



University of
Southern
Queensland

UniSQ Toowoomba

Year 9 and 10 Discovery Day

Tuesday 14 November 2023

UniSQ Toowoomba, West Street, Toowoomba

| Activity | Description |
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| Brick-tastic communication | Create secret messages using Lego bricks and explore coding concepts such as digital communications schemes, data rate, error check and acknowledgements. How many different messages will you be able to send with different brick sets and which team will devise the most brick-tastic messaging scheme? |
| Can you identify a criminal? | Do you think it is possible to identify a person who has committed crime based on their appearance? What would you look for and are your assumptions correct. The study of criminology explores deep topics and asks very tough questions that are often in direct competition with current political debates and common beliefs. |
| Ceramics Workshop | Hands tell a lot about a person and people use their hands to tell a lot. In this activity you will use clay to construct and join elements to create a hand or claw form. Then you will use sgraffito techniques to decorate the surface of your form. |
| Communication is the key for education | Teachers play an important role in communities. They collaborate with a range of people to understand their learners. They plan and prepare engaging and targeted learning experiences so that every student's learning is maximised. They nurture and support student's wellbeing. They inspire the next generation. In this session, you will explore the key characteristics of an effective teacher to consider why teaching could be the career for you. |

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| Creating a podcast | Explore some of the skills required in the radio and communication industries in this hands-on session. You will create your own podcast and hear from our own UniSQ students. |
| Cross that bridge when you make it | Discover the skills required by a Civil Engineer through our Bridge Construction activity. With limited resources and time, you will construct a bridge using engineering principals. This session will give you a hands-on look at Civil Engineering. |
| Discover Nursing | Explore some of the skills necessary for a career in nursing and find out more about the jobs available in the health industry. In this hands-on session, our UniSQ Nursing Student Ambassadors will also share their experiences as current students and future health professionals. |
| From stage to screen - directing actors | 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. |
| Gen Z creating change | What does the world look like through the eyes of Gen Z? What are the big issues and how can they affect change using strategies such as building agency, global disruption, and storytelling? |
| Getting a Head Start | This session will give you the information you need to get a head start on your studies and even your career. There will be tips on how to study smart, how to research effectively and even how to get a Head Start on your university degree while at high school. |
| How to land the opportunities you want | 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. |



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| Let's build a LEGO race car | Using Lego, a motor you build yourself, plus some duct tape, and mechanical engineering principles, build the fastest Lego race car you can. At the end of the session, there will be a race to see which team will be crowned the winner! |
| 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. Soil sensing is an important part of agricultural technology and agricultural engineering studies. |
| Painting/drawing workshop | You will work with painting mediums to create an abstract or figurative two-dimensional portrait image. |
| Paramedicine skills | Discover Paramedicine at UniSQ. This hands-on session will explore some of the skills required by Paramedics in the field. There will also be the opportunity to meet current Paramedicine students who will share their experiences as students and future paramedics. |
| Plant DNA detectives | All cells contain DNA (deoxyribonucleic acid), molecules that contain all the information needed for living things to grow and function. DNA fingerprinting is a technique that can be used to uniquely identify plant varieties by looking at the patterns in DNA. In this activity students will extract DNA from plant cells and learn about applications of DNA fingerprinting for plant variety identification in plant breeding and forensic investigations. |
| Sculpture workshop | In this workshop, students will work with wire sculpting methods and tools to create an abstract or figurative three-dimensional wire sculpture on a base. |
| Spin off or knock off - the law of intellectual property rights | Discover the law that protects art, music, brands and more. We will watch and listen to works submitted as evidence in real litigation and look at how the court decides whether intellectual |



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| | property rights have been infringed. You will have the opportunity to judge for yourself whether work is a spin off or a knock off. |
| Sport and Exercise Science | 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. |
| Survival of the thickest mangrove: why coastal wetland restoration matters | 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. |
| The effects of cash rate change by the Reserve Bank of Australia | The Reserve Bank of Australia has increased the cash rate 12 times between May 2022 and August 2023. Explore the reason and conditions behind this rapid increase and the impacts on the Australian economy and everyday Australians. |
| The future of aviation | In this interactive session you will explore why innovation is crucial to the future of aviation, and why it is so important to be able to work in teams to solve complex problems. |
| 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. |
| Ultraviolet paper - combining science and art | Ultraviolet radiation is emitted by the sun and has important biological effects on humans and the world around us, however, because we cannot see it or feel it, we don't know how much exposure we receive until it's too late. So how do we measure something that is effectively invisible? |



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| | This activity will combine science and art to show the changes caused by exposure to UV radiation. The process used is called cyanotype, and it is similar to the process of traditional film photography, however much simpler and faster to do! |
| What is social work? | Using techniques of poetic inquiry called the cut-up poem, students are invited to cut-up the Global Definition of Social Work to discover a deeper meaning of what it means to be a social worker or human service practitioner in various fields of practice. |
| 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! |

* Please note: Not all activities are available in all sessions.
 Session numbers are limited so more popular activities may fill quickly

