK 2023 IBL program open in July 2022, so keep an eye out for that!

FOOD & BEVERAGE

“The world we want tomorrow starts with how we do business today”

MARS

ABOUT US

For more than five generations, Mars has evolved to create products and services that people (and their pets) love. Nowadays, Mars is a global, yet still family owned business that has a diverse number of portfolios including confectionery, food and pet-care products and services. Mars employs 133,000 dedicated associates and produces some of the world’s best-loved brands including Extra®, M&M’s®, Milky Way®, Snickers®, Pedigree® and Royal Canin®.

Mars promotes and fosters a culture of Inclusion and Equal Opportunity Employment everywhere they operate. We know we can only be truly successful if our partners and the communities in which we operate prosper as well. The Mars Five Principles – Quality, Responsibility, Mutuality, Efficiency and Freedom – inspire our Associates to take action every day to help create a world tomorrow in which the planet, its people and pets can thrive. Chemical engineers can find positions at Mars in their Supply Chain & Engineering team or within Research and Development.

ABOUT YOU

A wide variety of people come to work for Mars, but they share the same core attributes and a passion to drive for success and quality in everything they do. We’re looking for people who are well organised and able to build strong connections, as well as flexible enough to adapt to challenges and able to proactively manage their own development, including asking for help when needed. Our working culture embraces difference, so we welcome people who can bring new ideas to our business.

JOIN US

Mars has a number of opportunities for students and graduates, especially if you are willing to go overseas. The Mars Internship Experience is a 10-12 Week summer program that combines diverse experiences and continuous learning for students.

INTERN

GRAD

Mars Co-op is a 6 month position enabling you to learn on the job and develop the ability to apply new skills to future challenges. Applications for both these programs start in September 2022.



ABOUT US

Fonterra is a New Zealand Co-operative made up of everyday good people who work together to do good things with dairy. Being a part of Fonterra means being a part of a unique history while helping to realise the potential of dairy for generations to come. We believe nutritious food is essential to sustain people today and for future generations to thrive. This is why we challenge ourselves to find new ways to bring our dairy goodness to people around the world.

From milk to butter, yoghurt to cream, Fonterra are behind many of the loved brands that we enjoy daily such as Bega Cheese, Perfect Italiano, and Western Star. We also make high quality, fit-for-purpose dairy foods for food-service professionals and provide dairy ingredients to many of the world's leading food companies. Fonterra employs around 350 nutritionists, scientists, researchers and engineers in our world class Research and Development Centre in New Zealand to make the best milk possible. In Australia, Fonterra has 6 factories and are responsible for processing around 18% of Australia's milk every year.

ABOUT YOU

Are you technically minded? Do you love to understand how things work and why? Do you have a degree with an engineering, environment or science focus?

Fonterra offers a vast range of opportunities in the Engineering sector, where new technologies and processes are fundamentally reshaping the way we engage, interact, and do business.

Here is just a taste of some of the roles you could find yourself in:

- Engineering Project Manager
- Optimisation Analyst
- Advanced Process Control Engineer
- Engineering Portfolio Analyst
- Process Design Technologist
- Continuous Improvement Engineer

JOIN US

GRAD

Do you have a 4-year degree in Engineering, Food Technology, Science or Environment Focus? Then the Fonterra Technical Program (FGTP) could be for you!

The Technical Program will see you traveling around New Zealand experiencing the whole business within your first few months of joining us. Our current grads have named this their 'Fon-Tiki tour' - what an adventure! As you experience our sites learning more about our innovative products, processes, and people, you

will see our customers and consumers are at the heart of everything we do. Applications open on the 28th of February 2022!

Fonterra also has graduate programs available in Australia in sales & marketing, supply chain, operations and commercial sectors. Of interest to chemical engineers is the operations graduate programs where you will be working across our Product & Development team, Manufacturing & Operations, Environment, Quality, Optimization & Continuous Improvement teams.

FOOD & BEVERAGE

“Brewing Australia’s best beer starts with finding the best people to work with”



**Carlton & United
Breweries**

ABOUT US

At Carlton & United Breweries, we’re incredibly proud of our rich history and the work we do to advance our legacy of brewing great beverages and building great brands that have been connecting people across Australia for generations.

Carlton & United Breweries (CUB), a subsidiary of Asahi Beverages, is a brewing company based in Australia. The company primarily offers Australia’s well-loved alcoholic beverages including beer, cider, and spirits. CUB markets its brews as Australia’s most iconic and loved beers, including Victoria Bitter, Carlton Draught, Great Northern, Pure Blonde, Carlton Dry, Melbourne Bitter, Crown Lager, Cascade Premium Light and Matilda Bay.

Carlton & United breweries is committed to the responsible consumption of alcohol, including working to reduce harmful drinking practices in Australia. We are a founding member of DrinkWise and are one of its largest financial contributors.

ABOUT YOU

We celebrate our differences and similarities as we work together, building on one another’s ideas and efforts. When we fail, we fail together, when we succeed, we succeed together. We don’t shy away from change. We embrace it. We dream big and always seek out the next opportunity to drive our business forward. For us, anything is possible.

Carlton Breweries has been a big supporter of SMUCE, and from a long history of sponsorship, CUB hails a company culture of informality and candour, and as an applicant, you should strive to display these traits.

CUB allows you to begin your career in one of Australia’s foremost fast-moving consumer goods (FMCG) companies and develop your skills to become a leader in our supply business. At CUB, you will be able to work alongside technical experts in the field and learn every aspect of the brewery- from engineering to brewing to packaging to quality assessment and control.

JOIN US

CUB boasts a variety of summer internship programs for penultimate year students of relevant disciplines. Under Asahi, CUB’s graduate programs for 2023 are now open for applicant registrations. These programs comprise learning in a variety of roles: Graduate Management Trainee, Supply Management Trainee, Analytics Management Trainee, and Technology Management Trainee.

INTERN

GRAD

These programs are a fantastic way to get your foot in the FMCG door, get industry experience, and be part of a resilient, energetic and dynamic workplace!

For more information visit:

<https://cub.com.au/careers/graduate-programs/>

<https://cub.com.au/careers/>



FOOD & BEVERAGE

“The Great Australian Food Company:
Great Food, Great People”

ABOUT US

Bega Group is home to many trusted Aussie food and beverage brands. Whether it's VEGEMITE on toast, a Big M on the go, or a Zooper Dooper on a hot day - you've probably grown up enjoying the iconic products we proudly manufacture every day. Being recently named in the Top 10 Strongest Australian Brands of 2022, our vision is to become The Great Australian Food Company!

Our growth story of becoming a successful ASX listed company with an annual turnover in excess of \$2 billion and approximately 4,000 employees, is made possible by our dedicated workforce who live and breathe our values every day. We have a strong regional focus and proudly support the communities where we work, live and play. At Bega, we are proud of our heritage and will continue to build great opportunities to encourage our people to develop and thrive.

As a graduate you will work in a highly collaborative environment that provides flexibility, opportunities, and respects differences. Our product range is diverse and so are the opportunities for professional and career development. We are committed to providing our people with broad experiences to build a successful career.

We are located throughout Australia with our head office based in Docklands, Melbourne.

ABOUT YOU

Prepare for an exciting career with our comprehensive 2-year rotational program with a focus on technical knowledge and skills, Bega business acumen and personal development opportunities. With three 8-month rotations providing longer duration for more in-depth experience within business functions under the guidance of a dedicated rotation manager to develop your technical training, along with a mentor for career planning and a buddy to familiarise you with the Bega business.

What we're looking for in our graduates:

- A hunger to learn and grow, with an open mind
- Excellent communication skills and ability to work well in a team
- A sense of curiosity and an innovative approach to problem solving
- Resourcefulness, adaptability, and resilience in the face of challenge
- A reputation for producing quality work

Find out more via our LinkedIn or:

<https://www.begacheese.com.au/>

<https://www.begacheese.com.au/careers/>

JOIN US

GRAD

The Bega Graduate Program is a rotational program designed to provide STEM graduates with a breadth of experience, a supportive environment, the space to develop skills, and the resources to cultivate a broad network that will set them up for success with us into the future.

The Graduate Program extends to specific disciplinary streams and often include job offers and entry-level graduate engineering positions. Bega is a welcomed partner of the MITI program and has offered positions to Monash University alumni to get a head start and explore the field!

ENGINEERING SERVICES

“The future is
what we make it”

Honeywell

ABOUT US

Honeywell is a multinational conglomerate corporation headquartered in America that has been innovating for more than 100 years. Honeywell operates in a range of areas including: aerospace, chemicals & materials, building technologies, healthcare & pharmaceuticals, industrial & manufacturing, safety and supply chain.

At Honeywell, engineers are highly regarded as the cornerstone of our company and hold the belief that what happens tomorrow is determined by what we do today.

For chemical engineers there are many exciting areas to work in such as: improving productivity by making high-quality and consistent chemicals and remodeling industrial plants to be more efficient, safer and smarter. Honeywell have also been a pioneer in automation control to understand complex industrial facilities and how to create high quality and high performance chemicals and materials.

ABOUT YOU

Honeywell is looking for passionate students who want to grow, collaborate and change the world for the better.

Students should reflect the following four principles at Honeywell:

- Community
- Integrity & compliance
- Sustainability
- Inclusion & diversity.

If you want to help solve real world problems, build business skills and interact with leadership, Honeywell is the place for you.

JOIN US

Honeywell has a Global Internship Program for current students. There are also multiple graduate programs available at Honeywell across the globe.

Process Solutions Technical Early Career Program focuses on technical and engineering leadership development and is split into six

INTERN

GRAD

month rotations. Also available, the *Pacific Early Career Program* balances graduate development and on the job training while using cutting edge technology. This program is a one two-year rotation based in Australia and New Zealand and is the starting place for many accomplished leaders at Honeywell.

“Challenging today. Reinventing tomorrow.
To create a more connected, sustainable world”

ABOUT US

At Jacobs, we’re challenging today to reinvent tomorrow by solving the world’s most critical problems for thriving cities, mission critical outcomes, operational advancement, scientific discovery and cutting-edge manufacturing, turning abstract ideas into realities that transform the world for good. With \$14 billion in revenue and a talented force of approximately 55,000, Jacobs provides a full spectrum of professional services including consulting, technical, scientific and project delivery for the government and private sector.

The world needs innovators and problem solvers to discover new solutions to modern day challenges. Joining Jacobs not only connects you locally but globally to solve these modern day challenges. Together, our diverse perspectives and unique backgrounds power our collective strength to create new solutions.

From our inclusive employee networks to our positive mental health champions, we’re committed to driving a culture of caring where you can be you. Having the right blend of diversity, career and lifestyle enables us to consistently deliver and exceed clients’ expectations.

ABOUT YOU

Jacobs wants employees who are client focused, have great technical skills and have dynamic and engaging people skills to join their team. Our employees must be good collaborators, strong team builders and reliable partners that bring passion for team work to the organisation. The global scale of our corporate projects rely upon these skills more than ever to deliver safe and multidisciplinary projects.

At Jacobs, we strive to develop our employees into highly skilled professionals through our numerous on the job development opportunities, support for formal learning and professional development activities . Our entry level development programs feature a range of learning opportunities that have your career development in mind at all stages.

JOIN US

Our two-year, self-directed, graduate program is designed to develop our graduates to have competency in all of our core Jacobs focus areas through experience-based opportunities, professional development modules and formal learning sessions which aim to lay strong foundations for early growth and development for our young graduates. Graduate program applications open March 2022 and the program begins January 2023.

INTERN

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Our Summer internship program blends the job, formal and external development learning opportunities into a single 8-week program which aims to equip you with the skills required to become competent and confident consultants.

Summer internship applications open August 2022 and the program starts November 2022

ENGINEERING SERVICES

“Our commitment to you”



ABOUT US

At GHD, we are committed to solving the world’s biggest challenges in the areas of water, energy and urbanisation. We are a global professional services company that leads through engineering and architectural skills and experience. Our forward-looking, innovative approaches connect and sustain communities around the world. Delivering extraordinary social and economic outcomes, we are focused on building lasting relationships with our partners and clients.

Established in 1928, we remain wholly owned by our people. We are 10,000+ diverse and skilled individuals connected by over 200 offices, across five continents – Asia, Australia, Europe, North and South America, and the Pacific region. GHD are looking for engineers who work in the following areas: energy, resources, environmental, transport, water, property & buildings as well as project management.

Find out more about GHD and what we can offer you by watching our promotional video (access via QR code):



ABOUT YOU

We are looking for people who embrace fresh thinking and learning and want to work in a workplace rich in diversity. We are committed to developing and supporting talented, motivated graduates who are eager to launch their careers as change makers.

At GHD we all share in each other’s success and support each other through the challenges.

Do you have the energy, teamwork, creativity and values to join us?

JOIN US

GHD offers summer vacation programs running from late November/December to February for students in their penultimate, or second-to-last year of studies. As an undergraduate in GHD, you will be provided with practical, on the job experience within a field aligned to your studies and where possible to your aspirational career path. Applications for summer internships close in August.

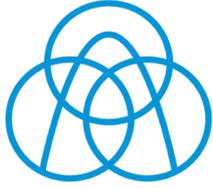
INTERN

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GHD also offers a two year graduate program in all states across Australia. Be sure to apply before April 4th 2022 in order to be a part of their 2023 program.

Use the following QR code for more information:





thyssenkrupp

ENGINEERING & TECHNOLOGY

“Engineering.
Tomorrow. Together.”

ABOUT US

With more than 2,000 chemical plants to its credit, thyssenkrupp Uhde is one of the world’s leading engineering companies in the design and construction of chemical and other industrial plants. We offer leading technologies from a single source and complete Power to X value chains utilising green hydrogen for the production of green ammonia, green methanol, green SNG, and more.

thyssenkrupp Uhde’s worldwide network reaches over 4,500 employees globally. We offer our customers not only cost-effective and innovative solutions in industrial plant design but also supply the core technology scope.

Our purpose statement “We create a livable planet” reflects our ambition to be a driving force in the transformation of the global industrial landscape.

Students can find out more about thyssenkrupp Uhde by visiting our website:
<http://www.thyssenkrupp-uhde.com/>

ABOUT YOU

Are you a tech-savvy Chemical Engineering Graduate with an interest in the decarbonisation and sustainability of chemicals who is keen to develop unique solutions?

We are looking for a Graduate to join us as a Junior Engineer. Successful candidates must meet the following to be shortlisted:

- Graduated in the past 6 months, or be a penultimate student who will graduate by the end of this year
- Have Australian citizenship or be a permanent resident of Australia or be a non-citizen with a valid visa that provides work rights
- A Weighted Average Mark (WAM) of 65 or above in your most recent studies

JOIN US

GRAD

Chemical Engineering Graduates who are keen to join our team in Melbourne’s CBD and develop their career in the chemicals industry should send their CV and cover letter to the email address below:

garen.altinkaya@thyssenkrupp.com

ABOUT US

At BHP, our purpose is to bring people and resources together to build a better world. We have the resources. What we produce is essential to carbon reduction and the technologies essential to secure prosperity for generations to come. But we need more good people. Not just anyone, but the best and brightest graduates from every field of academic and technical endeavour. Graduates who will challenge us, as we will challenge them.

If you join us, the opportunities are endless; because you will not only help build a better world, you will help shape it. Someone has to do it. Why not you?

ABOUT YOU

- Results driven with an ability to build relationships and network across departments
- A flexible, resilient and curious approach
- A desire to learn, be challenged and strive to achieve each day.

You could be studying from a range of degrees that include (but not limited) to:

- Engineering: Mining, Mechanical, Mechatronics, Electrical, Mine Geotechnical, Civil, Metallurgy / Minerals Processing, Chemical, Construction
- Science: Earth Science / Geology, Hydrogeology, Environmental, Physics, Chemistry, Spatial Science (Surveying)
- Technology: Computer Science, Data Science, Cybersecurity, Maths and Statistics
- Business: Finance, Accounting, Commerce

JOIN US

Our Australian graduate and intern opportunities for engineering and science will be residential or Fly-In-Fly-Out.

Graduate program - complete structured course work, learn on-the-job and contribute to projects. You'll collaborate on projects across multiple disciplines and be supported and coached to deliver successful business outcomes. To be considered as a Graduate you will need to have

INTERN

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completed your studies by the end of 2022, or have already completed your degree in 2021 or 2020. Graduates start in February 2023

Intern students between their second to penultimate year and will work with us for 10-12 weeks over the summer break. As a successful intern you'll get first access to our Australian Graduate Program opportunities. Interns will start end of November 2022.



“We are MMG and we mine for progress”

ABOUT US

MMG is headquartered in Melbourne and is a mid-tier global producer of base metals including copper and zinc operating across Australian, the Democratic Republic of Congo and Peru.

Founded in 2009, MMG’s vision is to build the world’s most respected mining company. MMG mines to create wealth for our people, host communities and shareholders with an ambition to double the size and value of MMG and then double again by 2030.

Our long-term outlook is pride in mining as well as commitment to international standard and respect for people, land and culture underpins our success.

ABOUT YOU

MMG are looking for people who align with their following values:

- We think safety first
- We respect each other
- We work together
- We do what we say
- We want to be better

JOIN US

MMG offers various pathways for graduates and undergraduates to join MMG and gain a range of experiences in the minerals and metals industry. We typically have annual graduate and undergraduate intakes for the major regions in which we operate such as Australia, Democratic Republic of Congo, Lao PDR and Peru.

INTERN

GRAD

ABOUT US

At Glencore Australia, we produce and export tens of thousands of tonnes of essential commodities around the globe every day.

We produce a diverse range of commodities from 25 mines, marketing and distributing them to customers all over the world.

Australia is an important region for Glencore, one of the world’s largest diversified natural resource companies. Our 17,690 employees and contractors in Australia make a major contribution to the local, regional and national economies. In the process this helps us connect essential commodities from where they are plentiful to where they are needed.

Our operations are located in New South Wales, Queensland, Western Australia and the Northern Territory, with Australian headquarters in Sydney, and offices in Brisbane, Perth and Newcastle.

ABOUT YOU

With a focus on local talent from regional communities, our recruitment programs combine structured career development with on-the-job experience and mentoring from some of the best in the business.

We offer a range of exciting entry-level opportunities across our coal, copper and zinc operations across Australia, including graduate and vocational programs.

JOIN US

As part of Glencore’s two-year graduate program you’ll receive the best development possible: by being hands-on and contributing to the operations from day one.

Our structured Graduate Professional Development component will focus on growing your leadership and management skills as well as equipping you with practical industry knowledge. You will rotate through different multi-disciplined teams to get maximum exposure to our business.

INTERN

GRAD

Our Vacation Employment Program gives you a taste of an exciting future. Experience up to 12 weeks of on-the-job work experience during the university summer break from your bachelor degree studies. The program allows you to use your theoretical knowledge in a real, working mine environment, while providing a stepping-stone to your graduate career.



MANUFACTURING

“Creating Opportunity.
Creating Strength”

ABOUT US

BlueScope is an Australian-born, global success story that operates in 18 countries, with a team of over 14,000 extraordinary employees, working with one of the world’s most amazing, useful and recyclable materials: steel. With a 100-year history, and almost 20 years operating under the BlueScope name, we’re one of the world’s leading manufacturers of painted and coated steel products. We transform steel into products that matter to all of us—for houses, buildings, structures, automotive and more. We’re inspired by innovation, from the coating expertise that’s made COLORBOND® steel a recognised name, to the robotics that drive efficiency in our manufacturing systems.

Our people are our strength, and we don’t say that lightly. We want our people to be successful, and to be safe. We offer work-life flexibility through our B-flex program and make sure our inclusive work environment welcomes people of all backgrounds. We’re passionate about driving sustainability outcomes that matter to our communities, including action on climate and our 2050 net zero goal. And we’ll do this through *Our Purpose: We create and inspire smart solutions in steel, strengthening our communities for the future.*

ABOUT YOU

By joining BlueScope, you will not only shape how we work and the products that we produce, but you will help shape the world in which we live—for the better. We have opportunities in engineering, innovation, operations, trades, IT, finance and accounting, sales, marketing, customer service, health and safety, human resources, legal, research, technology, logistics and supply chain—and more! Whatever your background may be, there’s a place for you at BlueScope.

A career with us provides you with the opportunity to grow and be rewarded. At BlueScope, you will:

- create and deliver innovative solutions that drive transformation in our business
- make an impact that really does shape the world we live in
- keep growing through continuous learning and development opportunities
- enjoy the sense of belonging that comes from working with people who genuinely look out for one another

JOIN US

GRAD

Working in highly skilled teams and under the guidance of experienced leaders and specialists, our graduates rotate through various departments, gaining invaluable exposure across their fields of study. We provide a solid foundation towards understanding our business,

customers and the communities in which we operate—taking your career into the future!

Visit bluescope.com/careers to learn more and apply for opportunities. Together we can make a world of difference.

MANUFACTURING

“Boral, build something great”

The Boral logo features the word "BORAL" in a bold, sans-serif font. The letter "O" is stylized with a yellow and green circular graphic behind it. A small "TM" trademark symbol is located to the upper right of the "L".

ABOUT US

Boral Australia originally known as Bitumen and Oil Refineries Limited is the largest integrated construction materials and building products manufacturer and supplier across the full range of building and construction markets. Famous and notable products include cement, aggregates, concrete, asphalt, bricks, roofing, masonry products and timber.

With an extensive network of concrete, asphalt and manufacturing sites across Australia, Boral's leading position is underpinned by around 1 billion tonnes of quarry reserves strategically located close to key markets.

One of Boral's key strengths is their recognition that sustainability is fundamental to future success and their ability to “build something great”. Naturally, career opportunities at Boral extend across a broad range of disciplines from trade and engineering to manufacturing and logistics.

ABOUT YOU

The Boral Graduate Program is specifically tailored for developing future leaders and providing graduates with real hands-on experience across business operations.

Boral graduates will have the resilience to handle complex operating and manufacturing environments, deal with rapid changes, and engage with a variety of different stakeholders and employees.

JOIN US

The Boral Graduate Program exposes you to all facets of the business and offers you the opportunity to be part of the table, as well as actively contribute and engage with regional and capital projects. If this sounds like the next step or milestone in your career plan, we suggest prepping for after your graduation!

GRAD

ABOUT US

As a leader in the global chemical industry, LyondellBasell strives every day to be the safest, best operated and most valued company in our industry. The company's products, materials and technologies are advancing sustainable solutions for food safety, access to clean water, healthcare and fuel efficiency in more than 100 international markets. LyondellBasell places high priority on diversity, equity and inclusion and is Advancing Good with an emphasis on our planet, the communities where we operate and our future workforce.

The company takes great pride in its world-class technology and customer focus. LyondellBasell has stepped up its circularity and climate ambitions and actions to address the global challenges of plastic waste and decarbonization. In 2022, LyondellBasell was named as one of FORTUNE Magazine's "World's Most Admired Companies" for the fifth consecutive year.

For more information, please visit www.lyondellbasell.com or follow @LyondellBasell on LinkedIn.

ABOUT YOU

Engineering careers at LyondellBasell include a wide variety of opportunities for chemical, mechanical and electrical engineers. Exciting technical and management opportunities in research, marketing, sales and manufacturing are just a few of the possibilities. We are looking for engineers who can balance day-to-day tactical decision making with long-term strategic execution.

You will be a part of our highly motivated team that embodies the following values:

- Strive for excellence in everything we do
- Own our decisions and reward results
- Believe in the power of many

JOIN US

Internship and graduate programs at LyondellBasell are only offered in the United States and the Netherlands.

INTERN

GRAD

ABOUT US

At Yarra valley water, we supply over 2 million people, 58,000 businesses and an area of 4000 square kilometers with fresh water and sewage services. Our service area covers the majority of Melbourne's northern and eastern suburbs, from Wallan in the north to Warburton in the east.

Our purpose is to support the health and wellbeing of our customers and create a bright future for our communities and the natural environment. This purpose sets out our commitment to a sustainable future.

At Yarra Valley Water we strive for all employees to:

- Enjoy your time at work
- Develop yourself and your professional relationships
- Maintain a work-life balance

ABOUT YOU

At Yarra Valley Water, we're creating a vibrant workplace that achieves exceptional business outcomes, successful partnerships and personal satisfaction. We're committed to inspiring and encouraging each other to be innovative and to excel. Yarra Valley Water employees over 500 staff with the majority of them being based at our Mitcham head office. In recent surveys, our staff offered many positive reasons for working at Yarra Valley Water - but most of them rated 'the people' as the top reason why they enjoy working here.

JOIN US

GRAD

Graduate program - as a graduate engineer you'll have the chance to work on all parts of the lifecycle of our assets – from design to construction to operation. You will play an integral part in harnessing big data and developing intelligent water and sewerage infrastructure that will last over a century.

We accept a broad range of degrees in the engineering stream, including Engineering (civil, environmental, mechanical, electrical, chemical), Environmental Science and Geoscience.

Applications open in late March.



ENERGY & CONSULTANCY

“Enabling a more sustainable, resilient and liveable world”

ABOUT US

Wood is a global leader in consulting and engineering across energy and the built environment, helping to unlock solutions to some of the world’s most critical challenges.

We provide consulting, projects and operations solutions in more than 60 countries, employing around 40,000 people.

Find out more:
www.woodplc.com

ABOUT YOU

At Wood, we don’t just look for GPA or WAM scores. We believe enthusiasm, personality, commitment and creative thinking are just as important.

Students who certainly catch our eye are those that have been involved in part-time work, previous internships, university involvement (clubs & societies tec.), international exchanges, awards/ scholarships, volunteer work, sports teams etc.

With the increased demand for innovation in interrogating data and automation, students with a second degree in computer/data science or similar will have an advantage.

JOIN US

Application for our graduate program (2023 intake) open on 14th February 2022 and close on 27th March 2022. We advertise these roles on our website and GradConnection.

We have a two-year graduate program including:

- National graduate induction
- Graduate short-course program
(includes a CertIV in Project Management)
- Technical training

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GRAD

- Professional development programs
(with Engineers Australia or IChemE)
- APAC Early Careers webinars
(personal development)
- Mentoring/Buddies

Our vacation program applications for the 2022/2023 internship period will open on the 25th July 2022.

OIL & GAS

“A better tomorrow needs action today”



Woodside

ABOUT US

Woodside is the pioneer of the LNG industry in Australia with over 65 years of expertise and are currently responsible for the supply of over 6% of the world's supply of LNG. At Woodside, we play a pivotal role towards acting against climate change by continuing to provide safe, affordable and reliable energy that the world needs.

Our gas can help reduce emissions, displacing more carbon intensive energy sources such as coal, while providing our customers with affordable energy. We are committed to the global response toward climate change and our need for a low-carbon future.

ABOUT YOU

As Australia's leading LNG operator, we're constantly on the lookout for graduates who are innovators and passionate problem solvers. When you become a part of our fast-growing community of graduates, you'll be supported both technically and professionally with exposure to a wide range of exciting opportunities.

JOIN US

Our graduate development program offers you three years of structure development with carefully designed job rotations and activities that will broaden your career horizons. You'll learn from some of the brightest leaders in our industry. The woodside graduate development program is open to students in their final year of university or up to two years post-uni graduation.

For our summer internship program, we are looking for students who have a passion for learning and can demonstrate academic

INTERN

GRAD

ability to see first-hand what it is like to work at Australia's leading natural gas producer. By joining our 12-week program you will gain insight in working within an innovative and dynamic multi-disciplined organisation. The program commences late November and finishes mid February with the program being based at Woodside's head office in Perth.

Applications open in July.

“Our purpose at Viva Energy is to help people reach their destination”

ABOUT US

Viva Energy is one of Australia’s leading energy companies. We’re proud to be Australian, of our 110-year history and dignified by our achievements.

We help Australians reach their destinations by making, importing and delivering the fuels, lubricants, chemicals and bitumen they need to get there. We’re with workers on their daily commute and families on their school run.

We own and operate the Geelong Refinery, supplying over 10% of Australia’s fuel – and more than 50% of all the fuel used in Victoria. At Viva Energy, we’re building a company that is driven by our people. Our culture reflects the passion, pride and personality of the employees and contractors that choose to work here.

Together we are committed to building Australia’s energy future.

ABOUT YOU

Viva Energy aims to ‘help people reach their destination’. They recognise that each person working within the company wants to grow their career based on what’s important to them. Joining the team will give you the opportunity to develop a rewarding professional career and get started on your career.

SMUCE advises applicants to be undertaking a Bachelors in Mechatronics, Mechanical, Chemical / Process Engineering, and is known for the company to provide an invaluable experience in the corporate world and an operating hydrocarbons facility.

So pad your resume, ensure you have full working rights/residency and apply towards the end of your degree!

JOIN US

We offer internships for Chemical and Process Engineers working on a variety of projects in the petrochemical industry.

The program runs for approximately 12 weeks. An internship offers you valuable work experience and practical skills that can set you up for a successful career once you complete your studies.

INTERN

GRAD

Applications for the 2022 graduate program are currently open.

For more information visit:

<https://www.vivaenergy.com.au/careers>

<https://www.vivaenergy.com.au/about-us/careers-and-opportunities/graduate-opportunities>



“Welcome to your world in colour”

ABOUT US

Dulux Australia develops and manufactures a range of paints and coatings for the Australia and New Zealand markets, under various brand names including Dulux, British Paints and Cabot's. We are headquartered in Clayton, Melbourne, where our Innovation Centre is also located and it is within this facility that we undertake the majority of the development work on new coatings products.

DuluxGroup is an Australian parent company and employs over 4,000 people. Chemical Engineers are employed in R&D, manufacturing and other functions.

We also have manufacturing sites at Merrifield (new high volume waterborne paint factory on the northern edge of Melbourne) and Dandenong South (Woodcare, Protective Coatings and Powder Coatings).

ABOUT YOU

We look for people who are enthusiastic about working for Dulux, are good communicators and work well in teams.

A typical graduate chemist employed at Dulux will commence working on a project in conjunction with an experienced Dulux chemist, who will help the new starter learn all of the essential skills that they require.

No prior knowledge of paint and polymer science is required (although such experience can be useful for standing out during the recruitment process).

JOIN US

In addition, we offer a graduate program for suitable employees who demonstrate exceptional leadership potential and drive. New Chemistry and Engineering R&D graduates can enter this program following a competitive and rigorous interview process.

An opportunity to work on a coatings research project with DuluxGroup is offered to students

GRAD

who have been elected to take the CHE4180 course, as well as a passion to further in the field. Graduate roles are advertised via our DuluxGroup careers page and via Seek.

For more information visit:

<https://www.duluxgroup.com.au/>

We do not offer a vacation program.



“We protect and beautify the world”

ABOUT US

PPG Australia is a subsidiary of PPG industries Inc headquartered in Pittsburgh, Pennsylvania, USA and the global supplier of paints, coatings, optical products, and specialty materials. In Australia and New Zealand, PPG is a leading manufacturer of coatings to the automotive, refinish, protective, marine, packaging, architectural and general industrial markets.

Our vision is to continue to be the leading coatings and specialty products company. From automobiles and jetliners to wind turbine blades, and from ocean-going vessels and water tanks to family homes, our coatings and specialty materials help our customers protect, enhance, and beautify valued assets. As part of our team, you will have access to world-class customers, industry experts, the best and brightest colleagues, and leading-edge technology.

Through leadership in innovation, sustainability and colour, PPG provides added value to customers in construction, consumer products, industrial and transportation markets, and aftermarkets to enhance more surfaces in more ways than any other company.

ABOUT YOU

We look for people who want to use their personal strengths to succeed and make an impact from day one. If you work for PPG, you will be inspired to learn and grow, and will have access to the support you need to identify and achieve your boldest career aspirations.

Your contributions will not only meet the challenges of our global customers, but help them propel their industries forward. As a PPG employee, you will be welcomed into a culture where everyone’s ideas and contributions are valued and encouraged.

Just like you, we are driven to make a difference in our world. At PPG we are committed to providing a fulfilling workplace for our employees. We take pride in providing an environment for continuous learning and embracing the ideas and diversity of others.

We have a range of learning and development opportunities available to employees, including mentoring programs and internal and external courses.

JOIN US

We offer a 12-week paid summer internship program where you can experience real-world business projects designed to help discover your strengths.

We do offer a graduate program but only students who have completed our Internship

INTERN

GRAD

program are eligible therefore we do not externally promote!

For more information visit:

<https://ppg.referrals.selectminds.com/>



EDUCATION

“Professionals Australia – respect, recognition, and reward... at every step of your career”



**Professionals
Australia**

ABOUT US

Please note that Professionals Australia is a Union not a company

Professionals Australia is a union representing over 20,000 professional employees across Australia. Through collective influence and by providing tailored workplace and career services, we help our members achieve improved wages and working conditions.

We stand for fair, safe and inclusive workplaces and believe all employees should be recognised, respected and rewarded for their contribution. Professionals Australia is committed to:

- Excellence in member experience and services – including the highest standard of workplace advice, representation, and support.
- Continual improvement and expansion of our services including providing access to high quality professional development and industry-approved accreditation and registration programs that help advance our members’ careers.
- Being a force for positive change - advocating on behalf of professionals so they are heard by government and industry on the issues that matter to them and their profession.

- Building upon the successes of past campaigns to continue negotiating improved salaries and conditions.
- Making our members’ wages go further by providing exclusive access to discounted insurance, products and services.

Our members are passionate about their field. We seek to provide them with the best working conditions possible as we advocate for their workplace rights.

JOIN US

The Association of Professional Engineers Australia (APEA) is a union and professional association. We are run by engineers, for engineers.

To join us please visit:

https://www.professionalengineers.org.au/Engineers/Join_APEA/APEA_Signup.aspx



CONSULTANCY

“Opening opportunities with connected thinking”

ABOUT US

We are an employee-owned company with offices all around the globe, including Africa, Asia Pacific and Australasia, Europe, the Middle East, North and South America, and South Asia – 150 countries in all. Partnering with our clients, we are solving the world’s most intricate challenges. We search out the connections others fail to make, to unlock creativity and deliver better outcomes for the lives we touch every day.

Our purpose is to improve society by considering social outcomes in all we do, relentlessly focusing on excellence and digital innovation, transforming our clients’ businesses, our communities and employee opportunities.

Running a business responsibly is key to its long-term sustainability: all decisions we make have consequences for society. Sustainability helps us ensure that those consequences are positive, adding value for our clients and the communities we work in. Our vision is to be a leading global partner in advancing sustained economic, social and environmental wellbeing. We aim to do this by putting the United Nations’ Sustainable Development Goals at the heart of our business.

ABOUT YOU

If you are:

- Driven, smart, committed, creative and willing to continually grow
- Looking to kick-start your career with a dynamic employee-owned management, engineering, and development consultancy, working on high profile projects with a global network of passionate innovators, problem-solvers, doers and thinkers
- Want to make a difference to the communities that we live, work and play in every day

then a graduate or intern position with us could be the very opportunity you’re looking for!

Apart from offering meaningful work opportunities, we also provide a range of employee benefits, supporting our people to achieve their best. Our people have access to agile/flexible working, wellness and social initiatives, global mobility opportunities, personal and professional development and additional purchased leave.

JOIN US

INTERN

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Our Graduate Program provides you with a structured pathway to develop your skills, knowledge and your experience. You’ll have opportunities to work on projects that make a difference to the communities that we live and work in. And you’ll connect with inspiring colleagues and become part of a global family of passionate innovators, problem-solvers, doers and thinkers. If you’d like to join our team, submit

your resume and a brief cover letter via the relevant link on our website. Applications are open from 1 March 2022 and close 11 April 2022.

Our Paid Internship Program includes working on live projects, training workshops, peer connection, coaching, mentoring and networking. We think you’ll love it! Applications open later in the year, we will be in touch!

CONSULTANCY

“Making the right choices to progress with confidence”

Deloitte.

ABOUT US

Deloitte is a consultancy-based company that is driven to create an impact that matters at every opportunity. We nurture our graduates from day one. From working with Fortune 500 companies, government agencies and not-for-profits, to participating in hackathons, mentorships, and our award-winning graduate development program, we work on projects that matter.

From building a voice-enabled hospital call bell solution, designing the Invictus Games communications roadmap, valuing the Great Barrier Reef and responding to hacking incidents, the work we do is based on choice and progress that matters. The belief is that we are only as good as the good we do, and the impact we make.

ABOUT YOU

The minimum eligibility criteria for Deloitte (like the majority of ChemE firms) include:

- You are eligible for our Graduate Program if you are completing your studies in 2022, and ready to join the program full time in early-2023.
- For international students who don't hold an Australian PR, you are only allowed to apply for Consulting and Risk Advisory business units and allowed to work in all Australian offices except Canberra, where Australian citizenship is required.

Deloitte looks for people who are motivated, dedicated and above all looking to make an impact that matters in their workplace and their community. They provide the right kinds of tools and training to ensure all the graduates can achieve career success through mentoring, peer support and e-learning. So, if you think Deloitte is a place for you, venture on!

JOIN US

A 3–8-week paid internship that gives students the chance to land a full-time role with us before they even graduate. A full-time, 12-month graduate program, which involves purpose-led projects, networking and learning opportunities, and the most innovative graduate training in Australia. Applications for both the 2023 summer

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vacation program and the graduate program open on 14th February 2021!

Find out more / contact us:

<https://www.facebook.com/DeloitteAustralia/>

<https://www.linkedin.com/company/deloitte-australia/careers@deloitte.com.au>



BAIN & COMPANY

CONSULTANCY

“We champion the bold to achieve the extraordinary”

ABOUT US

Bain & Company is a global management consultancy firm that helps the world’s most ambitious change makers define the future.

Across 63 offices in 38 countries, we work with our clients as one team with a shared ambition to achieve extraordinary results, outperform the competition and redefine industries.

Global leaders seek out Bain & Company to solve industry-defining challenges in: strategy, marketing, organisation, operations, information technology, digital transformation & strategy, advanced analytics, transformations, sustainability, corporate finance and mergers and acquisitions, across all industries and geographies.

Consultants at Bain & Company are analytical and creative, leaders and collaborators. You’ll be at the centre of integrated teams with diverse thinkers and skillsets, all working together to deliver extraordinary outcomes. Each day will be different, but they’ll all be rewarding.

ABOUT YOU

Essentially Bain & Company are a consultancy firm, not an engineering firm specialising in chemical engineering, hence they will be looking for all rounders and independent thinkers with a passion for problem solving as well as the qualities listed below:

- A solid team player who’s also an independent thinker
- Deadline-driven, organised and able to multitask
- A robust analytical skill set
- Strong verbal, written and presentation skills
- Endless curiosity and a penchant for thinking the impossible
- Willingness to travel and work in a foreign city (if that’s what you desire)
- Experience in consulting, a start-up, or other business environments

JOIN US

In Australia, Bain & Company offer a graduate program. They are looking for Bachelors, Masters and PhD students and will assess your application for academic achievement, professional experience and leadership skills. Applications for the graduate program in 2023 close in February.

SCHOLARSHIP

GRAD

Bain & company also offers the True North Scholarship for Women which is valued at \$20,000 for women in their penultimate year. This program also involves a series of workshops, a Bain mentor a possible offer for their Associate Consultant role.



CONSULTANCY

“Solving the world’s biggest problems requires instinct and imagination. This is BCG”



ABOUT US

The Boston Consulting Group is an international strategy and general management consulting firm whose mission is to help leading corporations create and sustain competitive advantage.

As a truly international firm, our strong global presence offers clients and employees a wealth of cross-cultural experience. We partner with clients in all sectors and regions, with particular strength in technology, media and telecommunications, health care, industrial goods, consumer, energy, financial institutions, insurance and public sector.

Projects are getting larger, riskier, and more complex, yet little progress on innovation and productivity has been made over the past 50 years. In such a market environment, delivering projects on time, on budget, more efficiently, and more reliably are today’s top priorities.

Leading firms are relying on new ways of delivering projects, employing advanced building materials and construction methods, implementing better lean operations on-site, and adopting smart technologies.

ABOUT YOU

BCG recruits Associates to join any of their Australian offices, and be a part of real-world consultancy projects and overseas markets.

The hired Associates range from degrees in music, philosophy and medicine to the more traditional STEM fields like law, engineering and commerce, and hence is a brilliantly diverse workplace to start your career.

BCG adores undergrads with outstanding academic records, strong analytical and interpersonal skills, intellectual curiosity, and great ambition, so if that sounds like you, consider applying!

JOIN US

BCG offers a scholarship to students with at least one further year of study in their respective degrees. BCG provides experience and exposure to:

- Diverse case teams
- International experiences

SCHOLARSHIP

- Personal mentoring and Individual training
- Opportunity for personal development

For more information visit:

www.bcg.com/enau/careers/apply

www.linkedin.com/company/the-boston-consulting-group



CONSULTANCY

“To deliver on the promise of technology and human ingenuity”

ABOUT US

Across the globe, one thing is universally true about the people of Accenture: we care deeply about what we do and the impact we have on our clients and communities. It is deeply personal to us. An Ireland-based multinational company, we specialise in professional services in information technology and consulting. We now work with 91 of the Fortune Global 100. As of 2020, we've made 18 consecutive appearances on the list of Fortune's "World's Most Admired Companies". And that's just the beginning.

We are everywhere: right from applications and business strategy to infrastructure and technology to supply chain management to ecosystem services and sustainability cases.

ABOUT YOU

When it comes to new employees, we believe that you should do what makes you proud to be you. Coding. Making art. Fixing a process. Volunteering. Whatever your passions are, you can turn them into a force for change at Accenture.

Gear up for purposeful and fun work where you'll get to:

- Help many of Australia's iconic companies prosper in an ever-evolving world.
- Collaborate with diverse people who inspire you to be the best, authentic you.
- Thrive at work and in life with flexible ways of working.
- Contribute to projects that help make the world safer, greener and more equal.
- Grow and advance your career with continuous, personalised learning.

Achieve more than you thought you could. Join us!

JOIN US

Accenture offers graduate programs as well as internships. We also offer opportunities to students currently studying at university. The Accenture Graduate Program for 2023 is open to Australian citizens and permanent residents. Applications open from March 2, 2022 to April 3, 2022.

INTERN

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Find out more:

<https://www.accenture.com/au-en/careers/local/earlycareers-home>

About Us

The Institution of Chemical Engineers (IChemE) is a not-for-profit, member-led qualifying body and learned society for chemical, biochemical and process engineers, and is permitted to award the widely recognised Chartered Chemical Engineer titles as well as the Professional Process Safety Engineer registration.

IChemE sets the standard for chemical engineering and process safety through a range of membership grades, registrations, publications, and training for those seeking to improve their professional status, enhance their learning and network with peers.

As a graduate you will benefit from IChemE membership whether you are going into postgraduate study, looking for a job or starting your career.

Finishing your degree is a great achievement, but when you start work you will be expected to stay up to date with the latest knowledge in your field, learn new skills and make useful contacts – all of which will help your career.

The Benefits

Members receive a free subscription to the latest news, technical articles and job opportunities in The Chemical Engineer magazine and website (www.thechemicalengineer.com). In addition, members get online access to the e-library containing hundreds of textbooks, databases and problem-solving tools.

Additional benefits include:

- Networking, events and webinars via regional member groups and technical special interest groups
- Free student resources including our Job-Hunters survival Kit and Student Pocketbook
- Preferential rates on IChemE conferences, courses, journals and books
- Special postgraduate student membership rate (Send your course information to members@icheme.org)

Why Join?

Take advantage of your networks and utilize opportunities to learn from other peoples experiences and pathways they developed their careers.

We provide support to help you achieve your career goals, including study aids, access to the latest news, and jobhunting tips.

IChemE membership signals a commitment to professionalism, knowledge, and connection with a powerful international network.

Contact Fiona O'Connor on either austmembers@icheme.org or foconnor@icheme.org for more information!

Post-Grad Study

Members get free online access to IChemE journals. Simply log in to My IChemE at www.icheme.org to get access to the latest research!

Your Goal

Take advantage of your networks and utilise opportunities to learn from the experiences of other people and the pathways they used to develop their careers.

Student Membership

As a Student Member you have access to membership benefits such as;

- www.thechemicalengineer.com
- Knovel e-library
- IChemE journals
- Networking with regional member groups and special interest groups.

Start Your Career

Many employers look for membership of a professional body when reviewing job applications.

You can stand out by highlighting your IChemE membership grade and/or post-nominals on your CV and digital signature.

Job Hunting

If you have finished your undergraduate degree and have started looking for a job, here are a few things that may help:

- Visit www.icheme.org/job-hunters and download our Job-hunters survival kit for information and advice on looking for jobs, writing a CV or attending interviews.
- Join the lively IChemE social media community on LinkedIn, Facebook and Twitter.
- Become an Associate Member and use the designatory letters AMIChemE on your CV and digital signature.
- Join a special interest group (SIG) that appeals to you. You will receive a free subscription to one SIG as part of your membership subscription.
- Log in to the My IChemE members area at www.icheme.org to choose or change your free special interest group.
- Discuss your employment options with a recruitment consultant – preferably one who works within the relevant industries as they will be experts on what employers expect from potential graduate recruits.

**ENGINEER
PROFILES**

The text 'ENGINEER PROFILES' is rendered in a bold, white, sans-serif font. The letters are interconnected by a network of thin white lines and small white circular nodes, resembling a molecular structure or a digital network diagram. The background is a dark teal gradient.



JESSE HUDSON GIVENS-LAMB

Alumni

“SAY YES TO OPPORTUNITIES AND KEEP DOORS OPEN”

In a few sentences give a brief description of your career, experiences and research interests

I interned in Food Manufacturing before getting a graduate role in Management Consulting with EY. I worked with EY for three years before pivoting careers into teaching through Teach For Australia.

What are some of your current projects?

In teaching it definitely feels like each of my classes are their own project in a way! I try to help a diverse range of learners with a range of abilities to learn, grow, and develop in a positive environment.

At EY I worked in Supply Chain and Operations and worked in projects across a number of industries (health, construction, government, energy and minerals, etc.). These problems were very broad, but often involved analysing data, talking to stakeholders, and developing a report with our recommendations. Other projects were a bit more “hands-on” working with the clients directly on their own projects and acting as a Subject Matter Expert and extra pair of hands.

What is one aspect of SMUCE that has helped you or could help younger undergrads?

SMUCE is a great way to get insights from people in industry and research, connect with other engineers, and also to start developing some extra curricular experience (join the committee!).

“ENGINEERING IS PROBLEM SOLVING & COMMUNICATION”

RABEEH GOLMOHAMMADZADEH

Alumni



“[ENGINEERING IS] ABOUT TURNING WASTE INTO TREASURE”

In a few sentences give a brief description of your career, experiences and research interests

I have been working on the e-waste recycling; in particular the recycling of spent lithium-ion batteries, waste printed circuit boards and waste magnets since 2011. For a complete recycling of e-waste stream I use multidisciplinary techniques mostly focused on hydrometallurgy (leaching, solvent extraction, electrochemistry, metal refining), bio-hydrometallurgy (fungal and bacterial leaching), solvometallurgy, and mechanical recycling (dismantling, crushing, sorting, and froth flotation).

What are some of your current projects?

- Recovery of rare earth elements from waste NdFeB magnets and fly ash
- Recycling of spent lithium ion batteries using novel solvents

What is one aspect of SMUCE that has helped you or could help younger undergrads?

Providing professional opportunities for undergraduate students to build upon the skills needed to help their career development.





OMAR ELSERNAGAWY

Alumni

**“THE [SYSTEMATIC] THINKING AND STRUCTURED APPROACH
WAS MY GREATEST TAKE FROM CHEMICAL ENGINEERING”**

In a few sentences give a brief description of your career, experiences and research interests

I am a Project Manager at Aurecon currently working on delivering a major capital program for the Department of Health. Alongside managing contractors, schedules and costs, I get most excited about continuous improvement and enabling data driven decisions throughout the program delivery.

My experience includes pharmaceuticals manufacturing, where I focused on product lifecycle management as well as continuous improvement of the Quality system and manufacturing processes.

What are some of your current projects?

I am currently working on a major capital program to deliver ambulance stations across Victoria, where I am part of the project and program management team. A really interesting part of program management for me was facilitating risk management workshops, as well as putting together a performance tracking dashboard to improve our project controls/delivery.

What is one aspect of SMUCE that has helped you or could help younger undergrads?

SMUCE was great for networking and hearing about what chemical engineers are doing in the industry. Networking helped me the most (especially as I was an international student), so try to do it as much as possible! Also try joining a professional association, they are usually free for students and sometimes even grads.

GARV BHARDWAJ

Alumni



“CHEMICAL ENGINEERING ENCAPSULATES ALL THE FUNDAMENTAL THINKING THAT GOES INTO SHAPING CIVILISATIONS”

In a few sentences give a brief description of your career, experiences and research interests

I am a PhD student at Monash University who graduated from completing my Bachelors in Chemical Engineering. I love advocating for climate change and have been part of various projects relating to Carbon Capture Storage and Utilisation.

What are some of your current projects?

I am currently working on reactor design and optimisation for novel catalytic CO₂ conversion process as part of my doctoral program. My research aligns with the Woodside Monash Energy Partnership, where I also worked on biochemical CO₂ conversion.

What is one aspect of SMUCE that has helped you or could help younger undergrads?

SMUCE provides the one-stop spot to every chemical engineering undergrad. The networking opportunity provided by SMUCE will help students to engage with fields of their choice and make a better decision for their careers.

What is one killer tip or opportunity that the readers should learn from?

Explore the variety of chemical engineering Monash and the wider community offers. Always step forward and engage, whether it is your peers, seniors, academics or engineers.





ADAM HAYES

Alumni

“IT’S NOT ABOUT THE MARKS, FOCUS ON YOUR RESUME AND GET INVOLVED IN CLUBS”

In a few sentences give a brief description of your career, experiences and research interests

I was a graduate Process Engineer for Glencore Coal Assets Australia (GCAA) for 12 months at a some of their QLD wash plants and I now work for a minerals processing EPC company; Mincore, in Melbourne.

What are some of your current projects?

Detailed design for the addition of extra flotation cells to a gold facility in PNG.

What is one aspect of SMUCE that has helped you or could help younger undergrads?

SMUCE helps students by bridging the gap between uni and industry.

What is one killer tip or opportunity that the readers should learn from?

It’s not about the marks, focus on your resume and get involved in clubs (e.g. SMUCE). Recruiters are a lot more interested in that. I also highly recommend learning how to cross reference.

DR. PARAMA CHAKRABORTY BANERJEE

Researcher



“BE PASSIONATE ABOUT YOUR CRAFT”

In a few sentences give a brief description of your career, experiences and research interests

Analysis of multi-scale electrochemical processes and design of new materials for next generation energy storage, recycling of e-waste and corrosion. Energy storage systems comes in various length-scales and are essential in most electronic systems (from wearable sensors to electric vehicles to off-grid storage of renewable energy). The challenge is to develop cost efficient environmentally friendly energy storage systems.

I collaborate with various industry partners and government organisation (like CSIRO) to mitigate this challenge. Another key area of my team’s interest is in the area of e-waste recycling. My research team also has immense interest in understanding electrochemical corrosion and designing anti-corrosion coatings for of various metallic systems used in aerospace and automotive industries.

What are some of your current projects?

- Next generation high performance batteries
- Battery recycling

Do you offer any vacation work or other opportunities for students to join your research team?

Interested students can apply anytime to join a PhD or a masters project with us.





ASSOCIATE PROFESSOR AKSHAT TANKSALE

Researcher

“[ENGINEERING IS] SHAPING THE WORLD”

Give a brief description of your career, experiences and research interests

My research group is broadly categorised into three platforms – (1) Carbon Conversion Platform, (2) Biorefinery Platform and (3) NanoCatalyst Platform.

In (1) we are focusing on developing pathways for the conversion of (a) CO₂ into chemicals and fuels, (b) biomass into syngas via catalytic reactive flash volatilisation and further conversion of syngas into fuels and chemicals via catalytic pathways. This research spans from fundamental to applied catalysis where we are investigating the role of catalysts and solvents at molecular level on the reaction mechanism and energetics. Some of the breakthroughs in this area include first report of direct hydrogenation of CO and CO₂ into formaldehyde and its derivative (poly) oxymethylene ethers (a diesel substitute) using water and methanol as solvent; and first report of tar-free gasification of lignocellulose and microalgae into synthesis gas in a single millisecond reactor.

In (2) we are developing pathways for the utilisation of biomass at low temperature and high pressure liquid phase catalytic reactions to produce functional molecules. This is an applied catalysis research

including green and sustainable chemistry. (2) also includes research on waste valorisation via hydrothermal and microwave assisted methods. Our latest results in this field include reactive fractionation of lignocellulose into cellulose, hemicellulose and lignin; conversion of cellulose and hemicellulose into value added chemicals like 5-HMF and furfural.

In (3), we are working on synthesis of nano-, subnano- and single site-heterogeneous catalyst development and their characterisation.

This research spans from fundamental to applied nature. Here we are working on developing fundamental understanding of the catalytic properties. We have recently developed mono-dispersed Ru nanoparticles encapsulated in metal organic frameworks which are highly active for low temperature reactions.

To underpin the catalytic science and engineering, the effects of catalysts and solvents on the reaction mechanism and kinetics are investigated using state of the art X-ray techniques (XAS, RXES, wet-RIXS, SAXS, and WAXS) and small angle neutron scattering (SANS) methods.

What have you studied or what programs have you been a part of that helped you to get where you are today?

I've done Bachelor of Engineering from India, and Masters and PhD from University of Queensland (UQ), followed by postdoctoral work at UQ before joining Monash University as an academic.

What are some of your current projects?

I am currently working on one of the grand challenges of our times. Reducing the CO₂ levels in the atmosphere and using that carbon to make all the products we use today. This requires Direct Air Capture (a process of recovering CO₂ from the atmosphere), and converting that CO₂ in fuels and chemicals. We have already shown that we can make diesel range fuel, and chemicals like formaldehyde

and acetic acid, which are used in over 50 industries as a feedstock for other products. We would like to explore more opportunities for CO₂ conversion into other valuable chemicals and fuels, in addition to continuing to innovate in the current projects to make them commercially viable.

What is the most important piece of advice that you could give to young chemical engineers?

Chemical Engineering is much broader than the courses we learn and teach at the university. It is what makes the world work. While it has improved our quality of immensely it is unfortunately also responsible many environmental disasters. Using the same chemical engineering principles we can solve these challenges and make our world Greener, Safer and Cleaner.

Do you offer any vacation work or other opportunities for students to join your research team?

Yes. Opportunities are available as Summer Research Projects, Final Year Projects, Internships or Higher Degrees by Research (Masters or PhD)

ASSOCIATE PROFESSOR WARREN BATCHELOR

Researcher

**“THE BEST SOLUTIONS COME FROM BROADLY BASED TEAMS,
VALUE EVERYONE’S CONTRIBUTIONS”**

In a few sentences give a brief description of your career, experiences and research interests

I originally came to Monash to work at what was then the Australian Pulp and Paper Institute, following a postdoc position at UBC. Since 2010 I have shifted focus to the new area of cellulose nanomaterials. This is a green nanomaterial with unique properties. Trees are built from cellulose nanomaterials.

What have you studied or what programs have you been apart of that helped you to get where you are today?

I did a postdoc at UBC in Canada funded by an industrial consortium. This intersection between academia and industry was a valuable experience.

What are some of your current projects?

Cellulose nanofibres are a green nanomaterial made by breaking down cellulose containing fibres such as from wood or straw. We are focussed using cellulose nanofibres to develop a) oxygen and water barriers to allow us to replace current plastic packaging and b) composites for environmental applications such as the destruction of persistent pollutants.

Do you offer any vacation work or other opportunities for students to join your research team?

Yes, I am always happy to discuss possible vacation or Masters/PhD projects.

ASSOCIATE PROFESSOR VICTORIA HARITOS

Researcher



“FOLLOW YOUR INTERESTS AND BE A LIFE LONG LEARNER”

In a few sentences give a brief description of your career, experiences and research interests

I joined Chemical and Biological Engineering, Monash University around 7 years ago after working at CSIRO for many years researching everything from grain protection to materials and energy biotechnology. I've worked closely with industry, especially the food and energy industries, and also undertaken

fundamental research in areas like protein discovery and engineering so have broad interests and experiences. In research, I want to use biology effectively to deliver good, sustainable chemical engineering outcomes. Often this means overcoming the inherent unpredictability of biology.

What have you studied or what programs have you been apart of that helped you to get where you are today?

I have undertaken a variety of study and training programs. Aside from the common bachelors, masters and PhD programs,

I've also trained as a weather observer for the Bureau of Meteorology and am an amateur entomologist.

What are some of your current projects?

Food: converting fruit and vegetable waste into foods and beverages to support gut health and other high value products; Biomaterials: Functionalising polymers like cellulose using enzymes;

Synthetic Biology/biotechnology: engineering yeast and bacteria for novel bioproduction and utilising C1 molecules or electrosynthesis to improve productivity

Do you offer any vacation work or other opportunities for students to join your research team?

Yes, for both industry-related and pure research projects.





PROFESSOR RAVI JAGADEESHAN

Researcher

**“WORK VERY HARD TO BECOME THE WORLD’S LEADING
EXPERT IN YOUR FIELD...THE REST IS EASY!”**

Give a brief description of your career, experiences and research interests

I have been at Monash since January 2001. Before joining Monash, I was an Associate Professor at the Indian Institute of Technology, Madras, and did postdoctoral work on Sandpile dynamics with Prof. S. F. Edwards at Cavendish Laboratory in Cambridge, and on Polymer solution rheology with Prof. H. C. Öttinger at ETH Zürich. I was a Humboldt Fellow in the Techno-Mathematik Department at the

University of Kaiserslautern in 1999/2000. My research is focused on developing a theoretical and computational description of the flow behaviour of polymer solutions using a multiscale approach that combines molecular simulations at the mesoscopic scale with continuum simulations on a macroscopic scale. I am also interested in applying methods of soft matter physics to studying problems in biology.

What have you studied or what programs have you been a part of that helped you to get where you are today?

My Bachelor's, Masters and PhD degrees are in Chemical Engineering, but I have worked closely with Physicists after completing these degrees. Since Chemical Engineering deals with processes and phenomena on a wide variety of length and time scales, its

concepts and methods are relevant and applicable in many different fields. Having a background in Chemical Engineering has been a great advantage since it has enabled me to collaborate fruitfully on interdisciplinary research projects with experts from different fields.

Do you offer any vacation work or other opportunities for students to join your research team?

My experience has been limited entirely to teaching and research, so I can only give advice to students who wish to pursue this path as their career. That would be...choose a good research supervisor in a good lab for your PhD, and work very hard to become the world's leading expert in your field... the rest is easy!

What are some of your current projects?

Students in my group are currently working on the following projects.

The rheology of sticky polymer solutions: Associative (sticky) polymers are macromolecules with attractive groups, which are used in a wide variety of applications because the interactions between the attractive groups can be “tuned” by varying their number, strength and location on the polymer. This provides a means of exquisitely controlling the physical properties of associative polymer solutions. The aim of this project is to understand how microscopic topology and the strength/number of intermolecular interactions control the flow behaviour of associative polymer solutions.

Computing the dynamics of chromatin folding: Chromatin is a packaged form of DNA, which in humans has a contour length of approximately two meters. The packaging of chromatin in the cell is achieved with a large number of proteins that bend and fold DNA to induce local curvature. In order for life processes to go on, chromatin needs to be unfolded and refolded dynamically so that it can be read, repaired and replicated repeatedly. Nearly nothing is known about how the unfolding and folding happens, and the precise sequence of events during folding and unfolding. The aim of this project is to develop a multi-scale computational model that can predict the dynamics of chromatin packaging on the scale of many genes.

Monitoring drug binding in cells for enhanced drug discovery: There is an impending crisis in the practice of medicine since the treatment of routine infections may no longer be possible because of increasing prevalence of drug resistant bacteria. Drug discovery is a major focus of current research to deal with antimicrobial resistance, but an equally important challenge is to develop new analytical methodologies to screen potential drugs against cellular targets. Using a multidisciplinary approach combining molecular simulations with

single molecule fluorescence microscopy and flow oriented spectroscopy, this project aims to extract the maximum level of dynamic structural binding information from linear dichroism spectra, so it can serve as a quantitative screen of drug binding to molecular targets in bacteria.

Modeling Dynamics and Flow for Soft Fibre Systems: The flow and texture of soft and self-assembled systems is implicated in phenomena as diverse as shampoo formulation and the functioning of proteins in biological cell membranes. Crucially, the ability to link nano- and micro-structure to bulk properties is an outstanding issue. The primary aim of this project is to construct a computational model that can predict the bulk flow properties of complex fluids comprising wormlike chains or soft fibres, which are relevant to personal care products and drilling fluids.

Modeling sub-diffusive motion of bacteriophage within mucus: Mucosal surfaces are the primary zones where animals meet their environment, and thus also the main points of entry for pathogenic microorganisms. Within mucus, the predominant macromolecules are large mucin glycoproteins. The biophysical and biochemical properties of individual mucin chains determine the gel properties of the mucus layer. Recent research has demonstrated that bacteriophages – viruses that infect and kill bacteria – adhere to mucosal surfaces and exhibit sub-diffusive motion in mucin solutions, which enhanced their encounter rates with bacterial hosts, providing increased antimicrobial effects and protection against bacterial infection and disease. The aim of this project is to simulate a mucus environment and the interactions of mucus-adherent and non-adherent phages with the mucus network. How these adherence mechanism results in sub-diffusive motion and how this motion increases the phages antimicrobial effects is an interesting and yet to be solved problem that has important implications for fundamental biology and biotechnology applications.



NOTE FROM THE DESIGNER



It was an honour to be given the opportunity to be lead designer for the 2022 SMUCE Careers Guide. Working alongside Elena and Jacqui, I was able to catch a glimpse of how dedicated the SMUCE Committee is to creating this valuable resource for their fellow Chemical Engineering Students at Monash.

I'm currently completing my final year of the Bachelor of Design degree through MADA and undertook this role eager to gain experience in publication design, layout and illustration. This opportunity allowed me to implement the skills and design thinking strategies that my brilliant tutors have instilled in me over the past two years of my degree. I've learnt lots through this experience about working with a client, and am extremely grateful that my first major design role was with such an enthusiastic and passionate group of fellow Monash students.

The design of this Guide is intended to be professional but approachable, encouraging Chemical Engineering students to take the next step in their career journey and equipping them with the necessary tools to do so.

I hope you enjoyed reading the 2022 Guide and I look forward to seeing what SMUCE and the students of the Monash Chemical Engineering faculty achieve in the future!

Sienna Fernando

Email

sienna.j.fernando@gmail.com

Instagram

[@siennajoy.design](https://www.instagram.com/siennajoy.design)

Designed by
Sienna Fernando

Written and Edited by
**Jacqueline Greer,
Elena Pereira and
The SMUCE Committee**

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The 2022 SMUCE Chemical Engineering Careers Guide aims to provide both undergraduate and postgraduate students with useful information, hints and advice on career and research opportunities relevant to Chemical Engineering.

This Guide is not intended to be comprehensive. The information in this Guide was compiled by contacting each company/researcher and meticulously noting down information deemed necessary and beneficial for future cohorts of chemical engineering aspirants. The information in this Guide is the compiled information from the companies/researchers and does not represent the opinion of SMUCE or Monash University.

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