



ENGINEERS
AUSTRALIA

Inspiring our Future Engineers

School Student Engagement Programs
for Years 7-12

Current Activities & Dates for 2022

how to make a difference

Get involved

- Check the Calendar of Events next page and take note of key dates.
- Read through the information enclosed, and find out where your involvement can make a difference.
- Register your interest below, and receive program updates & information

Please contact Caryn Morgan on cmorgan@engineersaustralia.org.au to discuss!

First things first!

APPLY

Working with Children Certification

You will not be able to visit schools or work on our programs without this.

Apply as a Volunteer - it is free and certification lasts 5 years!

The majority of the process is online - followed by a quick visit to Service NSW for verification.

Years 7-10

The **aim** is to help students discover the relationship between Maths and Science, and to understand the clever ways Engineers use this knowledge and their technical skills to solve problems.

These immersive programs are facilitated by University Students and Engineers directly into classrooms via Zoom.

We need Engineers & Engineering Students in classrooms to assist students and teachers, to chat about their work, and have fun!

You will always be supported by EA staff who arrange these immersions, and organise access.

Years 10-12

- what HSC subjects should I select? What level of Maths do I need to study?

- which degree? and which University?

These are big decisions facing students in Middle & Senior School and it is often a time of high anxiety.

Our **aim** is provide insight into the vast opportunities that lie ahead for students under the umbrella of Engineering.

Through online story telling, and physical site visits to Universities and Engineering organisations and projects - we aim to provide information to support students making these important life decisions.

We need Engineering Students & Engineers to tell their stories, to talk about their Engineering journeys and dreams.

Register your interest, as an Individual

By selecting your areas of interest we can target your engagement. *Invite other Engineers in your team & networks* You will be asked to state the suburb you live in, and the location of work - so that we can let you know of opportunities close by!

[CLICK HERE](#)

Register interest as an Organisation

We are building an **Engineering Directory** full of organisations wishing to support Student Engagement.

- Work Experience for Year 10 students
- Small or Large Site Inspections
- Placements for University Students in 2nd and 4th Year
- Guest speaker at University

[CLICK HERE](#)

Contact: Caryn Morgan

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Office of the
Chief Scientist
& Engineer

Current Events Calendar 2022

New South Wales & ACT Schools:

Engineers Australia with the support of our Industry & University partners, aims to continue to deliver experiential activity opportunities for school students in a combination of face-2-face and online events.

Discover Engineering & Experience it! for Years 7-10 will continue as "hybrid" events with sessions zoomed into classrooms to continue vital student engagement.

We need University Students & Engineers to visit participating schools to assist students and teachers.

Engineering your Future returns for the 3rd year as QUICK CHATS a series of small informal video chat sessions between school students, University students & Engineers.

- What made you decide to be an Engineer and what is it like? What did you study? What are your plans?

We need University Students & Engineers from all disciplines involved

DATE	EVENT	Years
19-22 April	Autumn School of Engineering 4 day program visiting Universities & Industry projects	Year 12
July - November	QUICK CHATS - 7 Undergrads, 7 Engineers, 7 minutes - series of Video Chat Sessions <i>In planning</i> - online small group video-chat sessions between school students, Engineering Students, Grads & Engineers. <i>Think live video "speed dating"...</i>	Years 10-12
31 May	Discover Engineering livestreamed with Engineers in the classroom	Years 7-10
June	Girls Talk - Women in Engineering Newcastle Division Hybrid event incl. University of Newcastle & Hunter TAFE	Years 7-12
4-8 July	Winter Engineering School 5 day program visiting Universities & Industry projects	Year 11
9 August	Discover Engineering livestreamed with Engineers in the classroom	Years 7-10
27 Sept.	Experience It! for female school students Years 7-10 on Campus@UTS & livestreamed into classrooms	Years 7-10
11-16 Dec	Engineering Summer School 2022 5 day fully residential Engineering immersion - visiting 5 Universities; 5 Engineering projects/organisations.	HSC Year 2023

NB: There will be an additional Discover Engineering Session in Oct/November

We thank the **Office of NSW Chief Scientist & Engineer** whose enthusiastic support enables our NSW schools engagement programs to reach thousands of school students every year.



Engineering is the practical application of Science & Mathematics for the benefit of the community. Engineers use Maths & Science to solve world problems – it is the clever ways that engineers use their knowledge that makes them unique.

– UNSW Dean of Engineering, Prof. Mark Hoffman.



Programs for Years 7-10

In 2020 both Discover Engineering & Experience it! were reimaged and successfully delivered online, zoomed into classrooms across NSW & ACT.

The resulting increase in overall attendance numbers, and by schools in Greater Sydney and across NSW /ACT means that these programs will continue to be facilitated online.

In 2022 - we want Engineers & Engineering Students visiting participating schools - helping and inspiring our Future Engineers!

Get Involved!

A list of participating schools will be released at least 1 month prior to each event. - with activity times and details listed

- If you live or work in close proximity - let us know! select a workshop and join in the fun!

Discover Engineering *(facilitated online activity, zoomed into classrooms)*



Full Day Immersion & Workshop For Years 7, 8, 9 & 10

The day consists of 3 activities/challenges for school groups to complete. The activities are facilitated by students from Western Sydney University, Cool Aeronautics, IEEE (Institute of Electrical & Electronic Engineers) Live via Zoom.

- Technical & specific equipment required is provided to all participating schools
- Where & when possible, students & Teachers will be supported by Engineers in their classrooms.

Key Learnings:

- The Engineering Design Process - how Engineers apply "design thinking"
- Use EDP to create your own designs, then build, test, and innovate.
- Use your Maths & Science knowledge + Technical skills to solve set tasks!

Discover Engineering is supported by the Office of NSW Chief Scientist & Engineer WestConnex | Transurban

WestConnex | **Transurban**

Experience It! *(facilitated online activity, zoomed into classrooms)*



Full Day Immersion & Workshops for female students from Years 7, 8, 9 & 10

For girls who love to solve problems, are creative, and want to make a difference in the world! 6 university teams collaborating with 6 engineering organisations to facilitate group activities.

Led by Engineers Australia's Women in Engineering - we aim to inspire girls to know that they can achieve many, and great things. 3 facilitated workshops allowing students to apply their logic, maths, science & technical skills to solve set tasks. This is what Engineering is all about!

- Technical & specific equipment required is provided at no cost

Supported by the Office of NSW Chief Scientist & Engineer; WestConnex | Transurban, the Longstaff/Cynloch Family Trust

WestConnex | **Transurban**



PLAN B for Years 9-12

Engineering your Future 2022 Students Years 9-12



School Students chat sessions with Engineering Students & Graduates

"**Engineering your Future**" a series of interactive webinars held through 2020 and 2021 - has been successful in providing thousands of students with insights into iconic companies, and nation building projects as presented by the Engineers key to their delivery and success.

In 2022 a student led format "**QUICK CHATS**" 7 Undergrads, 7 Engineers, 7 minutes

- with small group chats via Video link.
- It will be a permanent PLAN B - ensuring great engagement opportunities that can withstand whatever 2022 may throw our way!

- Small groups of school students chatting with University students studying in many of the key Engineering disciplines to get a better understanding of University life as well as hints on HSC survival!
- Numerous opportunities for school students to speak with Graduates and Professional Engineers working in the huge variety of areas which come under the umbrella "Engineering"
- Special events focussing on:
 - Which Engineering discipline?
 - Which University
 - Mega Projects;
 - Quantum, Space, Digital & other future technologies;

So what do Students, Teachers & Parents want to know??

Common Questions:

- What is Engineering? Why did you choose Engineering?
- What subjects should they be studying? To Year 10, and in Year 11 & 12?
- What are the Tertiary study options? TAFE v. Degree
- What surprised you most about Engineering?
- What is the most satisfying project you have been involved in? and what was the worst!If
- I choose to study one discipline does that mean I am stuck? can I transfer courses/unis?
- After graduation can I try other Engineering disciplines or do I need to go back to Uni?
- What does the future look like? IoT, digital, systems and of course Quantum



The "Schools"

Get Involved: Be a part of the "Engineers, Careers & Pizza" evenings!

Engagement: Graduate & Early Career Engineers to chat with small groups of Year 11 & 12 students on rotation!

What to talk about? What you made you decide to study Engineering? What was Uni like? What was your first job like? What is it like working where you do? An unexpected challenge you overcame ; What has surprised you about Engineering?

Autumn School of Engineering



Tuesday 19 - Friday 22 April - for Year 12 Students

Engineering immersion for 60 x Year 12 school students studying Science, Technology, and Maths - how Engineers take this knowledge & these skills, to make a difference to the community.

Students enjoy immersive workshops and "behind the scenes" opportunities at University of Sydney, University of NSW, UTS, Western Sydney University, Macquarie University ; and where possible Engineering sites including RAAF Richmond, UGL/Metro Trains Sydney etc

Attn Engineers! - "Engineers, Careers & Pizza" is on Thursday 21 April 2022

Winter Engineering School



Monday 4 - Friday 8 July 2022 - for Year 11 Students

Engineering immersion for 100 x Year 11 school students studying Science, Technology, and Maths - how Engineers take this knowledge & these skills, to make a difference to the community..= Find out more about the great opportunities and scope represented by Engineering.

Students enjoy immersive workshops and "behind the scenes" opportunities at University of Sydney, University of NSW, UTS, Western Sydney University, Macquarie University

Attn Engineers! "Engineers Careers & Pizza" is on Wednesday 6 July

Engineering Summer School 2022



Sunday 11 - Friday 16 December 2022

Fully residential school for students sitting their HSC/IB in 2023.

The Engineering Summer School supported by the Office of NSW Chief Scientist & Engineer, has been running for 23 Years and is Engineers Australia's premier schools program.

100 Students from across NSW & ACT gather in Sydney to experience a fast paced and exacting program. They meet Engineering students & Lecturers from 5 Universities, and visit 5 iconic companies - meeting the Engineers working there. They "find their tribe" of like-minded young people who want to make a difference in the world, and the relationships they make during the week endure.

Attn Engineers! "Engineers, Careers & Pizza" is on Wednesday 14 December

Girls Talk evening - June 2022

For school girls from Years 7-12



Come to our 'Girls Talk' evening in Newcastle where you'll hear from female engineers from various specialty areas including some you might never have even heard of! They'll share information on projects they've worked on, give a snapshot of what their day to day engineering life entails, tell you where their career has taken them and what inspired them to choose engineering as a profession.

This presentation is for female students from years 7-12 who are interested in a career in engineering, maths or science or just want to hear what engineering is about. Bring along your parents or your Maths & Science teachers. You'll have the chance to talk to representatives from the University of Newcastle and the Hunter Institute of TAFE about course information and the best subjects to select.

Contact Vincent Guo, STEM Coordinator, Newcastle office via email newc@engineersaustralia.org.au

Engineering Studies Teachers support program



Engineers Australia's Newcastle Division has been supporting Teachers across NSW for over 5 years.

Following the Year 11 & Year 12 Syllabus our Engineers offer Teachers support by providing the latest Industry updates; innovations; case studies and resource materials. They have compiled over four years of great content that is continuously updated and available for Teachers to access.

Would you/your company be interested in supporting Teachers with engaging and relevant case studies & resources?

Contact Vincent Guo, STEM Coordinator, Newcastle office via email newc@engineersaustralia.org.au

Other opportunities

Inspiring engineering futures – in the classroom!

Engineers Australia's members to engaging with students in the classroom!

We are often asked to arrange Engineers to visit and inspire school students by:

- Kicking off a Syllabus topic - eg: sustainability, electrical circuits, biomedical etc etc
- Talking about what it is like to be an Engineer to students during lunchtimes!
- Mentoring students or assisting with their Depth Studies

You will always be supported by EA staff in arranging these immersions, and organising access.

Career nights & careers fairs

Engineers Australia is involved in various school cluster careers nights across New South Wales & Australian Capital Territory.

Careers Fair season runs between **April - August**. There is a huge demand for EA presence, but limited capacity. All Unis are present, so EA supports them by providing vital information about why study Engineering? and about the breadth of the profession and wonderful journeys possible!

During March, a calendar of Careers Fairs will be provided

- if a school is close to your home, or work - please let us know!!
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Caryn Morgan

Engineers Australia

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NSW
GOVERNMENT

Office of the
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Engineers Australia extends our thanks & appreciation
to the

Office of NSW Chief Scientist & Engineer
WestConnex | Transurban
The Cynloch Family Trust

and

our Universities & Industry Partners,
Young Engineers Australia & Women in Engineering
Division Committees & Sub Committees

Affiliated Engineering organisations,
and the Engineering profession,
for their ongoing support of our
NSW & ACT Schools Engagement program.



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