# 2023 – The Science Experience, Hobart

## University of Tasmania - Sandy Bay, Centre of the Arts and Medical Sciences Precinct

| Sessions / Times | Activity Title | Description/Length |
|---|---|---|
| **Thursday Nov 23:** | | |
| **Sign in**<br>8:30 – 8:50am | ***Sign in*** | |
| 8:50-9:00am | ***10 mins Travel time to Soc Science Building*** | |
| **Welcome** | | |
| 9:00 – 9:20am | ***20 mins: Program Welcome*** | Welcome to UTAS, Science Experience program introduction, ice-breaker activity |
| 9:20 – 9:30am | ***10 mins Travel time*** | |
| **Session 1: Chemistry** | | |
| 9:30 – 11:00am | ***90 mins Taster:*** **Chemistry** - Making indigo dye and dyeing material | 10 mins needed for lab induction/safety protocols. *In this experiment, students will synthesise the chemical indigo, a commercially important dye used to make denim jeans blue. Once students have prepared their dye, they will filter it (it is insoluble in water) change it chemically to make it water-soluble.*<br>*Students will then test their freshly prepared indigo by using it to dye a piece of cotton.* |
| 11:00 – 11:10am | ***10 mins Travel time*** | |
| **Morning tea break**<br>**11:10 – 11:30am** | ***20 mins: Morning tea break*** | |
| **Session 2: Engineering** | | |
| 11.30 – 12.30pm | ***60 mins Taster:*** **Engineering**<br>Hands on Engineering | *Earthquake resilient infrastructure.*<br>*Learn about what engineers do and engage in an engineering design challenge to build a model building which is resilient to earthquakes.* |
| **Lunch break:**<br>12:30 – 12:50pm | ***20 mins:*** **Lunch break:** | |
| 12:50 – 1:00pm | ***10mins: Travel time*** | |
| **Session 3: Ag Science** | | |
| 1:00pm – 2:30pm | ***90 mins Problem solver***: **Ag Science** Catchment Sustainability Challenge | *Catchments provide people, stock and flora and fauna with drinking water. They provide people with water for domestic and industrial use, including irrigation, and they cater for recreation and tourism. In the catchment* |

| | | |
|---|---|---|
| | | *challenge, you'll compete in teams to manage land use in a river catchment. The team that improves the overall sustainability of the catchment, that is, the environmental, economic and social outcomes, wins the game. Through the game, you'll learn about the different values of water in a catchment and the challenges of improving sustainability. (90 mins)* |
| 2:30pm – 2:35pm | ***5 mins: break*** | |
| 2:35 – 2:55pm | **20 mins Where to next with Tas Future Students team** | *Connecting with the University after the Science Experience - other programs you can be involved in* |
| **Sign out** | | |
| Finish at 3:00pm | | |
| **Friday Nov 24:** | | |
| **Sign in**<br>8:30 – 8:50am | ***Sign in*** | |
| 8:50 – 9:00am | ***10 mins Travel time*** | |
| **Session 4: Climate Change** | | |
| 9.00-10.30am | ***90 mins Problem solver:*** *The Heat is on – Adapt to Thrive in a Hotter 2050* | *In this interactive climate change game, you'll find out what life might be like in a hotter world. Teams will decide how to help their community adapt to climate impacts including bushfires, floods and heatwaves. In exploring possible futures, you'll also find out how important it is to take action now to avoid big temperature changes.* |
| **10:30 – 10:35am** | Walk to bus stop | |
| **10:35 – 10:55am Travel to Hunter Street** | 20 mins Bus to Hunter Street | |
| **10:55 – 11:00am** | Walk to Centre of the Arts Building | |
| **Session 5: Architecture & Design** | | |
| 11am-12pm | ***60mins Problem solver:*** *Regenerative Systems Design.* | *A workshop that enables potential students to experience Regenerative Systems Design. Provide an experience that is a microcosm of the Design program. Through this workshop experience students will engage with:*<br>• *Creative problem solving (being able moving from questions to ideas)*<br>• *Empathising to understand the needs of the actors (human & non-human) in the living system.*<br>• *Systems mapping & exploration*<br>• *Ideation & Prototyping (drawing and making). Longer workshops to include testing, and iterating.* |

| | | |
|---|---|---|
| | | • *Exhibiting* |
| Bus travel to Medical Science Precinct (MSP) (10 mins) | | |
| **Lunch break**<br>12:15 – 12:35pm | ***20mins:* Lunch break** | |
| **Session 6: MSP 12noon – 2pm)** | | |
| 12:35- 2:00pm | School of Medicine Med/BioMed) | 90 mins total<br>60 mins in the lab + 30 mins level 5 research lab tours (staggered groups of 10) |
| 2:00 – 2:20pm | ***20 mins: Bus to Sandy Bay*** | |
| **Closing** | | |
| 2:35 – 2:55pm | ***20 mins: Program Closing*** | Closing: Certificate presentations/feedback/ thanks |
| **Sign out** | Finish at 3pm | |

# 2023 – The Science Experience, Burnie

## University of Tasmania – Cradle Coast Campus, Tasmanian Institute of Agriculture Dairy Research Facility

| Sessions | Activity Title | Description/Length |
|---|---|---|
| **Monday Nov 27:** | | |
| **Sign in**<br>8:30 – 8:50am | ***Sign in*** | |
| **Welcome** | | |
| 9:00 – 9:20am | ***20 mins: Program Welcome*** | Welcome to UTAS, Science Experience program introduction, ice-breaker activity |
| **Session 1: Humanities & STEM** | | |
| 9:30 – 10:30am | 60 mins:<br>Emergency Management | A crisis management workshop based around events such as floods, bushfires and viral outbreaks. Collaboration between CoHM and CALE. |
| **Morning tea break**<br>10:30 – 10:45am | 15mins: Morning tea break | |
| **Session 2: Engineering with Hydro Tas** | | |
| 2. Hydro Tasmania - Engineering<br>10:45 – 12noon | 60 -90 mins: Problem solving Challenge: Engineer a Turbine | *Using recycled materials, you'll design and build a turbine and test its speed by measuring RPM's in the circulated water of the "Turbinator."* |
| **Lunch**<br>**12noon – 12:30pm** | 30 mins: Lunch break | |
| **12:30 – 1:00pm** | 30 mins: Bus travel | |
| **Session 3: TIA Research Facility Tour**<br>**1:00 – 2:30pm** | 90 mins: Tour and activity Eliott Dairy Research Farm tour | *TIA operates a dairy research facility at Elliott. This is the site of leading research into ways to boost the productivity, profitability and sustainability of Tasmania's dairy industry. The facility is used for structured experiments based on a wide range of key industry issues, including feed production, animal performance, analysis of farming systems, grazing management and irrigation.*<br><br>*A tour of the facility with a discussion about the importance of all the data collection (45 minutes) will be followed by a hands-on activity in the common room or out in one of the farmlet paddocks depending on the weather (45 mins)* |
| **2:30 – 3:00pm** | 30 mins: Bus travel | |
| **3pm Sign out** | | |

| **Tuesday Nov 28:** | | |
|---|---|---|
| **Sign in**<br>8:30 – 8:50am | ***Sign in*** | |
| 8:50 – 9:00am | ***10mins: Intro to Day 2*** | |
| | Opening Session | |
| **Session 4:** | | |
| **Food Production**<br>9:30 – 10:30am | | *Students will unpack a Big Mac to learn about what is involved in getting food from the paddock to the plate (or paper bag).* |
| **Morning tea break**<br>**10:30 – 11:00am** | | |
| **Session 5:** | | |
| **Pharmacy**<br>11am – 12noon | | *Hands-on Pharmacy activity* |
| **Lunch break**<br>**12 – 12:30pm** | ***30 mins: Lunch break*** | |
| **Session 6:** | | |
| Tech Solutions<br>12.50pm - 1.50pm | | *"Keep Talking and Nobody Explodes!"* |
| 1.55pm - 2.30pm | | Connecting with the University after the Science Experience - other programs you can be involved in and where to next? |
| **Closing and sign out** | | |
| 2:30 – 2:50pm<br>Finish at 3pm | ***20 mins: Program Closing*** | Closing/Program Highlights/ Certificate presentations/feedback |

# 2023 – The Science Experience, Launceston

## University of Tasmania – Inveresk and Newnham campuses

| Sessions | Activity Title | Description/Length |
|---|---|---|
| **Thursday Nov 30** | | |
| **Sign in**<br>8:30 – 8:50am | ***Sign in*** | |
| **Welcome** | | |
| 9:00 – 9:20am | ***20 mins: Program Welcome*** | Welcome to UTAS, Science Experience program introduction, ice-breaker activity<br>Rotary Clubs of Tasmania will talk briefly about Jenny Sewell Award and Rotary youth programs |
| 9:20 – 9:30am | ***10 mins Travel time*** | |
| **Session 1: Chemistry** | | |
| 9:30am – 11am | **90 mins Taster:**<br>Chemistry - Making indigo dye and dyeing material | 10 mins needed for lab induction/safety protocols. *In this experiment, students will synthesise the chemical indigo, a commercially important dye used to make denim jeans blue. Once students have prepared their dye, they will filter it (it is insoluble in water) change it chemically to make it water-soluble.*<br>*Students will then test their freshly prepared indigo by using it to dye a piece of cotton.* |
| **Morning tea break**<br>11am – 11:20am | ***20 mins: Morning tea break*** | |
| 11.20 - 11.30pm | ***10 mins: Travel time*** | |
| **Session 2: Lab Med/ICT** | | |
| 11:30 – 12:30pm | 60 minutes<br>**Lab Med** Session 1 (14 students)<br><br>**ICT Session** - HitLab | |
| **Lunch**<br>12:30-1:15pm | ***45 mins Lunch break*** | |
| Move to next activity | | |
| **Session 3: Lab Med/ICT** | | |
| 1:20 – 2:20pm | 60 minutes<br>**Lab Med session 2** + **ICT session 2 (Cyber Security)** ( 14 students in each activity ) | |
| Break and travel<br>2:20 – 2:30pm | ***10 mins: Travel time*** | |

| | | |
|---|---|---|
| 2.30 - 2.50pm | ***Where to next with Tas Future Students team*** | Where To Next? 20 mins |
| 2:50 – 3:00pm | ***10 mins: Travel time*** | |
| Sign out<br>Finish at 3:00pm | | |
| **Friday Dec 1** | | |
| **Sign in**<br>8:30 – 8:50am | ***Sign in*** | |
| 8:50 – 9:00am | ***10mins: Travel time*** | |
| **Session 4:** | | |
| 9:00 – 10:30am | **90 mins Taster -**<br>Chemistry – Activity 2<br>Titration of orange juice | 10 mins needed for lab induction/safety protocols. |
| Morning tea break<br>10:30 – 10:45am | ***15 mins: Morning tea break*** | |
| 10:45 – 10:50am | ***5 mins: Travel time to AMC*** | |
| **Session 5: AMC** | | |
| AMC (90 mins)<br>10:50 – 12:20pm | **90 mins Taster:**<br>AMC, engineering activity and tour | *Get a taste of Maritime Engineering in this structural engineering project where you will race against the clock and compete against other teams to build the strongest bridge you can using only paddle pop sticks and glue.* |
| **Bus to Inveresk**<br>12:20 – 12:40pm | ***20 mins: Bus to Inveresk*** | |
| **Lunch**<br>**12:40 – 1:00pm** | **20 mins: Lunch** | |
| **Session 6: Agricultural Science**<br>**1:00 – 2:30pm** | | |
| | ***90 mins Problem solver***:<br>**Ag Science** Catchment Sustainability Challenge | *Catchments provide people, stock and flora and fauna with drinking water. They provide people with water for domestic and industrial use, including irrigation, and they cater for recreation and tourism. In the catchment challenge, you'll compete in teams to manage land use in a river catchment. The team that improves the overall sustainability of the catchment, that is, the environmental, economic and social outcomes, wins the game. Through the game, you'll learn about the different values of water in a catchment and the challenges of improving sustainability. (90 mins)* |
| **Closing** | | |
| 2:30 – 2:40pm | ***10 mins: Program Closing*** | Certificate presentations/Program highlights/ feedback/ thank you |
| Bus back to Newnham<br>2:40 – 3:00pm | ***20 mins: Bus back to Newnham*** | **Sign out and finish at 3pm** |