SOUTH WEST

TECH SCHOOL

Connecting students to their futures

PILOT PROGRAMS

DRAFT GUIDE

SOUTH WEST TAFE

VICTORIA State Government | Department of Education

ABOUT US

South West Tech School is a cutting-edge learning environment that offers innovative educational programs directly linked to The Victorian Curriculum and local industry, providing students with hands-on, real-world learning experiences.

Throughout the year, students from our 26 partner schools in South West Victoria have the opportunity to engage in specialised programs that go beyond the traditional classroom.

We are committed to empowering students to take control of their learning journey and strive toward their full potential. Our programs designed to immerse students in technology-rich, authentic scenarios that not only deepen their understanding of the world around them but also highlight the vital role they will play in shaping the future. Through collaboration, creativity, and critical thinking, we aim to inspire the next generation of innovators and leaders.

OUR PROGRAMS

Our goal at South West Tech School is to integrate our programs into everyday learning, so students can connect their experiences with future learning and career opportunities. We achieve this by customising our programs to meet the unique needs of each school or class. Whether it's modifying a program to be delivered in a hybrid model, breaking it down into smaller, repeat visits, or focusing in on a particular part of a workshop, we strive to ensure every program is as impactful as possible.

We ask that our Partners reach out to us to discuss any changes in program structure that could help provide the best experience for your students. We encourage teachers to think about their program choices not just in terms of their current curriculum, but also in terms of the future opportunities these experiences can open up for students with strong STEM skills.

SOUTH WEST
TECH
SCHOOL

PROGRAM FORMAT & TIMELINE

TECH EXPLORERS

2027 - 8 Options

These introductory, integrated programs are designed to give all students in years 7-9 an opportunity to engage with and explore a range of technologies and address multiple domains within the Victorian Curriculum.

These programs offer a captivating one-day or half-day glimpse into applied learning, with a sharp focus on technology. Students are exposed to Design Thinking principles and fundamental technology skills.

These programs have a broad appeal for students with varied interests and ability levels and will suit students visiting South West Tech School for the first time.

TECH ENTERPRISE

2028 - 4 Options

An immersive multi-day “masterclass” experience for students in years 9-10 that explores priority areas in more depth. This comprehensive program will guide students through an exploration of diverse technology solutions, coupled with insightful industry visits.

Students will tackle real-world challenges directly tied to a local industry partner. The culmination of their efforts will be showcased through compelling presentations, showcasing the outcomes achieved during the program.

TECH ENRICHMENT

2029 - Upon Request

These embedded programs are designed to complement school based learning at VCE level. Developed with specific school partners and subject matter, these programs will be integrated into curriculum to meet desired learning outcomes.

Programs rely on co-delivery between South West Tech School and Partner School Teachers. Elements are able to be delivered in person at your school and on site at the Tech School. Learning is enriched by industry immersion and collaboration with students from other local schools.

TECH EXPLORERS - PROGRAM OPTIONS

AGRI FUTURES

HIGH TECH HARVEST
Students explore robotics in agriculture by coding robots for tasks like harvesting and object recognition using coding, AI and motion control.

BUSHFOOD INNOVATIONS
Students design unique confectionery products using AI and Australian bushfoods, blending culinary creativity with indigenous culture.

SUSTAINABLE SOLUTIONS

FUTURE FUELS LAB
A hands-on look at renewable energy systems using solar and wind. Students produce hydrogen through electrolysis, use it to power model vehicles, and explore its role in clean energy and transport.

WATER GUARDIANS
Students design filtration devices to improve waterway health using modern and traditional knowledge. Water quality is tested with various scientific tools.

TECH INNOVATIONS

PROTOTYPING PROJECTS
Customisable modules allow students to develop CAD, 3D printing, and laser cutting skills while designing solutions to real-world briefs.

NEAR AUTOMATA
In this robotics workshop, students prototype and automate fun machines using sensors, servos, and coding with the Hummingbird robotics kit.

DIGITAL CREATIVES

FROM PIXELS TO PRINT
Students explore graphic design and branding by creating custom prints for stickers and clothing, gaining practical skills in digital media and entrepreneurial design.

GAME ZONE!
Students code 2D games and build custom arcade controllers, blending creativity, technical skills, and problem-solving in a hands-on game development experience.

HIGH TECH HARVEST

PROGRAM OVERVIEW

Robotics is transforming agriculture by automating tasks like harvesting, weeding, and planting, increasing efficiency and sustainability. Agricultural robots are used in various applications, including harvesting, transport, weeding, planting and even milking, with the market expected to grow significantly in the coming years.

Students engage with block-based coding to navigate intricate obstacle courses and develop programs for tasks like object recognition and relocation. As they progress, they integrate AI-assisted motion control into their projects, enhancing their understanding of advanced robotics principles. This hands-on program not only strengthens algorithmic thinking but also prepares students for real-world applications in robotics and engineering.

STUDENTS WILL

- Code robots using block code and/or Python programming
- Use robot sensors and explore how robots make decisions
- Use creative thinking and collaboration to produce solutions
- Explore the benefits and drawbacks of mechanical movements

DURATION

Full Day

CURRICULUM LINKS

Science
Humanities
Mathematics
Digital Technologies
Critical & Creative Thinking

INDUSTRY LINKS

Food & Fibre
Land Management
AI & Data Science
Robotics

TECHNOLOGIES

Lidar Compound Bots
AI Camera Tech
Programmable Rovers
VEX Comp Robotics

BUSHFOOD INNOVATIONS

PROGRAM OVERVIEW

South West Victoria offers a diverse food tourism experience, ranging from fresh seafood and local produce to artisan cheeses and premium wines. The contemporary use of Australian bushfood flavours has enabled unique product development and innovation in the local food industry in recent years.

This program introduces students to the processes behind contemporary food development and innovation while simultaneously celebrating Australia's thousands of years of rich culinary heritage. The exploration of indigenous ingredients and exotic essences combined with the use of AI platforms and modern cooking techniques allows students to display their full creative and collaborative skills as they produce their very own branded and marketable product.

STUDENTS WILL

- Utilise AI in the product development process
- Experiment with indigenous flavours and senses in the design process
- Create their own confectionery product through prototyping
- Taste and showcase the outcomes of their prototypes

DURATION

Full Day

CURRICULUM LINKS

Media Arts
Science
Humanities
Design & Technologies
Digital Technologies
Intercultural Capability

NDUSTRY LINKS

Tourism & Hospitality
Agri-Business
Product Innovation
Retail & Marketing

TECHNOLOGIES

Smart Kitchens
Vaquform Moulders
AI Design Tools
Label Printers

FUTURE FUELS LAB

PROGRAM OVERVIEW

Hydrogen plays a crucial role in South-West Victoria's energy future, particularly in powering heavy transport, decarbonizing industries, and supporting renewable energy projects.

Through a series of engaging workshops, students will delve into the fundamental principles of energy transformation and hydrogen production. By conducting hands-on experiments, students will gain a deep understanding of hydrogen's potential as a sustainable energy carrier. Learners will begin by exploring how hydrogen can be produced and used as a fuel through a hands-on experience with the process of electrolysis. They will then learn how a hydrogen fuel cell converts chemical energy from hydrogen into electrical energy to power a vehicle. Finally, students will build on the principles to design and engineer their own hydrogen-powered cars.

STUDENTS WILL

- Produce hydrogen from water and explore possible benefits and issues
- Wire up an electric circuit using a hydrogen fuel cell to power a motor
- Build a sustainable vehicle and optimise its performance
- Race the vehicle for a chance on the podium

DURATION

Full Day

CURRICULUM LINKS

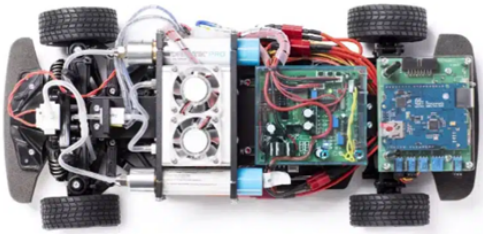
Science
Humanities
Mathematics
Design & Technologies
Critical & Creative Thinking

INDUSTRY LINKS

Renewable Energies
Transport
Engineering
Infrastructure & Utilities

TECHNOLOGIES

Renewable Energy Kits
Electrolysis Simulators
Hydrogen Sprint Cars



WATER GUARDIANS

PROGRAM OVERVIEW

Healthy waterways and oceans in South West Victoria are crucial for supporting diverse ecosystems, including fish populations and native plants, while also benefiting human activities like recreation, tourism, and agriculture. Water health is also vital for ensuring safe drinking water supplies and promoting overall public health.

In this program, students will use drones to collect local water samples. They will investigate traditional aquaculture innovations and explore how they can inform responses to today's most pressing water challenges. Drawing inspiration from Indigenous engineering, students design and build their own water filtration systems using both natural and modern materials. They test the effectiveness of their filters using scientific tools like microscopes and digital sensors - mirroring real-world practices.

STUDENTS WILL

- Operate drones to simulate emerging water health practices
- Use digital microscopes and sensors to assess water health
- Learn about indigenous engineering and innovation
- Design, build and evaluate an innovative water filtration device

DURATION

Full Day

CURRICULUM LINKS

Science
Humanities
Digital Technologies
Design & Technologies
Intercultural Capability

INDUSTRY LINKS

Water Management
Aquaculture
Environmental Science
Indigenous Land Management

TECHNOLOGIES

Drones
Digital Microscopes
Water Test Kits
Makerspace

PROTOTYPING PROJECTS

PROGRAM OVERVIEW

Rapid prototyping is a critical innovation skill in many of today's industries where businesses need to adapt quickly to design or improve products. In this exciting program format, students will be able to develop and refine their skills and understanding of the prototyping process.

This program will operate under a 'module' structure, whereby the Tech School will work with teachers to co-develop a learning experience which is tailored to needs of partner schools. Schools can choose prototyping technology (Laser Cutters or 3D Printers) and design software (TinkerCAD, Fusion 360 or Adobe Illustrator). Students will then design and prototype an appropriate product in response to a Tech School design brief, or one provided by the partner school. All programs will be supported by a hands-on drawing and drafting workshop.

STUDENTS WILL

- Gain an understanding of CAD and rapid manufacturing
- Learn practical measurement and drafting skills used in CAD
- Design and prototype their own product
- Develop skills in 3D printing and Laser Cutting

DURATION

Full Day

CURRICULUM LINKS

Visual Communication & Design
Mathematics
Design & Technologies

INDUSTRY LINKS

Manufacturing
Industrial Design
Technology Services
Digital Innovation

TECHNOLOGIES

3D Printers
Laser Cutters
CNC Machinery
Makerspace

NEAR AUTOMATA

PROGRAM OVERVIEW

Automated technologies are critical for enhancing efficiency, safety, and productivity in modern society. Automation is playing a key role in South West Victoria; South West Healthcare is utilising automation solutions to optimise storage and distribution within their regional distribution centre, and automated recycling in South West Victoria utilises reverse vending machines for container deposit scheme recycling, with a focus on increasing the recycling of containers and reducing litter through financial rewards.

IIn this hands-on workshop, students will use the Hummingbird robotics kit to design and create an automated mini-golf course, carnival ride or robo-pet. Working in teams, they will prototype the design using cardboard and a range of materials, write programs to automate the structure, using sensors to enable lights and motors and test and modify (iterate) the design. This program can be scaled in challenge and complexity to meet the needs of students at various levels, such as creating advanced designs that incorporate AI sensor technology.

STUDENTS WILL

- Gain skills in using servos, motors and sensors
- Learn and practice introductory coding
- Create a concept design
- Prototype the concept design

DURATION

Full Day

CURRICULUM LINKS

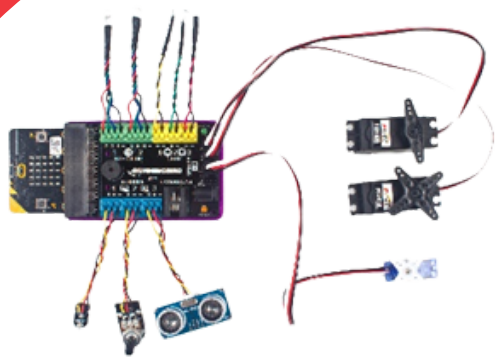
Mathematics
Digital Technologies
Design & Technologies
Critical & Creative Thinking

INDUSTRY LINKS

Applied Robotics
Automation
Logistics & Distribution
Engineering

TECHNOLOGIES

Hummingbird
Electronics Kits
HuskyLens AI
Makerspace



FROM PIXELS TO PRINT

PROGRAM OVERVIEW

Media and design skills are crucial for both personal expression and professional opportunities, especially in today's digitally driven world. This program offers students a dynamic opportunity to explore the world of graphic design while delving into practical applications for stickers and clothing.

Students will learn how to create eye-catching graphics that can be translated into tangible products. They will gain hands-on experience with the entire process from conceptualisation to production. Beyond teaching essential graphic design skills, this workshop introduces students to the entrepreneurial aspects of art, encouraging them to think creatively about how their designs can be marketed and sold. Additionally, students will acquire valuable skills in the sign-making industry, learning about the techniques and technologies used to produce high-quality prints and products.

STUDENTS WILL

- Create digital graphics using industry-standard software and tools
- Design branding or print solutions that effectively convey messages
- Apply design processes from concept through to production
- Gain hands-on experience with commercial pressing techniques

DURATION

Full Day

CURRICULUM LINKS

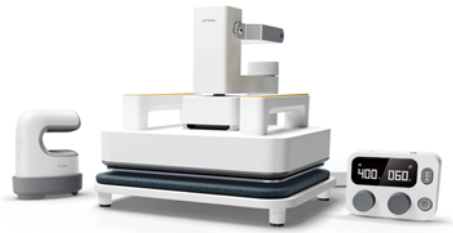
Visual Arts
Media Arts
Digital Technologies
Critical & Creative Thinking

INDUSTRY LINKS

Graphic Design
Fashion & Merchandise
Marketing & Media
Creative Industries

TECHNOLOGIES

Wacom Tablets
Vinyl Printer/Cutter
Sublimation Print
Heat Press



GAME ZONE!

PROGRAM OVERVIEW

The Australian game design industry is experiencing strong growth and has the potential to become a billion-dollar industry within the next decade. This program blends technology with creative expression in a dynamic and fast-paced learning environment.

Through game design software, students will engage with the technical and creative aspects of game creation by exploring game elements such as- sprites, physics systems and program operators. Students then get hands-on experience prototyping their own handheld “shoebox arcade” controllers, which will enable students to playtest each other’s creations in an exciting climax to the day. Designed to cultivate technical proficiency, creativity, and problem-solving skills, this interactive experience provides students with a solid understanding of game development processes, preparing them for potential careers in the gaming industry.

STUDENTS WILL

- Use game development software to create and modify game elements
- Apply problem-solving strategies to develop and improve game mechanics
- Customise game templates and refine game functionality based on design principles
- Work in teams to design and develop interactive arcade game controllers

DURATION

Full Day

CURRICULUM LINKS

Media Arts
Digital Technologies
Digital Technologies
Critical & Creative Thinking

INDUSTRY LINKS

Game Design
Software Development
Electronics Prototyping
Digital Media

TECHNOLOGIES

MakeyMakey
MakeCode Arcade
Hiking Arcade Mame Kit
Elecfreaks Consoles

TECH TASTERS

PROGRAM OVERVIEW

The “Tech Tasters” program will enable South West Tech to offer a range of flexible experiences tailored to the diverse needs of our unique regional context. Each 90 minute session would focus on a specific technology or future work capability, and provide an engaging and fast-paced introduction to potential future programs.

There will be an option for schools to combine up to three tech tasters for a high-paced rotation day suitable for larger groups visiting South West Tech for the first time. These programs can be tailored to support bespoke programs, such as those for Specialist Schools, Primary Schools, Vocational Students, Koorie Groups, Leadership Programs, Community Events and Remote Distance Delivery. Finally, the equipment used in Tech Tasters may also form the basis of a “Lending Library” that can be used to support partner school staff PL and elaboration of programs in the home context.

STUDENTS WILL

- Engage with a range of tools and technologies in a high-paced environment
- Collaborate with peers to experiment and test solutions
- Gain hands-on experience with emerging technologies
- Explore the application of technologies for future programs

DURATION

90 Minutes

OPTIONS

Lego Innovations

Drone Operations

Plastic Recycling

3d Scanning

VR Design

VR Body Systems

Robo Rumble

Microscopic Art

Enviro Homes

Content Creator