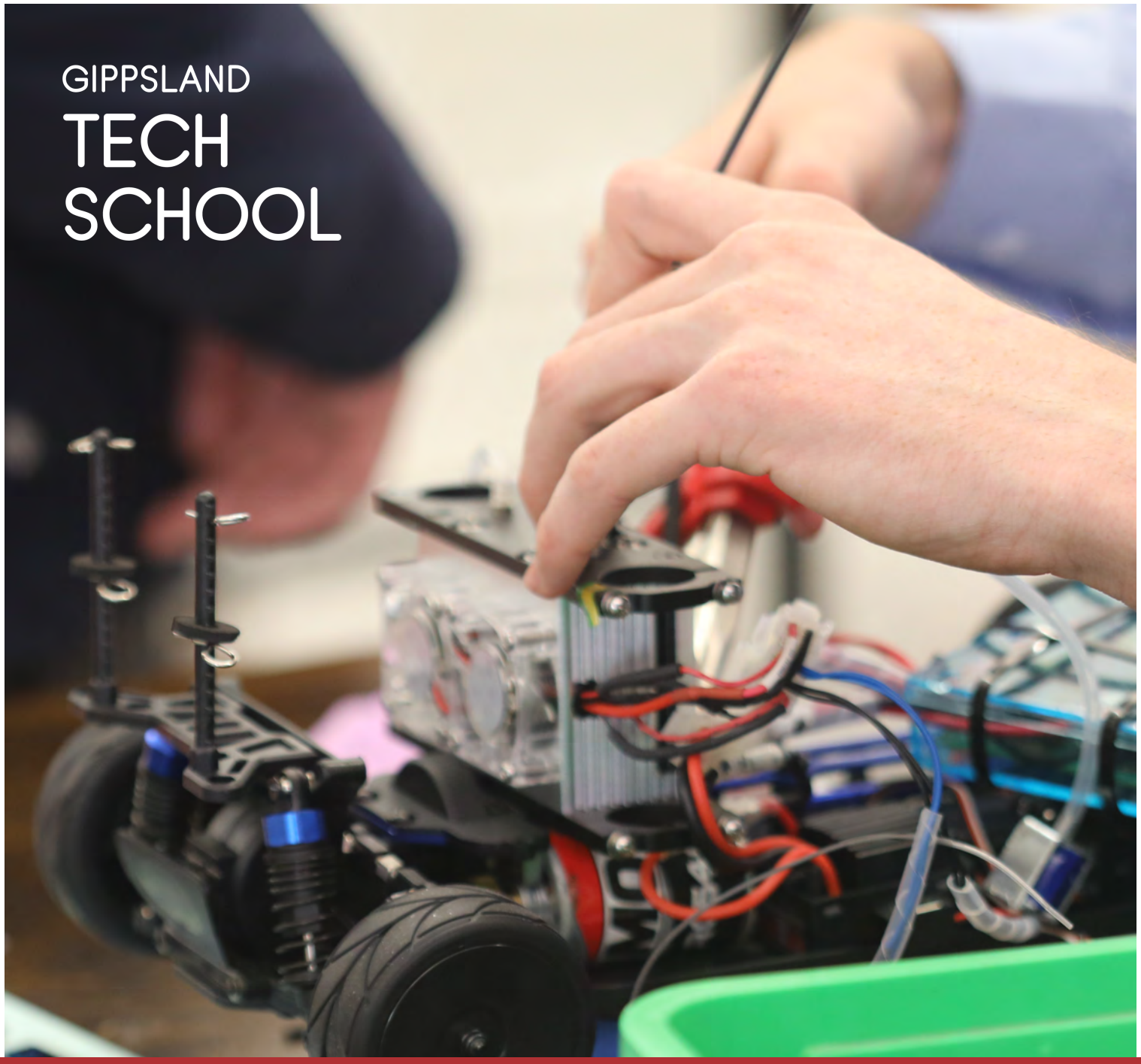
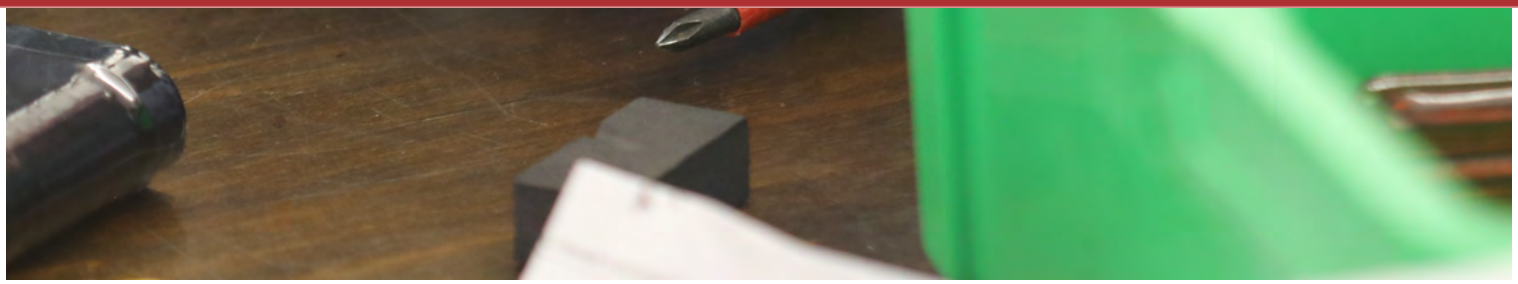


GIPPSLAND TECH SCHOOL

Program Guide 2027



TAFE GIPPSLAND

THE EDUCATION STATE

VICTORIA State Government | Department of Education

Contact Us

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03 5120 4522

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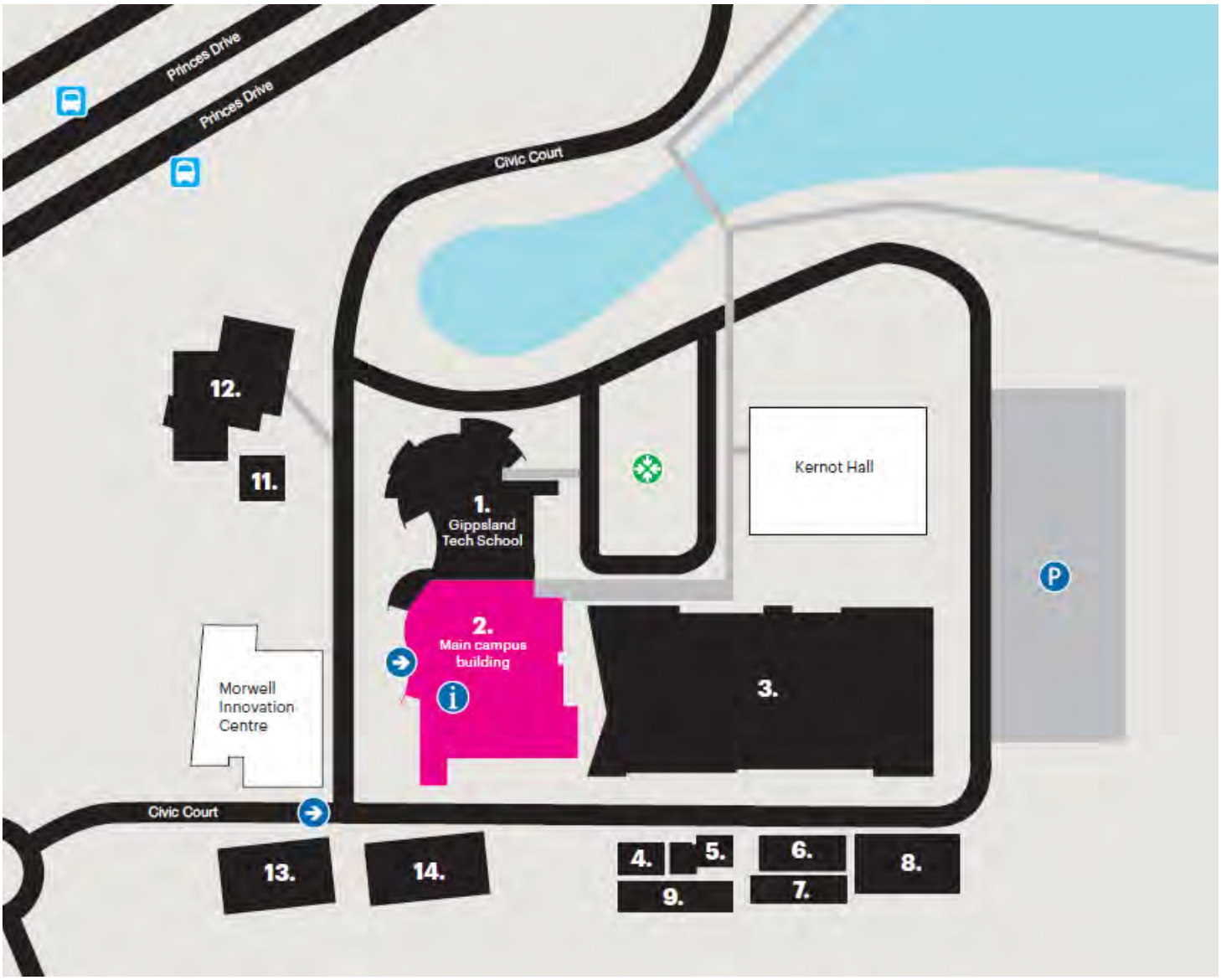


GIPPSLAND TECH SCHOOL

TAFE GIPPSLAND

THE EDUCATION STATE

VICTORIA State Government | Department of Education

About Us

The Gippsland Tech School is a high-tech learning environment, with innovative education programs linked with local industry, delivering real world learning to students. Students from eighteen participating schools in Latrobe City and South Gippsland Shire are able to access the Tech School throughout the year for specialised programs.

The Gippsland Tech School is committed to challenging students to take charge of their learning and to push themselves to reach their full potential. To achieve this goal, we have developed a Teaching and Learning Framework to support our partner schools to understand how we can positively impact key educational goals, aligned with key priority areas including explicit teaching, FISO and individual school planning.

Our Teaching and Learning framework is based on the Design Thinking pedagogical model and we are committed to supporting educators and students in Gippsland to experience this innovative model in a practical hands-on approach. Our Teaching and Learning Framework has been developed in consultation with our stakeholders, with guidance from the Gippsland Tech School advisory committee. We are excited for 2027 and the opportunity to connect with teachers, students, industry and education to support Gippsland secondary schools to succeed.

Paul Boys – *Director – Gippsland Tech School and Mobile Tech School*

USING THIS PROGRAM GUIDE

Our 2027 program guide has been structured to reflect the types of programs we offer and their increasing complexity by year level, and also to showcase other specialist STEM learning opportunities that are available to both students and teachers outside normal program delivery.

Our goal is to help schools embed experiences at the Tech School into their everyday learning so students can associate program experiences with future learning and work opportunities. We can do this by tailoring our programs to individual school or class needs, modifying programs to be delivered in hybrid on-site/at school models, breaking them down into smaller repeat visits or providing pre-and-post classroom materials to get the most out of each program.

Please contact us to discuss any variations in program structure that might help you deliver the best experience possible to your students. We encourage teachers to consider their choice of programs and learning opportunities, not only in the context of their own classroom curriculum, but also what may be possible for their students in the future with well developed STEM-related skills.

Each program outline shows the connection to Industry, Victorian Curriculum, Technologies Used, Year Level, Duration and Maximum Student Numbers. These connections aim to provoke discussion amongst educators around how Tech School programs connect students to industry practice with a clear connection to future skills that will be a part of new and emerging industries.

TEACHER PD OPPORTUNITIES

Teacher Professional Learning

Skill Builders

90+ minute workshops offered throughout the year and on request.*

- Introduction to Coding
- Introduction to Generative AI
- Introduction to 3D Design and Printing – TinkerCAD
- Intermediate Generative AI
- Tech Tools for the classroom

** Skill sessions on other technology and software available on request.*

In-school PL

Contact us to design your own PL program to meet the needs of your school.

Teaching with Tech

In program mentoring! Partner school teachers can arrange to either watch, participate or co-facilitate a program delivered at the Tech School to improve their own teaching skills and tech knowledge.

Contact us to discuss options for you or for your colleagues.

D2I - Design 2 Innovate

Developed by Tech Schools in partnership with the VATL, Victorian teachers and international design thinking experts, **Design2Innovate: introduction to design thinking** will support middle leaders and classroom teachers to become more confident in using design thinking in classroom, school curriculum and leadership practice.

PROGRAM DESCRIPTIONS

Our programs align to year level curriculum to make navigation easier.

Included in each program listing, is an explicit reference to careers, technologies and collaborative learning connected to local industry and emerging technologies.

We encourage you to discuss with us any program where you feel an alternative delivery option or time-frame will better suit your needs to assist us to embed the learning into your classroom.

CORE PROGRAMS

These are integrated, cross curricular programs that relate to multiple subject areas of the Victorian Curriculum, address one or more of the key Capabilities and/or provide specific upskilling that can be applied in other programs.

Students are challenged to apply STEM design thinking and technology skills to develop solutions to real life scenarios, and teachers are supported to facilitate pre-and-post learning activities.

VCE/VM MASTERCLASSES

VCE/VM Masterclasses are designed to give students subject specific hands-on skills using industry standard technologies to enhance existing opportunities in schools.

VCE/VM Masterclasses have been co-designed with educators and experiences can be customised to align with School Assessed Curriculum (SAC), as required.

Please discuss with us if you wish to align the Tech School experience with a SAC.

SPECIALIST STEAM OPPORTUNITIES

The Tech School facilitates an array of STEM focused and industry supported competitions, challenges and events, specifically designed for a wide range of student interests and abilities.

Some of these combine students from multiple schools to form interschool collaborative groups, encouraging networking and broadening the experience of all involved. Students have access to local, cutting-edge industry experts and mentors to inspire them.

PROFESSIONAL LEARNING OPPORTUNITIES

Available for teachers across a variety of content, pedagogy and technology areas, professional learning sessions will be regularly available each term and promoted through our social media channels.

Sessions can also be undertaken within on-site core program delivery and teachers are encouraged to reach out to co-design programs to address their specific skill or knowledge needs.

PROGRAM OFFERINGS 2027

YEAR	PAGE	PROGRAM	DURATION
	8	**Custom Programs**	Variable
	9	**Multi Day Industry Challenges**	3 Day
Year 7 - 8	11	**A Renewable Future** Students will be introduced to a number of different types of renewable energy production methods and their advantages and disadvantages. Students will use a variety of technologies to investigate and conduct experiments to design, build, and test a model city using renewable energy.	1 Day
	12	**Adaptive Electronics** This program will build students' understanding of amps, volts, and resistance, and the relationship between them, as well as how they interact within a circuit.	1 Day
	13	**Industry Tech Taster** Students will learn about how technology is changing the world and why this matters to them. They will rotate through three activities that will expose them to industry changing technologies and new ways of problem solving.	1 Day
	14	**Intro to Sports Science** This program is an introduction to new technologies relating to sports and exercise. Students will explore how technology is influencing these areas. They will undertake hands on activities throughout the day to assess and analyse sports performance.	1 Day
Year 9 - 10	16	**Cyber Security** This program will challenge students to think beyond their personal online interactions and into the world of cybersecurity.	1 Day
	17	**Extended Reality Content Design** Students will explore virtual reality, augmented reality, and mixed reality as an instrument to enhance world scenarios and learn about how extended reality technology fits as a tool for industry and community.	1 Day
	18	**Flat Pack Furniture Challenge** In this two-day program, students will use the Design Thinking Process to design a piece of flat-pack furniture and create a marketing strategy to sell their design with the use of new digital technologies.	2 Day
	19	**Growing into the Future** This program will expose students to two major areas of change in food production: automation in large-scale food production, and small-scale urban food production. They will explore a variety of technologies used in food production and alternative growing methods.	1 Day

PROGRAM OFFERINGS 2027

YEAR	PAGE	PROGRAM	DURATION
Year 9 - 10	20	**LEGO Sumo** In this program, students will learn about design elements and coding LEGO Mindstorms. The day will conclude with students using their robots to compete against each other to see who has the ultimate LEGO Sumo robot.	1 Day
	21	**Smart Cities, Sustainable Solutions** Students will be challenged to engage in systems level thinking to plan sustainability interventions, looking at processes and logistics within a city environment to identify meaningful points that need a change.	1 Day
	22	**Video Game Design** Students will use their teamwork, communication, and problem-solving skills to develop their own video game, using industry standard software to learn coding and game designing skills.	1 Day
VCE/VM	24	**Cut & Compose: A film and media journey** In this program, students will move through the entire media production process: planning, storyboarding, editing, and finalising a promotional video, including composing and refining their own original soundtrack.	1 Day
	25	**Drones in Industry** Students will learn the requirements for obtaining a Drone Operator Accreditation and the Standard Operating Conditions. They will also learn to safely pilot a drone in an indoor and larger outdoor environment.	2 Hours
	26	**Make Me Safer** Using the Design Thinking process, students will tackle a Health and Safety challenge from a local Gippsland industry. Undertaking a variety of masterclasses, they will then pitch their prototyped solutions to a panel of industry representatives.	1 Day
	27	**Physics in Motion** Working in pairs, students will complete experiments relating to motion and related energy types. By the end of the day, students will use their new knowledge to take part in a student-led design sprint.	1 Day
	28	**The Science in Sport** Through this program, students will understand how technology is used at an elite level to evaluate and improve athletic performance.	1 Day
	29	**Challenges & Events**	Variable
	30	**Lending Library** Check out our range of technologies that you can borrow to use in your classroom.	Variable

NOTE: Most Tech School programs can be tailored to your students learning requirements, including VCE/VM. Please contact us to discuss.

Custom Programs

At Gippsland Tech School, we want our learning programs to build on and enhance the things that students are learning in their home school. If you do not find an offering that fits within your learning program, we are more than happy to work with you to design something new. Our team is made up of people with a wide variety of skills and knowledge who enjoy the challenge of developing new learning experiences for students. Whether this involves modification to an existing program or starting from scratch, we will do our best to meet the challenge.

If you or one of your team is interested in working with us to develop a new learning program, please reach out to enquiries@gippslandtechschool.vic.edu.au and one of our team will be in touch shortly.

Multi-Day Industry Challenges

The Fourth Industrial Revolution is upon us and it's leading to faster and more dramatic changes in industry than we have ever seen before[6]. These changes are presenting industries with exciting opportunities and significant challenges. To tackle these challenges, industries are seeing the need to incorporate new technologies, embrace change, and focus on user needs to ensure their contributing success.

To enter this changing world of work, students will need to hone their enterprise skills. They will need to be strong communicators, able to collaborate with diverse teams, able to think critically, and to find creative solutions to wicked problems. It is more important than ever that we give students the opportunity to engage with real-world issues that challenge them to develop these skills, so they are prepared to enter this changing workforce.

Program Summary

The GTS Multi-day Industry Challenges are built from the past 7 years of experience delivering industry challenge weeks to schools. The design of these programs aims to make it easier for schools to send a targeted group to take on the challenge across three days.

Each challenge will see students using the Design Thinking process to tackle real-world challenges provided by local industry partners. Students will work in small groups to identify problems, design solutions, prototype, and iterate throughout the program, all with the support of GTS staff and local industry experts. These programs focus on developing students' enterprise skills while building their knowledge of local industries and pathways available to them.

Schools will choose one of the industry areas below to form the focus of the three-day challenge:

Cyber Security: explore the world of ethical hacking and the importance of protecting online assets.

Renewable Energy: address some of the environmental challenges faced as we move to a more sustainable future.

Health: help enhance the experience of patients engaged with the health sector.

Food & Fibre: explore how technology is changing the landscape of agriculture and the new opportunities this provides.

Manufacturing: investigate the opportunities and challenges presented by the introduction of Advanced Air Mobility in Gippsland (*coming in semester 2, 2026).*

Other: if there is an industry of particular interest to your students, please reach out to GTS to discuss the opportunity for a customised program.

Taking part in this program, students will collaboratively:

- Investigate how technology is changing the local world of work
- Use Design Thinking to identify problems, develop and iterate solutions, and pitch an idea
- Build enterprise skills with a focus on local industries

Career Links

A wide range of Gippsland focused industries.

INDUSTRY FOCUS AREA

Food & Fibre, New Energy, Health, Advanced Manufacturing

VICTORIAN CURRICULUM LINKS

Design and Technologies, Digital Technologies, Sustainability

TECHNOLOGY USED

A wide range of technologies are used across the programs.

YEAR LEVEL

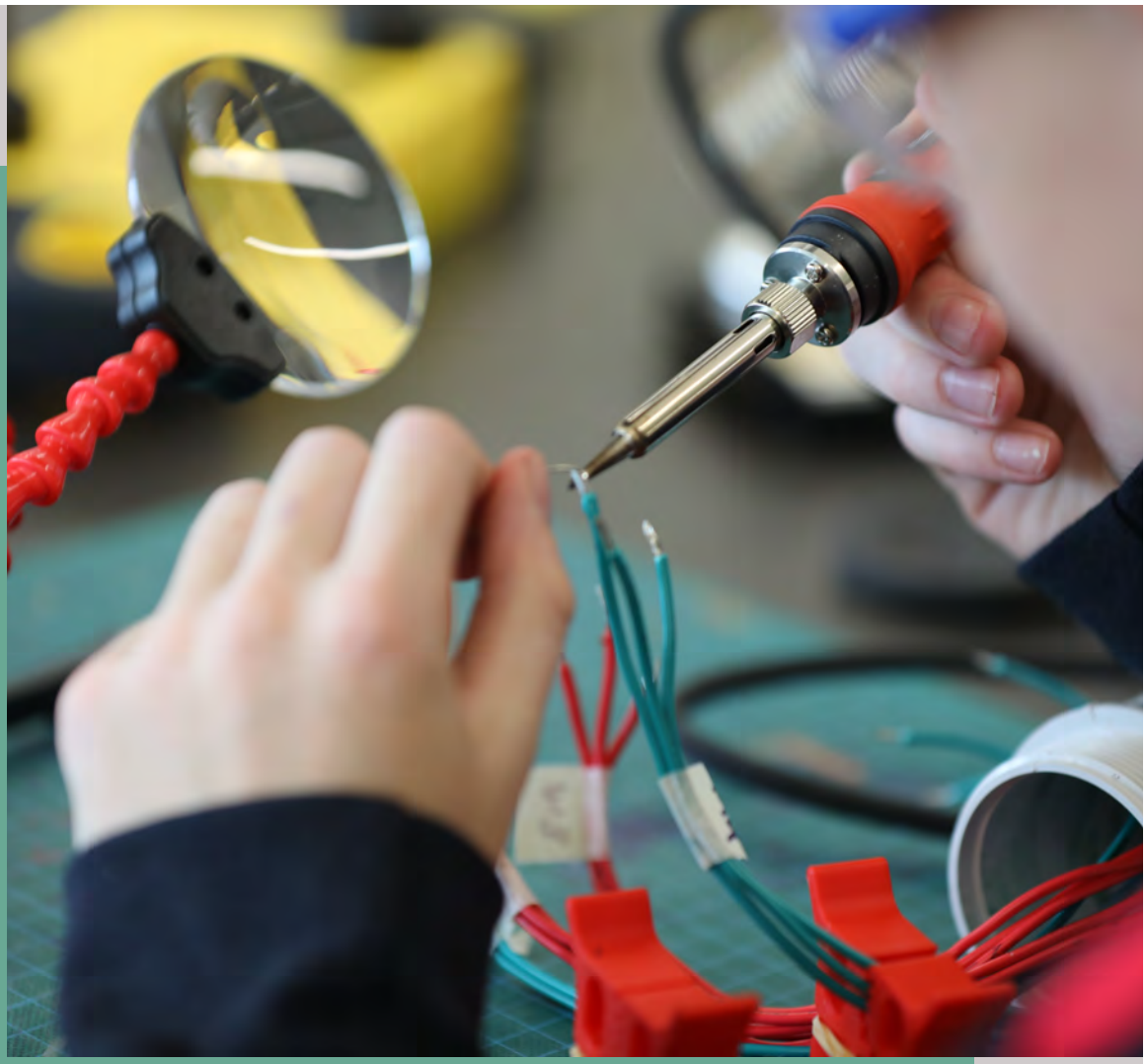
All

DURATION

3 Days

MAX STUDENT NUMBERS

50



Introductory Programs

Years 7 - 8

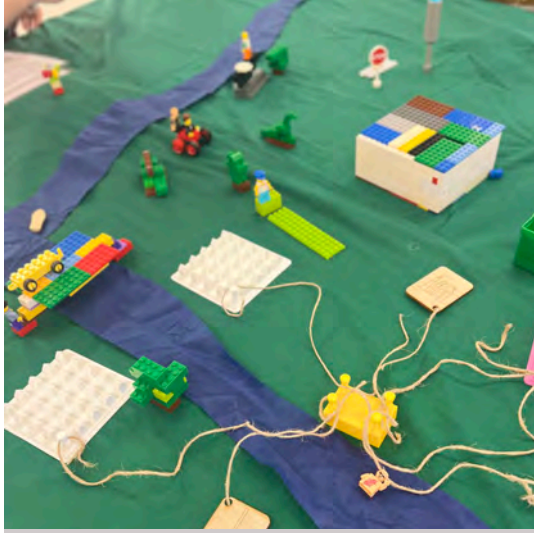
These programs are designed to cover a broad range of curricula and student capabilities, inspiring student curiosity in STEM skills and emerging technologies in all students.

Introductory Programs are suitable for whole year level bookings, providing an accessible offering to every partner school student at least once a year, every year, from years 7 – 8.

A Renewable Future

Gippsland is currently in the middle of a transition away from the traditional forms of energy generation which have been a staple of the region for over 100 years. While coal power generation is still an important employer in the region, closure of these stations has been announced to happen over the next 15-20 years. There is also worldwide pressure to reduce CO2 emissions and move towards renewable energy sources. The Victorian government achieved its target of 25% renewable energy production by 2020, with the next target increasing renewable generation to 40% by 2025 and 60% by 2030.

Excitingly, there are a range of new industries proposed for the Gippsland region including onshore wind farms, solar farms, a variety of offshore wind projects, and Battery Energy Storage Systems. A range of hydrogen-based ideas are also currently under development. Building students' understanding of these technologies has never been more important for Gippsland.



Program Summary

In this program, students will investigate the advantages and disadvantages of generating energy from renewable sources and some of the ways that this can be achieved.
They will experiment with both solar and wind energy generation. They will also investigate energy storage options as a way to combat one of the major challenges of renewable energy, intermittency.
They will produce hydrogen from electrolysis and use a fuel cell to produce electricity from the hydrogen.
Students will conclude the day by using their learning to design, build, and test a model city with a focus on livability, powering their project using renewable energy.
Undertaking this project will expose them to the variety of careers involved in this industry sector and build their knowledge of energy transformation.

Taking part in this program, students will collaboratively:

- Conduct experiments to understand differing ways of generating renewable energy
- Build their understanding of the types of energy transfer in renewable energy systems
- Design, build, and evaluate a prototype

Career Links

Artisans: Machinery Operators, Electricians, Carpenters
Designers: Architects, Product Testers, Draftspersons
Engineers: Civil, Construction, Electrical

INDUSTRY FOCUS AREA

New Energy

VICTORIAN CURRICULUM LINKS

Science, Personal & Social Capability, Critical & Creating Thinking

TECHNOLOGY USED

Wind turbines, Solar panels, Hydrogen generation kits

YEAR LEVEL

7 - 8

DURATION

1 Day

MAX STUDENT NUMBERS

50

[1] https://www.energy.vic.gov.au/renewable-energy/victorias-renewable-energy-targets

Adaptive Electronics

Electricity surrounds us every day. We use electricity to light, heat, and cool our homes, to charge our devices, and increasingly in transportation. An understanding of electricity and the interaction of different components helps us to understand the world around us. The power of electricity is supercharged by combining it with sensors to look for specific inputs, outputs that interact with the physical or digital world, and a micro-controller coordinating everything in between. We can harness this power to make it easier for people to interact with the world around them. From simple things like monitoring heart rate to improve exercise to providing ways for people with disabilities to interact with the world more easily, electricity can be used to build a world of possibilities.

For students, learning how to design, prototype, evaluate, and iterate both physically, digitally, and with code is bout empowerment and creativity in the digital age. It's also about developing the skills that are in high demand across almost every field of industry.

Program Summary

The program will begin by building students' understanding of the relationship between amps, volts, and resistance and how they interact within a circuit. They will then learn about creating circuits in a safe virtual environment. This will allow students to experiment with different components without any real-world consequence or broken parts. Students will also be introduced to micro-controllers as the brains of a circuit and explore how to use input sensors and different outputs to add functionality to their circuits. The final part of the day will see students apply this knowledge by using Design Thinking to take on real-world challenges around accessibility and access.

INDUSTRY FOCUS AREA

New Energy, Advanced Manufacturing, Health

VICTORIAN CURRICULUM LINKS

Science, Digital Technologies

TECHNOLOGY USED

Digital circuits, Physical circuits, Micro-controllers

YEAR LEVEL

7 - 8

DURATION

1 Day

MAX STUDENT NUMBERS

50

Taking part in this program, students will collaboratively:

- Build their understanding of volts, amps, and resistance
- Construct simple circuits
- Add functionality to circuits using micro-controllers
- Break down real-world challenges using Design Thinking

Career Links

Electrical Engineer, Electrician, Designer, Disability Advocate

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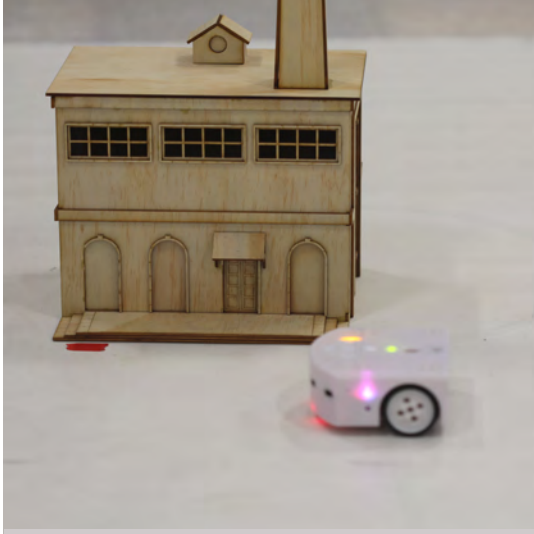
Industry Tech Taster



We are now living in the Fourth Industrial Revolution. This is a revolution of unprecedented speed, scope, and impact on human life. It is presenting us with immense opportunities and significant challenges. While technology has always been a disruptive force, now more than ever it is leading to changes in the way that we live, work, and the types of jobs that are in demand. It is leading to the disappearance of some traditional industries and the growth of new industries in their place. We have seen changing technologies and a reduction in traditional industries have a dramatic impact on Gippsland. This means that today's students need to develop skills that will allow them to be adaptable and to meet unforeseen challenges and opportunities in their lives. They also need to be open to new experiences and to understand how the world of work is changing around them.

Program Summary

The program will begin with students learning about how the world of work is changing and the skills that will be most important for them as they move into the workforce. Students will then rotate through three activities which will expose them to industry-changing technologies and new ways of problem solving.

Schools selecting this program will choose up to three of the following options (max. 1 per category) in which their students will take part:

Experience	Create	Code
Virtual Reality in Industry A general exploration of how VR is being used as a tool in Industry and Education **Art in Virtual Reality** Create artistic sculptures using VR **Mixed Reality** Add digital elements to the real world combining the real and virtual **Breakout** Develop teamwork, communication, critical thinking, and communication skills in this cyber themed escape room. **LLMs: What's going on?** Understanding AI language models and their limitations by building an analogue version.	**3d Design** Learn about 3d design and printing by creating a keychain before diving into more complex designs. **Laser Cut Design Thinking** Use the DT process to design a gift for a partner that will be created with a laser cutter. **Microscopic Art** Explore tiny worlds, capture photos, and turn these into works of art. **Make Music** Use Garage Band to kick off your introduction to digital music creation **Rapid Prototyping** Rapidly design solutions to challenges using a range of physical or digital materials.	**Microcontrollers** Complete a series of fun coding projects using BBC micro:bits **Autonomous Vehicles** Explore autonomous vehicles by coding a robot security guard or delivery bot. **Warehouse automation** Code an autonomous warehouse robot and increase its capability with computer vision. **Power of Text** A hands-on introduction to the power of text-based coding using Python. **Coding in Minecraft** Combine the fun of Minecraft with learning coding with access to Scratch or text-based coding difficulties.

Taking part in this program, students will collaboratively:

- Explore the important skills needed in a technologically disrupted workforce
- Interact with industry changing technologies
- Plan, implement, test, and evaluate solutions

Career Links

Designers: Civil Engineer, Product Tester, Electrical Engineer

Technologists: Programmer, Software Engineer, ICT Analyst

INDUSTRY FOCUS AREA

All

VICTORIAN CURRICULUM LINKS

Digital Technologies, Personal and Social Capability, Critical and Creative Thinking

TECHNOLOGY USED

A wide variety of technologies are available in this program

YEAR LEVEL

7 - 8

DURATION

1 Day

MAX STUDENT NUMBERS

50

Intro to Sports Science

Advancing technology is changing how we train and play sports. From changes in equipment to the impact of big data, technology is leading for faster times, better performance, and safer recovery. These advances in technology are also transforming the way that athletes are supported, and increasing the significance of these traditionally background roles.
In this program, students will explore how science and technology are impacting the sports and fitness industries. Through hands-on activities, students will experience new ways to exercise, assess performance, and understand the impact new and developing technology is having on sport and exercise.

Program Summary

Back to Contents

At the beginning of this program, students will explore how technology has been integrated into sports and the effects this has had on those sports. From seemingly simple technologies like pool gutters to more advanced wearable sensors will be explored.

Students will then spend the day working through three masterclasses aimed at exposing them to different ways that technology can be used in sport. They will explore how sensors can be used to monitor and better target performance, test gamification of exercise and its benefits, and create their own sports sensor while exploring the limitations of technology.

The day will conclude with a revision of their learning and a discussion around some of the controversial issues posed by technology in sport.

Taking part in this program, students will collaboratively:

- Assess sports performance
- Build a basic understanding of how advancements in technology are impacting sports and exercise
- Create solutions to case studies that are based on real-life issues related to sports, exercise, health, and fitness

Career Links

Physiotherapist, Nursing, Remedial Massage

INDUSTRY FOCUS AREA

Health, Exercise and Health sciences

VICTORIAN CURRICULUM LINKS

Health and Physical Education, Digital Technologies

TECHNOLOGY USED

Laptops, micro:bits, Jump Mat, Speed Gates, iPads, VR headsets, Heartrate monitors

YEAR LEVEL

7 - 8

DURATION

1 Day

MAX STUDENT NUMBERS

50

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Immersive Programs

Years 9 - 10

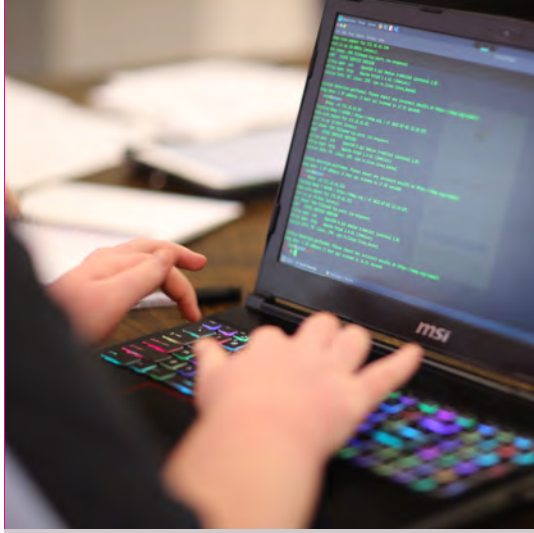
These programs and opportunities offer skill extensions and pathways for students.

They have a targeted future focus, introduce real world challenges and are best suited to elective style classes that can embed the learning at school. Immersive Programs have the most scope to be adopted to your classroom structure and can be supported with pre and post visit resources.

While these programs are one day in duration, there will be opportunities for students who wish to extend their knowledge and skills to opt in and return to the Tech School for specialist days, or access our after-hours courses to undertake more complex learning.

Cyber Security

QANTAS, Australian Super, iiNet, Metricon, Telstra Opticomm, Ambulance Victoria, Ticketmaster, and the Australian human Rights Commission. There are a fraction of the Australian companies that have been subject to data breaches in the past few years despite an estimated $6.2 billion being spent on cybersecurity in 2025.
A strong understanding of cybersecurity is key for any organisation that is conducting business online. Attacks from malicious actors can cause loss of business-critical information, customer data, and bring whole businesses grinding to a halt. This is not just a problem from the movies; we have seen the effects of these attacks on local industries over the past few years. Knowing how to prevent these problems and mitigate these risks is a vital skill for anyone interested in a career in information technology.



Program Summary

This program will challenge students to think beyond their personal online interactions and into the world of cybersecurity. Students will explore the career roles of penetration testers and ethical (white hat) hackers including the legal and ethical frameworks within which they must work.
Thy will then take part in simulated real-world hacking challenges aimed at developing their understanding of vulnerabilities and the importance of reporting. Students will be challenged to gain unauthorised access to a website and to find confidential information, to use prompt injection to work around AI's safeguards, and more. This will all be done inside a safe, secure, and authorised environment. The day will conclude with a look at careers in information technology and cybersecurity as well as local career opportunities.

Taking part in this program, students will collaboratively:

- The traits and skills needed for success in careers in cybersecurity
- Explore careers in cybersecurity

Career Links

IT Security Analyst, Cyber Security Analyst, IT Systems Administrator, IT Support Officer, Technical Engineer

INDUSTRY FOCUS AREA

All

VICTORIAN CURRICULUM LINKS

Digital Technologies, Critical and Creative thinking, Ethical Capabilities

TECHNOLOGY USED

PC, LINUX, AI

YEAR LEVEL

9 - 10

DURATION

1 Day

MAX STUDENT NUMBERS

50

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Extended Reality Content Design

Imagine you are a service technician. During a maintenance task you use your iPad to scan an AR (augmented reality) code from a machine and see a set of 3D-animated tasks through your display. Next, you use your MR (mixed reality) glasses to repair a complex item of machinery by video-calling an expert, who sends animated 3D hologram instructions to your device. The next day, using a headset, you undergo safety training and certification in a VR (virtual reality) simulation program. For many of our students, this could represent a standard working week. Careers in XR (extended reality) across a broad range of industries is a feature in the future world of work.

Program Summary
Students will use technologies to design an extended reality solution. They will explore virtual reality, augmented reality, and mixed reality as instruments to enhance real-world scenarios and learn about how extended reality technologies fit as a tool for industry and community. Taking part in the program will expose students to a wide range of processes and technologies used in the creation of content for extended reality outcomes in both industry and community.

Taking part in this program, students will collaboratively:

- Create an augmented reality experience
- Meet a design brief using virtual reality
- Digitally manipulate text, images, and soundscapes

Career Links
XR Developer, Software Engineer, UI (user interface) Artist, AR Implementation Engineer

INDUSTRY FOCUS AREA
All

VICTORIAN CURRICULUM LINKS
Design and Technologies, Digital Technologies, Visual Communication Design, Visual Arts

TECHNOLOGY USED
Virtual Reality, Augmented Reality, iPad

YEAR LEVEL
9 - 10

DURATION
1 Day

MAX STUDENT NUMBERS
40

Flat Pack Furniture Challenge

The ability to interact with clients, work within guidelines, and communicate ideas are employable skills that will always be in demand. Industries are looking for people who can take on challenges and find innovative solutions, iterating ideas to meet the desired outcomes.

With the increase in online purchasing, businesses are often looking for ways to reduce the cost of transport and shipping. One common way to do this is to use flatpacks. These are packs that ship the components of an item in flat boxes that can then be assembled by the purchaser. IKEA is one of the most famous users of this method but there are many others.

Program Summary

In this program, students will be presented with a design challenge from a customer from which they will need to identify the design requirements. They will then use these collaboratively developed criteria to research, ideate, and prototype a design. After testing their initial design students will use CAD software to refine their design before making a model of their design using the laser cutter. Students will design, test, and iterate multiple times through the project.

After the project, students will pitch their idea with reference to the design criteria incorporating 3d modelling and augmented reality to support their pitch.

Taking part in this program, students will collaboratively:

- Identify design parameters and constraints
- Use industry-level design software to create a model of their designs
- Evaluate their work against client requirements
- Market their product using digital marketing tools

Career Links

Artisans: Carpenter, Machinery Operator, Manufacturing
Designers: Architect, Industrial Engineer, Draftsperson
Generators: Sales Representative, Retail Supervisor, Entertainer

INDUSTRY FOCUS AREA

Advanced Manufacturing

VICTORIAN CURRICULUM LINKS

Design and Technologies, Digital Technologies, English, Mathematics

TECHNOLOGY USED

CAD, Laser Cutting, Augmented Reality

YEAR LEVEL

9 - 10

DURATION

2 Day

MAX STUDENT NUMBERS

50

Back to Contents

Growing into the Future

Food security is a major concern throughout the world. The world was on track to eliminate hunger and malnutrition by 2030 but that has been set back due to the Covid-19 pandemic[2]. With this aim in mind, finding ways to use land effectively and sustainably, as well as making food production more efficient has never been more important.

On a more local level, having access to fresh, healthy, and affordable food choices is a major factor that contributes to individual's health and wellbeing. As urban areas expand, being able to produce food in smaller areas is also becoming increasingly important. Providing students with the skills and knowledge around food production and sustainability is important for securing our food into the future.

Program Summary

This program will expose students to a wide range of technologies which are changing the face of agriculture. During the program they will take on the role of agricultural consultants and will spend the day working to create a recommendation for their client.

To do this, they will take part in an expo to learn about machine learning, sensors, robotics, drones, and more. Students will then use this new knowledge in combination with the Design Thinking process to plan, prototype, and test a solution for their client before pitching their ideas at the end of the program.

Taking part in this program, students will collaboratively:

- Investigate how technology is changing agriculture
- Use machine learning and other sensor technology to automate elements of farming
- Identify and meet user centres problems

Career Links

Agriculture, Manufacturing, Automation, Engineering

INDUSTRY FOCUS AREA

Food & Fibre, New Energy, Health

VICTORIAN CURRICULUM LINKS

Design and Technologies, Digital Technologies, Sustainability

TECHNOLOGY USED

Machine learning, Sensors, Robotics, Drones, Renewable Energy

YEAR LEVEL

9 - 10

DURATION

1 Day

MAX STUDENT NUMBERS

50

[2] Food and Agriculture Organisation of the United Nations, http://www.fao.org/publications/sofi/2021/en/ (8/9/2021).

LEGO Sumo

Robots are no longer confined to the pages of science fiction or the assembly lines of factories. They are becoming a larger part of our daily lives, from assisting in surgeries to exploring the depths of the ocean. Companion robots and robots that can help around the house are just around the corner.

Learning how to design, prototype, evaluate, and iterate both physically and with code is not just about learning new skills. It is about empowerment and becoming a creator in the digital age. It's also about developing the skills that are in high demand across almost every field of industry. Whether students are interested in engineering, medicine, science, manufacturing, or the arts, understanding code and being able to use these skills will give students a competitive edge.

Program Summary

During this program, students will learn about design elements and coding LEGO Mindstorms. They will spend the start of the day developing their skills through several masterclasses before bringing these skills together to take on the LEGO Sumo challenge. The LEGO Sumo challenge will see students design their competitors and participate in a sumo competition. They will then evaluate their design and code and use this evaluation to iterate their design. Students will repeat this process until they have the ultimate LEGO Sumo robot.

The program focuses on coding and design iteration in a fun, engaging, and challenging way.

Taking part in this program, students will collaboratively:

- Plan, build, test, and iterate their designs
- Learn coding, including conditionals, operations, and loops
- Develop their understanding of the importance of coding in our digital world

Career Links

Design Technician, Engineer, Roboticist, Programmer, Software Designer

INDUSTRY FOCUS AREA

Advanced Manufacturing

VICTORIAN CURRICULUM LINKS

Digital Technologies, Design and Technologies, Personal and Social Capabilities

TECHNOLOGY USED

LEGO Mindstorms

YEAR LEVEL

9 - 10

DURATION

1 Day

MAX STUDENT NUMBERS

25

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Smart Cities, Sustainable Solutions

73% of the Australian population live in major cities, and this percentage is predicted to grow over the coming years[3]. As these cities grow, so does the need to design sustainable solutions that can support healthier, more resilient communities. Whether it's improving public transport, creating greener buildings, or managing waste and energy use more efficiently, the way we shape our cities will be one of the things that determines the future of our planet and how we interact with it.

The sustainability choices that cities make will affect everything from the air people breathe and the jobs they pursue to the use of limited resources and the land that is available. Engaging students in systems thinking and intervention will help them develop the skills and knowledge they will need to tackle the very real sustainability challenges that we will face in the future.

Program Summary

During the program, students will be challenged to engage in systems level thinking to plan sustainability interventions. They will look at processes and logistics within a city environment to identify the most meaningful points at which to make a change.

Through the program, students will examine how sensors can increase efficiency, how renewables can support energy usage, how alternative materials can reduce waste, and more. Based on their systems level planning, and using their knowledge, students will use these technologies to design, prototype, test, and pitch their proposed interventions.

Taking part in this program, students will collaboratively:

- Explore the importance of sustainability
- Learn how technologies can be used to increase sustainability
- Design, build, and evaluate a prototype

Career Links

Civil Engineer, Town Planner, Machine Operator, Roboticists, Electricians, Product Engineer, Designer, Architect, Researcher

INDUSTRY FOCUS AREA

New Energy, Advanced Manufacturing

VICTORIAN CURRICULUM LINKS

Design and Technologies, Geography, Critical and Creative Thinking

TECHNOLOGY USED

Microcontrollers, Robots, Renewables, Minecraft, and more

YEAR LEVEL

9 - 10

DURATION

1 Day

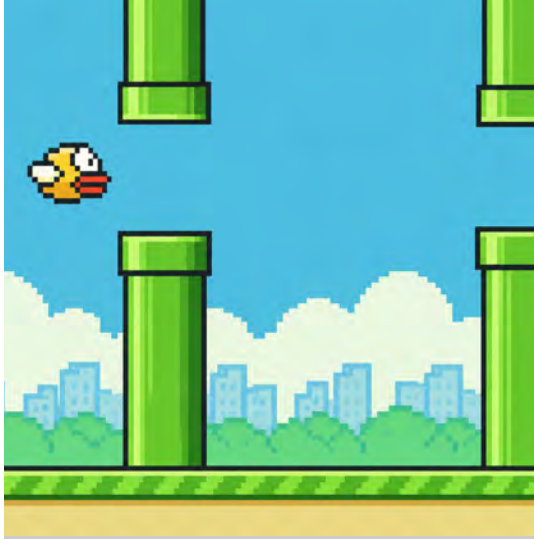
MAX STUDENT NUMBERS

25

[3] https://www.aihw.gov.au/reports/australias-health/profile-of-australias-population

Video Game Design

Video games are a major, and sometimes very lucrative, industry. This program is for students who are looking to learn how to make their own video games using industry-standard software. The program will teach students basic to intermediate coding and game-development skills.



Program Summary

While participating in this program, students will get the opportunity to explore their creativity using industry-level game development software.

Students will start the program by discussing what makes a game good, and what is important to them when looking for a good game, before diving in to learn how to design a game. Students will follow along with the facilitator to make the same basic game to start. Following this, students will then be given the opportunity to add their own customisations to the game, using their newfound skills.

At the conclusion of the day, students will get the chance to play and test each others games.

INDUSTRY FOCUS AREA

All

VICTORIAN CURRICULUM LINKS

Digital Technologies, Critical and Creative Thinking

TECHNOLOGY USED

Laptops, Unreal Engine Software

YEAR LEVEL

9 - 10

DURATION

1 Day

MAX STUDENT NUMBERS

25

Taking part in this program, students will collaboratively:

- Learn the skills of industry-level video game development software
- Create and test a basic video game using industry-standard software

Career Links

Video Game Designer, Graphic Designer, Video Game Artist

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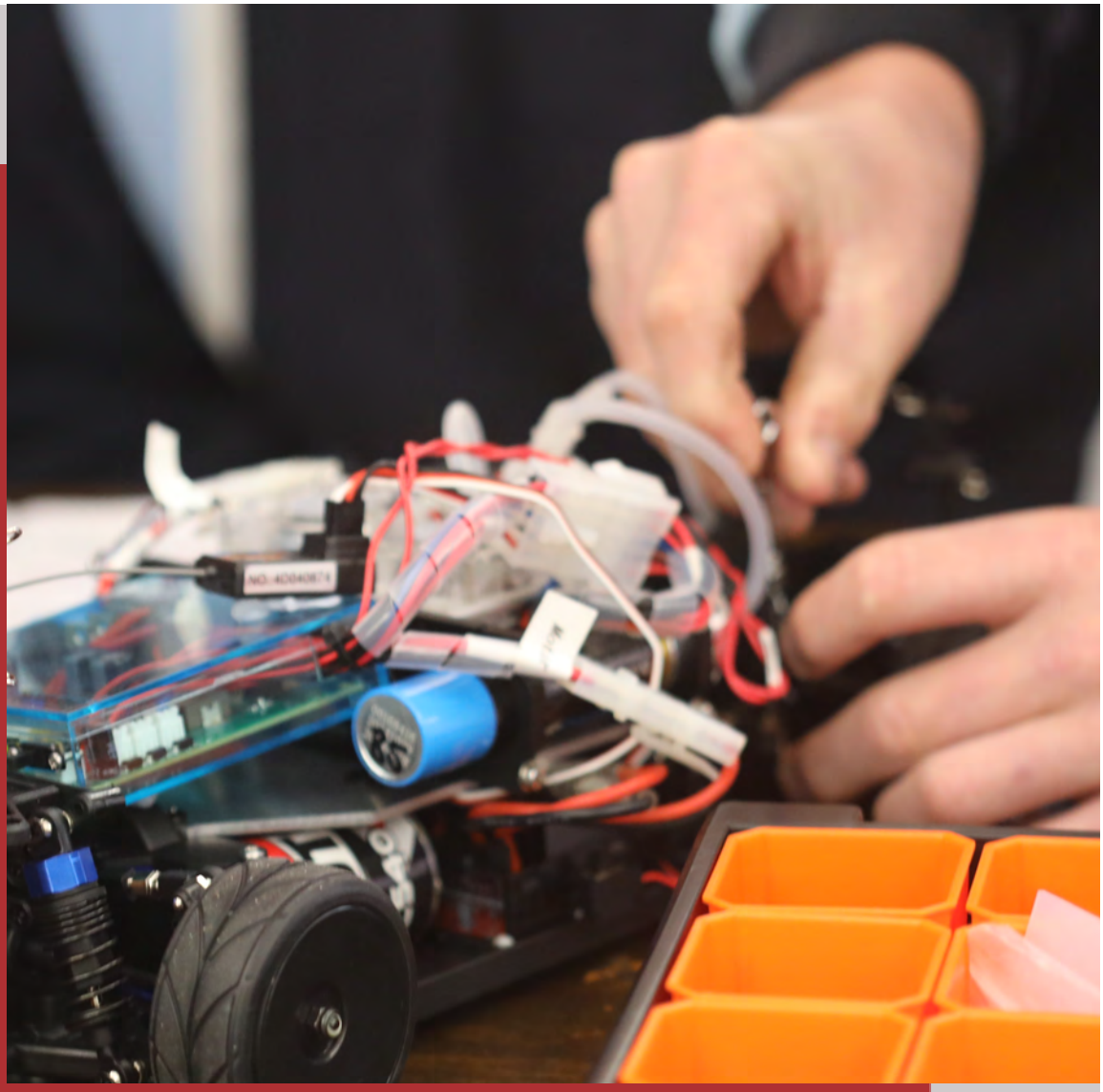

VCE/VM Programs

These programs have a post schooling pathways focus that targets VCE, VM & VET requirements for further study and/or work readiness. They utilise our resources to improve student assessment and link to local and future industry pathways and opportunities.

Our VCE/VM programs are designed to meet specific Units and Learning Opportunities that fit with most schools subject timetabling, however others require a longer time in order to meet the desired goals.

Work Experience and Professional Learning provides opportunities for students and teachers to invest in skills and knowledge to power their future careers.

Cut & Compose: A film and media journey

Australia's film, media, and music industries are some of the fastest growing and significant contributors to Australia's economy, generating billions every year and employing thousands[4] [5]. In these industries, there are many jobs behind the cameras and away from the microphone involving production and editing.

"Cut & Compose: a film and media journey" will give students a taste of the process involved in production and editing. Students will be exposed to industry-level software and equipment that they would be likely to use if they decided on a future in the film or music fields, equipping them with basic skills that are necessary to smoothly transition into a booming industry.

Program Summary

In this one day program, students will move through the entire media production process: planning, storyboarding, editing, and finalising a promotional video using Adobe Premiere Pro. Alongside this, they compose and refine original soundtracks in Ableton, learning how sound and vision combine to shape audience perception. Both Adobe Premiere Pro and Ableton software are used by top film, media, and music production companies respectably. The program encourages experimentation, critical reflection, and professional-style collaboration while still allowing students to maintain creative ownership. Each students completes the day with a polished promotional video paired with their own soundtrack.

Taking part in this program, students will collaboratively:

- Plan and storyboard promotional video projects for an audience and purpose
- Apply media production techniques, including editing, sequencing, and post-production
- Create original soundtracks, experimenting with layering, effects, and compositional devices
- Reflect on how sound and vision interact to create meaning and communicate ideas
- Iterate and use feedback to improve

Career Links

Video Editor, Sound Designer, Content Creator, Marketing and Communications Officer, Film Director, Film Producer, Music Producer, Advertising Creative, Multimedia Designer

INDUSTRY FOCUS AREA

Film, Media, Musics, Creative Technologies

VICTORIAN CURRICULUM LINKS

VCE Music, VCE Media

TECHNOLOGY USED

Ableton, Adobe Premiere Pro

YEAR LEVEL

VCE / VM

DURATION

1 Day

MAX STUDENT NUMBERS

25

[4] https:/www.screenaustralia.gov.au/sa/media-centre/news/2023/06-22-abs-survey-results

[5] https://creative.gov.au/research/bass-line-charting-economic-contribution-australias-music-industry

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Drones in Industry

Please note, this program is designed as an incursion to be run on-site at a partner school where a safe flying area, such as a school oval, is available.

Remotely piloted aircraft (commonly referred to as drones) are a technology that is becoming more common across a wide range of industry areas. The increasing ability for drones to carry heavier and more sophisticated camera equipment is also increasing their utility in a range of industry applications. With the development of the Latrobe Aerospace Technology Precinct and the Advanced Air Mobility Ecosystem there will be strong opportunities for students to engage with this technology in their local careers. However, because of the ease of acquiring and putting a drone in the air, there are a range of legal restrictions and implications to using drones which are often overlooked by novice pilots. A knowledge of how to use a remotely piloted aircraft legally and safely is vital for anyone considering using drones in their work.

Program Summary

Students will start by learning the current requirements for operating a drone in Australia. This will focus on the requirements for obtaining an Operator Accreditation and the Standard Operating Conditions.

At the conclusion of this, students should have the knowledge required to successfully pass the CASA Operator Accreditation test.

Students will then learn how to pilot a drone using line of sight in an indoor environment before moving to a large outdoor area where they can practice piloting a larger, camera-carrying drone.

Please note, external testing is required to obtain a licence.

Taking part in this program, students will collaboratively:

- Learn the Standard Operating Conditions
- Learn how to obtain an Operator Accreditation
- Learn how to safely pilot a drone

Career Links

Photographer, Videographer, Real Estate, Surveyor, Chief Pilot, RPA Pilot.

INDUSTRY FOCUS AREA

All

VICTORIAN CURRICULUM LINKS

VCE Media, VCE Systems Engineering, VCE/VM Work-Related Skills

TECHNOLOGY USED

Drones

YEAR LEVEL

VCE / VM

DURATION

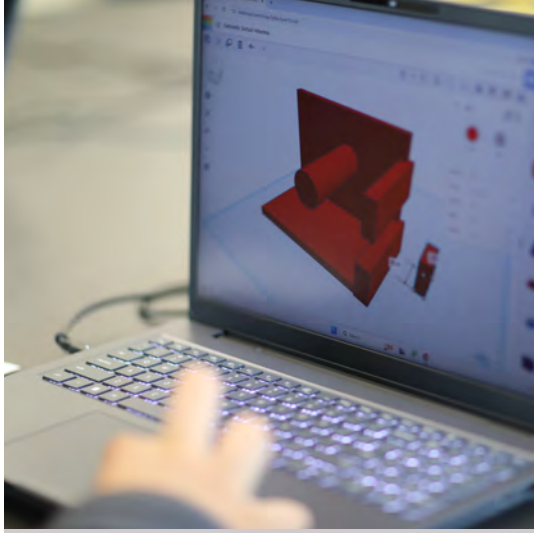
2 hours

MAX STUDENT NUMBERS

25

Make Me Safer

While workplace health and safety are always a priority for businesses, there are jobs that always come with an element of risk to the people undertaking them. Eliminating risks entirely is not always possible within a workplace, so planning ways to mitigate and reduce the risk becomes the priority. This is supported with a strong understanding of the hierarchy of control.
A knowledge of OH&S and an ability to design solutions to these safety challenges are valuable skills desired by employers.



Program Summary
In this program, students will use the Design Thinking process to tackle a health and safety challenge from a local Gippsland industry. They will begin by learning about the industry and come of the challenges they face in their everyday work. They will then undertake a variety of self-directed masterclasses to build their skills to tackle these challenges. The final part of the day will see students prototyping solutions and pitching their ideas to make the workplace safer.

Taking part in this program, students will collaboratively:

- Identify the safety risks posed in a Gippsland industry
- Proposed, develop, and test a solution to reduce this risk
- Pitch an idea

Career Links
Designers: Electrical Engineer, Building Inspector, Product Tester
Technologists: Programmer, Software Engineer, Web Designer
Artisans: Machinery Operator, Farm Worker, Electrician

INDUSTRY FOCUS AREA
New Energy

VICTORIAN CURRICULUM LINKS
Workplace Skills and Capabilities, Industrial Relations, Workplace Environment and Practice

TECHNOLOGY USED
Robotics, CAD, Virtual Electronics, Coding, Makerspace Materials

YEAR LEVEL
VCE / VM

DURATION
1 Day

MAX STUDENT NUMBERS
50

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Physics of Motion

Renewable energy, medical imaging, satellites, communication systems, and quantum computing are all technologies that are influenced by physics and play a key role in shaping the way we live and work. This is especially true in Gippsland where the expansion of renewable energy projects is leading to a greater need for engineers, technicians, and other workers with STEM skills.

For anyone who is thinking of pursuing a career in engineering, energy, medicine, technology, or scientific research, physics offers a valuable basis for understanding how the physical world functions and how this knowledge can be put to use in solving actual problems.

Program Summary
Students will work in pairs to complete a series of experiments relating to motion and related energy types. The initial experiments help to create a solid understanding of Newtons Laws of Motion in one and two dimensions. Further experiments build on this knowledge as they progress through the day, culminating in a student-led design sprint. Students will be tasked with reducing impact severity in a collision, modifying and using specialty designed carts.

Taking part in this program, students will collaboratively:

- Generate, record, and store data for later use
- Conduct a series of experiments on Newtons Laws of Motion
- Conduct a student-led experiment
- Create a scientific poster showing their learning for the day

Career Links
Civil Engineer, Mechanical Engineer, Astrophysicist, Radiographer, Materials Scientist, Robotics Engineer

INDUSTRY FOCUS AREA
New Energy, Health, Advanced Manufacturing

VICTORIAN CURRICULUM LINKS
VCE Physics -
Unit 3 : Outcome One
Unit 4 : Outcome Two

TECHNOLOGY USED
Vernier Systems, iPads, Various Sensors

YEAR LEVEL
VCE

DURATION
1 Day

MAX STUDENT NUMBERS
25

The Science in Sport

Accurate health and fitness testing is a critical part of successful athletic performance. Technology is widely used in sports and health science to collect data from athletes and report back on their abilities. The use of technology and the application of sports science principles has seen huge changes to increase sporting performance and a reduction in injuries.

Program Summary
The program is designed for students who have a strong sports focus, whether that be from the side of an athlete pursuing elite performance, or if they are interested in the supporting roles that lead to these elite outcomes.

Through the program, students will understand how technology is used at an elite level to evaluate and improve athletic performance. They will engage with a diverse range of sporting technologies to test and analyse performance, as well as exploring biomechanical analysis using motion capture suits and performance measurement tools, and take on the role of sports scientist to support exercise. The day will conclude with an examination of ethical issues that are arising with the integration of technology in sport. Through this experience, students will build their understanding of the impact that technology can have on health, fitness, injury prevention, return to sport, and performance enhancement.

Taking part in this program, students will collaboratively:

- Use a variety of equipment to measure sports performance
- Collect movement data for analysis and comparison
- Consider different ethical issues in sports

Career Links

Health Professional, Sports Scientist, Exercise Professional, Data Analyst, Sport Technologist

INDUSTRY FOCUS AREA
Sports Science, Exercise and Health Science

VICTORIAN CURRICULUM LINKS
VCE Physical Education

TECHNOLOGY USED
A variety of sports testing tools, Xsens Motion Capture Suit

YEAR LEVEL
VCE / VM

DURATION
1 Day

MAX STUDENT NUMBERS
50

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SPECIALIST STEM OPPORTUNITIES

Challenges and Events

Throughout the year, Gippsland Tech School will run a number of different design challenges and events, some with other Tech Schools and Specialist Science Centres.

To get involved in these follow us on social media and keep an eye on our website for registration and sign-up information.

This page shows events run previously and planned to run again in 2027, along with other new and exciting initiatives.

Education Week

Specially developed activities based around the annual National Education Week theme and made available to diverse and specialty cohorts.

Girls in Physics

An inspiring event encouraging year 10-12 students to explore physics through engaging talks, STEM career insights, and conversations with women working across physics and related fields.

VicPhysics

Horizon Hydrogen Grand Prix

A student-focused STEM competition driven by teamwork, collaboration, engineering skills, and the renewable energy revolution.

H2 GRAND PRIX SERIES

Lending Library

ABOUT LENDING LIBRARY

In our lending library, we have a range of technologies that you can borrow for an entire term to use in your classroom.

Each program will come with a series of one hour lesson plans and the primary technology required. Please read the descriptions of each program carefully as there may be a requirement for you to supply some resources.

Take a look at what we have to offer.

If you have any questions, or would like to arrange to loan one of our programs, please contact us via: enquiries@gippslandtechschool.vic.edu.au

We will provide:

Different technologies and accessories, along with lesson plans, will be provided for each program.

Resources that you need:

Please check the program details carefully to ensure you can provided any required resources.

Learning about mBots

YEAR 7 and 8 | 6 x 1 hour sessions

Explore the limitless possibilities of robotics and programming through engaging mBot lessons. These hands-on, one-hour sessions will introduce students to the exciting field of robotics, where they will learn to program and control their very own mBot. Through fun and interactive activities, students will develop essential skills in coding, problem-solving, and teamwork.

Whether you're a beginner or have some experience, the mBot lessons offer something for everyone; mBots are easy to pick up and learn for beginners but can offer a challenge for more experienced students as well.

We will provide:

- 15 x mBot 1 Model Robots
- Parts and cables needed to program the robots

Resources that you need:

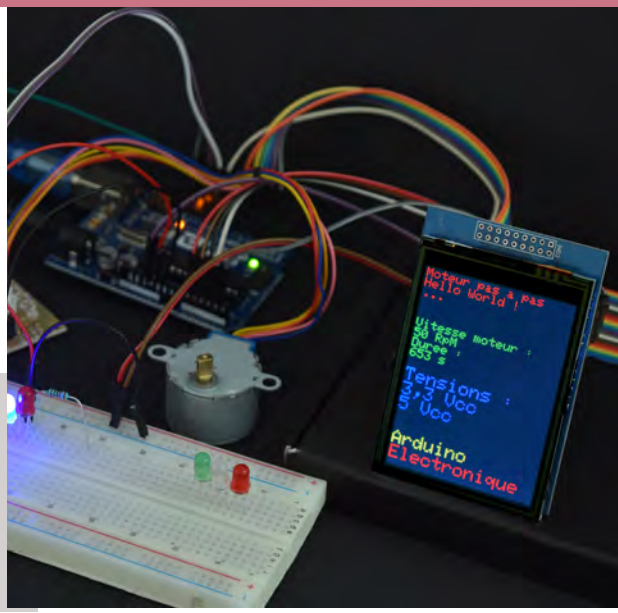
- Laptops with stable internet connections
- 4 x AA Batteries for each robot
- Black Electrical Tape
- Obstacles (e.g. boxes, books, etc)

Lending Library

Beginner Arduino

YEARS 9 AND 10 | 6 x 1 hour sessions

A programmable microcontroller, Arduino is being used across industry, makerspaces, and DIY projects. They allow for highly customisable circuits and solutions, and include both digital and analogue circuits, sensors, and outputs. Throughout this series, you will learn how to connect multiple inputs and outputs, and to code the Arduino to control and manipulate data to create an outcome.



We will provide:

- 14 x Arduino Kits
- 14 x Sensor Kits

Resources that you need:

- Laptop
- Multimeter

STELR Kits

YEAR 7 and 8 | 1+ x 1 hour sessions

Sustainability and the impacts of material choice is the focus of STELR Housing Kits. These kits will allow students to test the effects of a variety of materials on heat retention and loss in a building, as well as the effects of window glazing. This will build students' understanding of how design choices can impact sustainability.

We will provide:

- 8 x STELR Housing Kits
- 4 x Material Kids

Resources that you need:

- Timers
- Ability to record results (paper or digital)

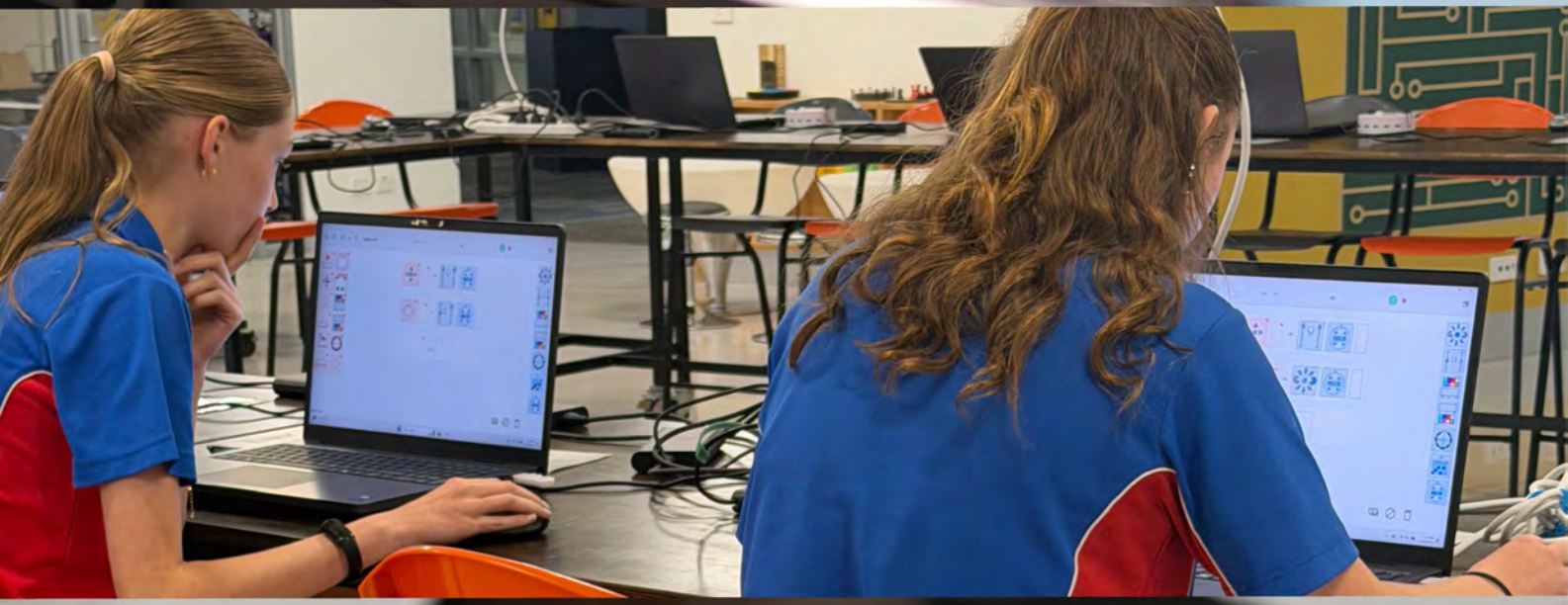
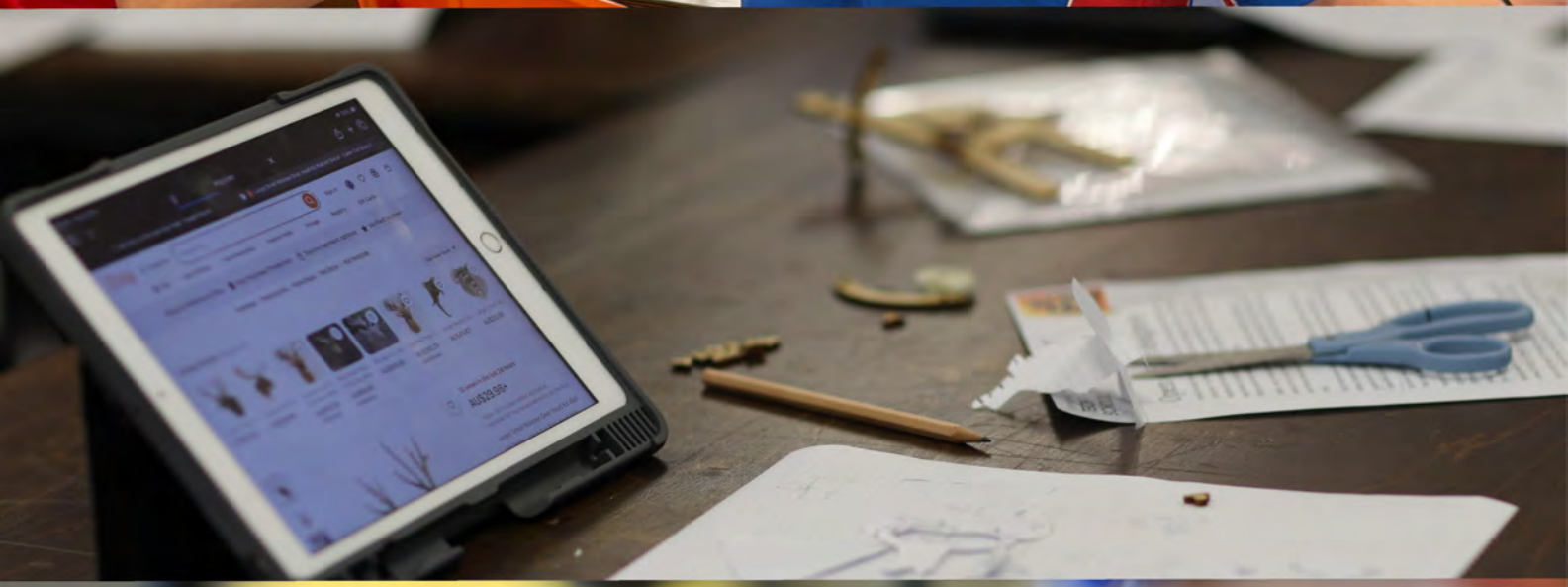
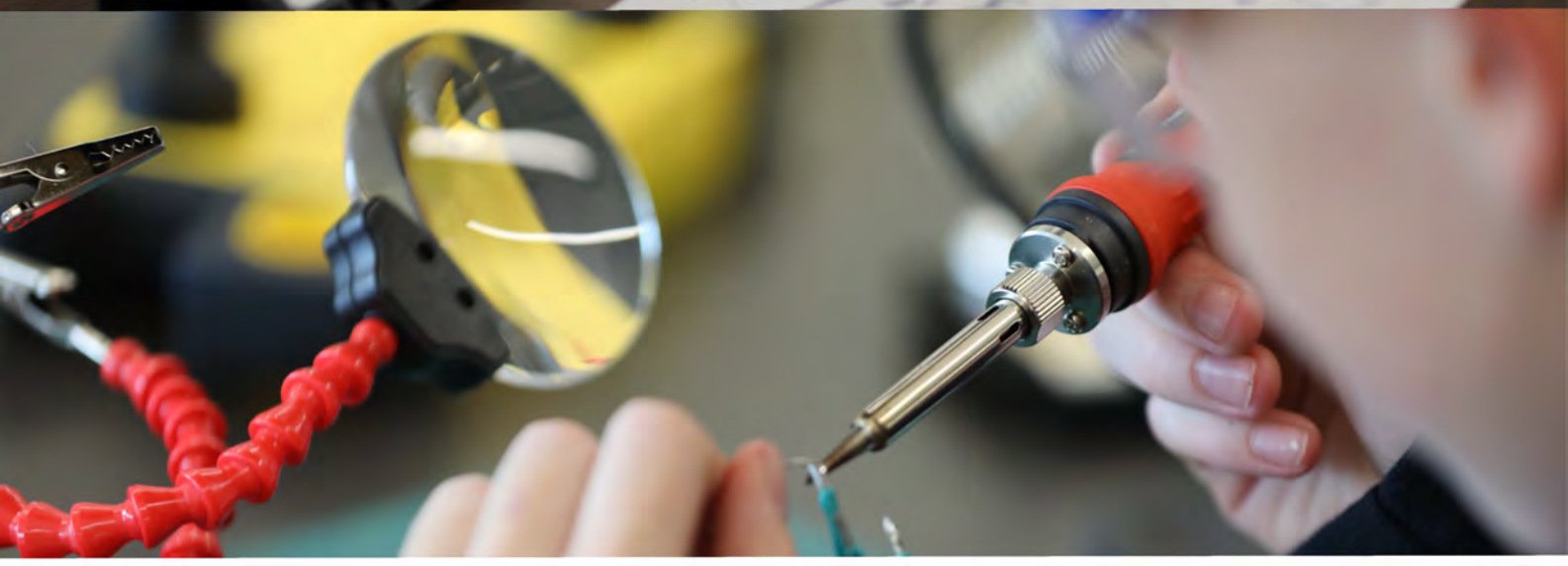
Sphero Mini

YEAR 7 and 8 | 6 x 1 hour sessions

Join us for an engaging series of lessons where you'll dive into the fascinating world of robotics and coding with the Sphero Mini. These hands-on classes are designed to spark your creativity, enhance your problem-solving skills, and deepen your understanding of key STEM concepts.

We will provide:

- 10 x Sphero Mini with connection and charging cables
- Sphero mini case
- Miniature bowling pins and cones

Resources that you need:

- iPad or Laptop
- Art Supplies and Rulers
- Projector
- Construction materials for lesson 4