



University of
Southern
Queensland

UniSQ Toowoomba Year 9 and 10 Discovery Day

UniSQ Toowoomba

Activity	Description
3D Printing Basics	In this session, tour the Library Makerspace and see facilities for hands-on making with digital fabrication equipment including 3D printers, 3D scanners, electronics and more. Learn the basics of 3D printing, including how to source 3D models, prepare them for printing, choose materials and start printing at home.
Ag Tech for Animal and Plant Production	From smart animal collars to precision planting equipment to apps on your mobile phone, discover how smart ag tech is improving profitability and productivity on the farm.
Becoming a Teacher	Within this session students will explore what makes for a great teacher, how to become a teacher, and why teaching could be the career for them.

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Being cool has never been so hot – Climate Science applications and study options	<p>Welcome to the world of climate modelling, where maths and nature meet to unravel the secrets of our planet's climate. Discover what it's like to study climate science and the world of possibilities available.</p>
Can you Identify a Criminal?	<p>Do you think it is possible to identify a person who has committed crime based on their appearance? In this workshop we discover the answer to this question</p>
Civil Engineering – Building better Bridges	<p>Students will build a bridge using our lego-type kits and measure the internal forces. Groups will compete to build the best bridge for both cost and load.</p>
Creative Arts and Community Wellbeing	<p>Theatre and film are very different mediums for telling stories, but filmmakers can learn a lot about directing actors and action from theatre practice. Get behind the scenes and operate a camera, capture audio and direct and act in scenes, and record it all!. You will also have the chance to talk to a current film student their experience as a UniSQ student and future industry professional.</p>
Discover a Career in Nursing – A Pathway to Many Different Options	<p>An overview from current Nursing students and ambassadors on their journey in Nursing so far - why they chose nursing in the first place, possible pathways, key learnings from their programs and much more, and whether nursing could be the right career choice for you</p>
Electrical Engineering – Constructing Coded Messages	<p>Can we use Lego bricks to communicate? In this session we will be using Lego bricks to encode and decode messages – how many different messages will we be able to send with different brick sets? Which team will devise the most brick-tastic messaging scheme? We will look at how Lego can be used as an analogy for digital communications schemes, including data rate, error checking and acknowledgements</p>



<p>Exploring Science with Plasma Globes</p>	<p>Plasma is the most common state of matter in the universe and was the first state of matter to exist after of the big bang. We don't find plasma on the earth's surface naturally, but it is used in lots of modern technology. Students will explore the concept of plasma with hands on activities. This activity will involve learning about plasma through interactive use with plasma globes. While plasma globes are awesome to have and look at, they teach us a lot about what plasma is, about technology and the world around us.</p>
<p>Filmmaking Workshop</p>	<p>A session centred around learning the basics of working on a film set and gaining the opportunity to make a short film</p>
<p>Gen Z: Creating Change</p>	<p>When we think of important problems confronting the world, we often talk about technological fixes. Change also requires a shift in how we think: creativity is essential to making change work. In this session we explore how humanities and communications make change in the world.</p>
<p>How to get a Head Start on your Future Career</p>	<p>From strategies of self-exploration for supporting decision-making around your dream career, to programs available to you that can give you a taster of university life, this workshop is centred around giving you some foundational knowledge for gaining that Head Start in building your career journey</p>
<p>How to land your first job or dream opportunities</p>	<p>From your dream part-time job to leadership positions at school, how do you communicate why you are the best person for the role. This session will help you craft an application, prepare for the interview and give you the confidence to put your best self forward.</p>
<p>Learning Screen Printing</p>	<p>A session centred around learning the basics of screenprinting to learn a range of skills, including how to make your own t-shirt</p>



Learning Sculpture	A session centred around learning the basics of creating a sculpture.
Mechanical Engineering – Building Mechanical Cars	Students will create a mechano car that will have a motor placed into it to compete for the fastest times on our circuit.
Moisture Monitoring Mastery	Water is the most limiting factor for many of our cropping systems in Australia. The two big questions are: “How much can my soil hold” and “How much water should I apply”. Soil moisture sensors are one way in which farmers can keep track of the soil water balance and decide when their crop needs to be irrigated. In this activity we will get our hands dirty learning about the soil properties and use a soil moisture probe to measure the soil moisture.
Motivating yourself to study	Explore a career as a sport and exercise scientist. Discover how to measure aspects of human performance using scientifically sound methods and discover how this information is used to improve sporting performance. Led by UniSQ Sport and Exercise students, they will share their experiences as current students and future industry professionals.
Occupational Therapy & Allied Health: Exploring Abilities and Accessibility	Most people in Australia live near the coast. But did you know that coastal wetlands are dominated by saltmarsh, seagrass and mangroves that store carbon, mitigate sea level rise, and provide important habitat for fish and bird species? Unfortunately, coastal areas are under immense pressure from developers and climate change that will cause sea levels to rise threatening our coasts, people and homes. We need to protect and restore coasts to prevent erosion. Coastal wetland restoration is important and today you will see why.



Take to the Skies with UniSQ Aviation	In this interactive session you will explore the fundamentals of flight, including - the forces acting on an aircraft; strategies for building a glider; a simulator tour, and photo opportunity
The Magic of Perceptual Shift	Discover how the simple act of adjusting your perception of something will bring about change in your understanding and feelings about that something. This process is often termed as cognitive reframing or perceptual shift. It frequently used in clinical, school as well as stress management settings.
The Physics of Food	Students will produce some food samples and then test mechanical strength of them to learn about the physics of their behaviour
Up Close and Personal with the Sun – Astronomy by Day	Often astronomers spend a lot of time at night looking at the stars but also important is our closest star – the Sun. Observing the Sun's burning face safely through specially designed telescopes, is a fascinating experience — whether it is to see sunspot groups or to watch the powerful ejection of plasma from the Sun's surface. Join our expert astronomer for a unique daytime viewing of the Sun.
What we use AI for	This activity will provide a look into at what applications of AI currently exist, the future of AI, and just how we will start to use AI more in our daily lives
Wildlife Detectives	Australia's wildlife ranges from tiny planigales up to large kangaroos. Work together to work out who is who in the zoo and see what it's like to study wildlife at uni!
Your First Car: Ways to Skin a Common Financial Goal	In this activity, learn some impactful strategies for optimise your financial planning skills, that you can leverage to buy your first car quicker

* Please note: Not all activities are available in all sessions.

Session numbers are limited so more popular activities may fill quickly

