

# Engineering, Design and Computing School Holiday Program

Tuesday 25 - Friday 28 June 2024, 8:45am - 3:00pm

## Welcome to our school holiday event!

You will learn to think like engineers, architects, designers and planners, and computing professionals through hands-on and interactive workshops and presentations, facilitated by lecturers and our wonderful Student Ambassador team.

You'll also have the chance to explore UQ's engineering, design and computing precinct including the state-of-the-art makerspace facilities.

Feel free to ask our staff any questions about our Faculty, studying at UQ, or anything that sparks your curiosity!



# Event schedule

## Tuesday, 25 June - Engineering

Time	Activity	Description
8:45am – 9:00am	Arrival	
9:00am – 9:30am	Welcome Lecture - Intro to Engineering	
9:30am – 9:45am	Introduction to the project and induction	
9:45am – 11:15am	Design and build the fire truck	<b>Fire Truck Build:</b> Spend the day at UQ Innovate building and programming an autonomous fire truck from the ground up. In the afternoon, test your creation in simulated fire scenarios during the competition.
11:15am – 12:15pm	Lunch	
12:15pm – 1:15pm	Design and build continued	
1:15pm – 2:15pm	Testing the fire truck	
2:15pm – 2:50pm	Competition, awards ceremony	
3:00pm	Depart UQ	

## Wednesday, 26 June – Architecture + Planning

Time	Activity	Description
8:45am – 9:00am	Arrival	
9:00am – 10am	<b>Drawing / Sketching Masterclass</b>	Learn to sketch like an Architect. Students will learn not only the sketching technique, but also about the thinking behind the process - e.g. why and how to integrate people and landscape, and how to create a sense of depth in an image, and much more.
10:00am – 10:30am	Morning tea	
10:30am – 12:00pm	<b>Model Building</b>	Building on your design from the sketching masterclass, you will get hands-on and creative and build your design!
12:00pm – 1:00pm	Lunch	
1:00pm – 2:00pm	<b>Neighbourhood Challenge</b>	Students will test their planning skills and design a neighbourhood or a place that meets the needs of the 21st Century. Students will explore concepts of sustainability, liveability and people-centred design.
2:00pm – 3:00pm	<b>Gummy Bear Challenge</b>	Using only gummy bears and skewers, you will work together to design and build the tallest and most structurally sound gummy bear tower.
3:00pm	Depart UQ	

## Thursday, 27 June - Design + Technology

Time	Activity	Description
8:45am - 9:00am	Arrival	
9:00am – 10:30am	<b>Design for a Better World</b>	Discover the importance of designing for the end user. In pairs students will design a product based in each other's needs and wants.
10:30am - 11:00am	Morning tea	
11:00am – 12:00pm	<b>Binary Coding</b>	Computer languages are often referred to as Python, C#, Cobol and more, the computer's original language is very basic and binary, 1's and 0's. In this workshop, students will learn the basics of binary coding and how to create their own code. From there, they will design their own personalised wristband using the code.
12:15pm – 1:10pm	Lunch	
1:15pm – 2:50pm	<b>Geo Location Adventure</b>	In different locations across the University you will be sent on an adventure to different places to explore and find the treasures. Follow the instructions to get to the next location and unlock the set of clues. <i>*Please bring your mobile phone for this workshop.</i>
3:00pm	Depart UQ	

## Friday, 28 June – Engineering

Time	Activity	Description
8:45am – 9:00am	Arrival	
9:00am – 10:30am	<b>Workshop 1</b>	<b>Waves of Destruction:</b> Explore coastal protection by simulating coral reefs and beaches with a mobile wave tank.
10:30am – 11:00am	Morning tea	
11:00am – 12:30pm	<b>Workshop 2</b>	<b>Prosthetic Limb:</b> This workshop promotes medical engineering, fostering lateral thinking and innovation among students.
12:30pm – 1:30pm	Lunch	
1:30pm – 2:50pm	<b>Workshop 3</b>	<b>Powering Tomorrow:</b> Discover concepts behind batteries and hydrogen and its future possibilities.
3:00pm	Depart UQ	<b>Floating House:</b> Students will design and construct budget-friendly floating houses, competing on cost, weight, and durability. <b>Nanomedicine:</b> Create nanoparticles and explore how they deliver life saving cancer treatments to tumors.