

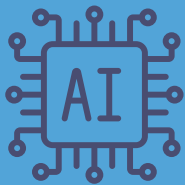
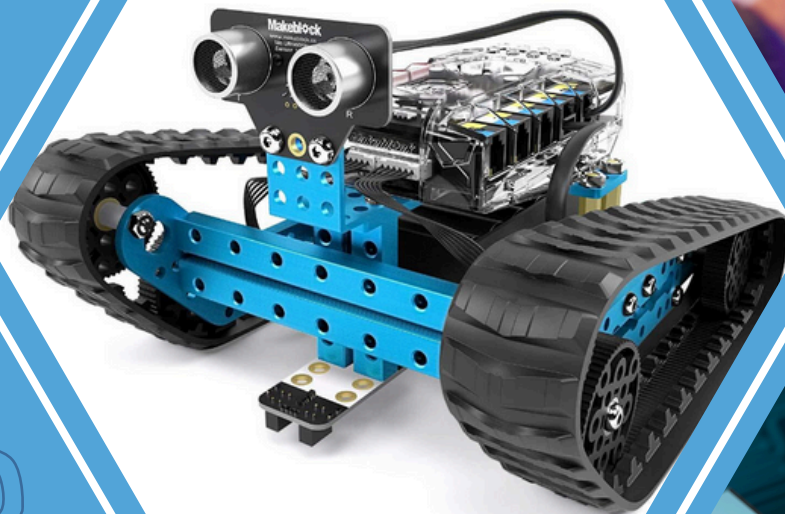


STEMCentre
Australia
SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS

2024

INFORMATION PACKAGE

Fun, Interactive & Educative STEM Courses
Reception – Year 12



» **ENROL TODAY!**



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2024 STEM Courses FACE-TO-FACE & ONLINE COURSES AVAILABLE

Are you interested in joining our voyage of leading-edge learning and discovery?

Why STEM is important?

According to the Australian Government Industry Employment Projections Report, over the next five years, employment is predicted to increase in professional, scientific and technical services by 16.8 per cent and in health care by 15.8 per cent. The Australian Bureau of Statistics has estimated that some STEM-related jobs, such as information and communication technologies professionals and engineers, have grown at about 1.5 times the rate of other jobs in recent years.

International research shows that building STEM capacity across the population is critical in helping to support innovation and productivity regardless of occupation or industry. Consistent with this research, industry surveys show that STEM literacy is increasingly becoming part of the core capabilities that Australian employers need.

A renewed national focus on STEM in school education is critical to ensuring that all young Australians are equipped with the necessary STEM skills and knowledge that they will need to succeed.

How we embody STEM concepts in our courses

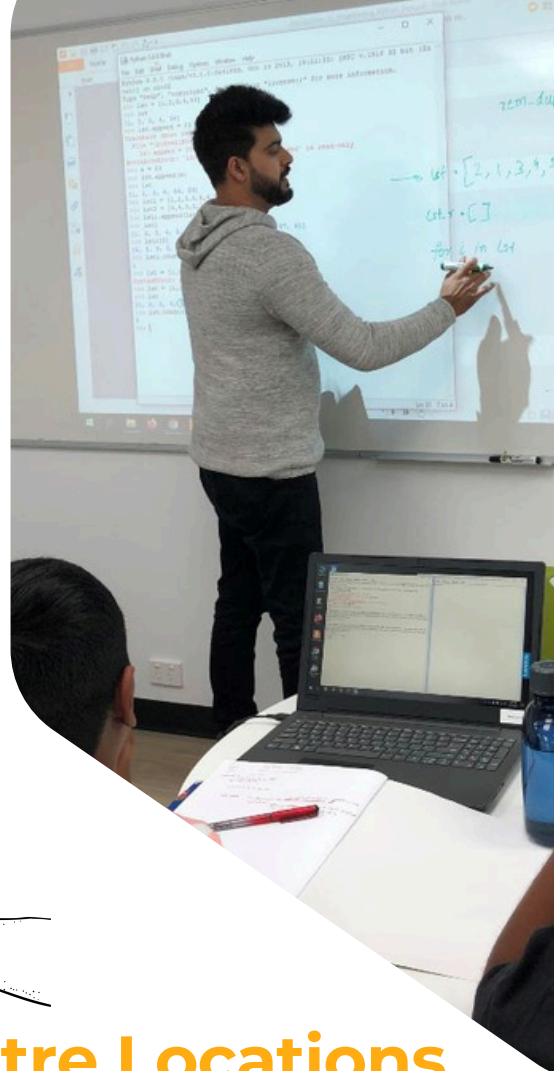
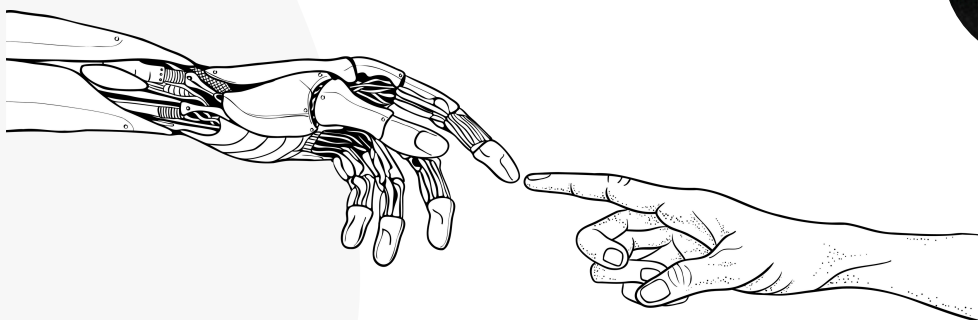
STEM Centre Australia develops courses and delivers engaging learning experiences in STEM-related fields targeted towards school-aged and tertiary students, as well as educators. Aligned with the Australian Curriculum, STEM Centre Australia offers several new, innovative and exciting courses to boost our students' knowledge, interest and awareness in highly sought-after STEM fields.

At STEM Centre Australia, we know that STEM is about implementing learning strategies that engage learners in authentic and collaborative problem solving, whereby solutions are created by drawing upon deep disciplinary knowledge of science, technologies and mathematics. Additionally, STEM learning encourages both critical and creative thinking. These skills are essential in all 21st century occupations. Our approach to STEM education optimises the development of STEM-capable individuals; people who thrive personally and professionally, make informed decisions in their daily life and are empowered to follow STEM careers and lead innovation at any age.

The STEM Centre Australia team consists of experts from leading Australian industries and institutions within the disciplines of science, technology, engineering, mathematics and education. In alignment with the National STEM School Education Strategy, we have developed a hands-on approach to scientific, mathematical and technological literacy, utilising learning modules, appropriate self- and peer-assessments and practicals.

Our 2024 courses: Various courses from Reception – School Years 12

- Introduction to Robotics & Coding (Early Learners) (Phase 1 - 3)
- Introduction to Robotics & Coding (Phase 1 - 4)
- Introduction to Programming - Python (Phase 1 - 3)
- Introduction to Artificial Intelligence (Phase 1 - 2) *NEW
- Introduction to IoT (Internet of Things) Programming (Projects 1 - 3) *NEW
- Innovation & Creative Thinking: Several theme-based courses on:
 - Sustainability - Harnessing the Wind, Solar Energy Utilisation
 - Space - Journey to Space



Centre Locations

STEM Centre Australia operates from conveniently situated learning centres strategically placed to serve both the northern and southern sectors of the city. In response to increasing demand for quality education, both centres maintain exemplary standards to guarantee excellence in learning. Our dedicated teams at each location are committed to providing superior educational support and guidance, ensuring students receive the highest quality of education.



DONASH
EDUCATION CENTRE



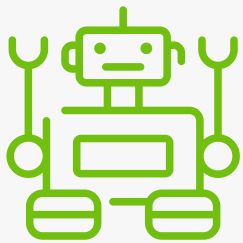
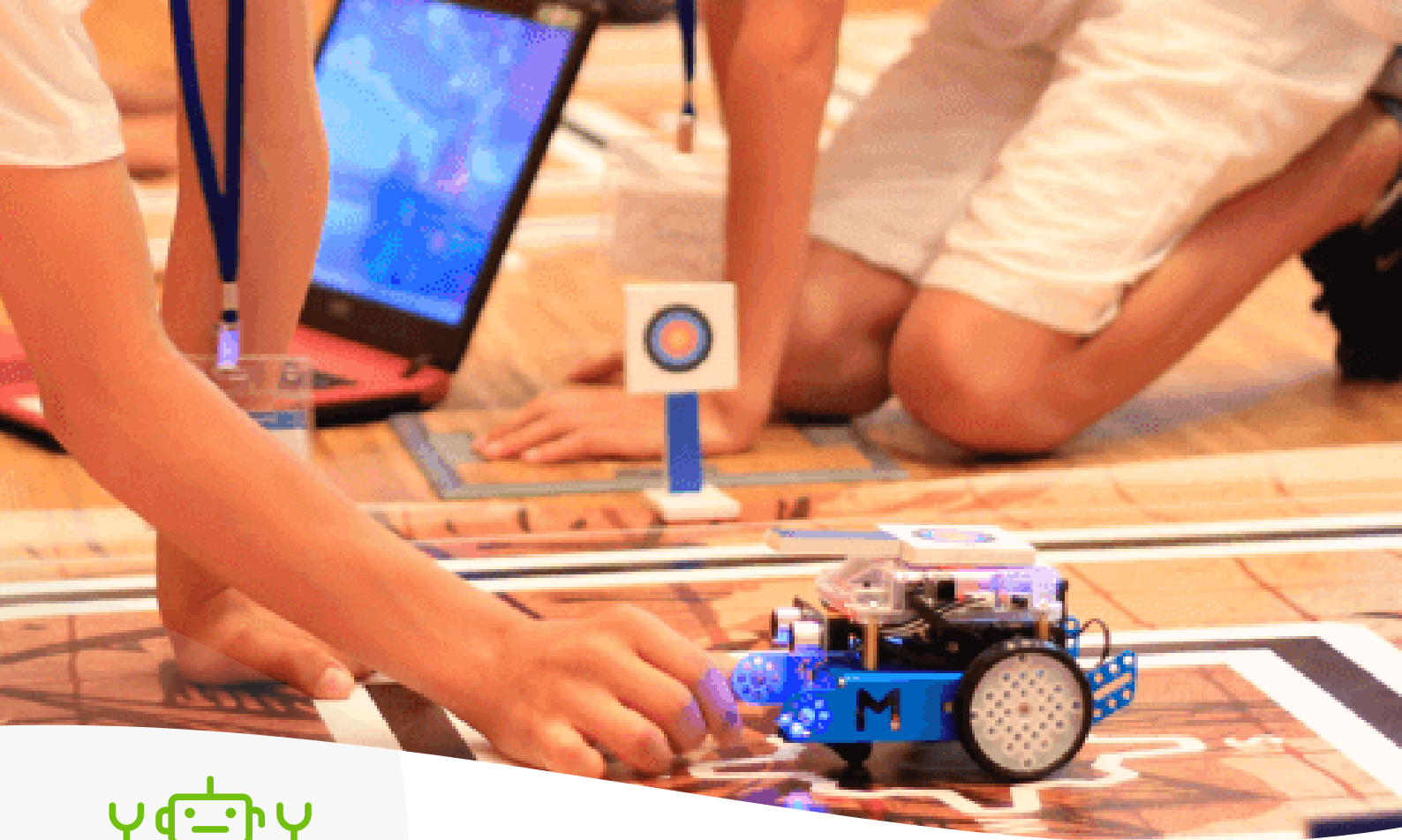
CAMPBELLTOWN CENTRE

Donash Education Centre
27 Montacute Road CAMPBELLTOWN SA
5074



MITCHAM CENTRE

Mitcham Girls High School
Kyre Avenue
KINGSWOOD SA 5062



ROBOTICS & CODING COURSES FACE-TO-FACE & ONLINE COURSES

1. Introduction to Robotics and Coding (Phase 1 - 4)

Course Description

All Robotics & Coding courses are designed by experts in STEM Centre Australia, with a multi-disciplinary experience and experience ranging from leading Australian industries within the disciplines of engineering, mathematics, medical sciences and education. Various phases in the Robotics & Coding course addresses the Australian Curriculum on Digital Technologies, aligned with the National STEM School Education Strategy, to develop a hands-on approach to mathematical and technological literacy.

More specifically, concepts aligned with the future industry technologies and platforms have been implemented in the course content, ensuring absolute relevance and applicability to today's technologically dominated world. Programming languages such as Scratch 3.0, Arduino and Python are used with the latest technology-based STEM robotics hardware kits and programing software.

Course information

FACE-TO-FACE LESSONS

- 6 weekly sessions x 1.5 hr per session
- Available in Terms 1 - 4
- Full course fee: \$315

Phase 1 (Beginner) – School years 3-6

- Interactive and fun filled sessions where students learn the fundamentals of block based coding - Animation and game development, basic robotic programming & customised student challenges.

Phase 2 (Intermediate) – School years 6-12

- Program and control a smart and capable robot using simple block based coding.

Phase 3 (Advanced) – School years 6-12

- Configure your own robot and learn how to create complex robotic interaction using simple block and script based coding tools.

Phase 4 (Pro) – School years 6-12

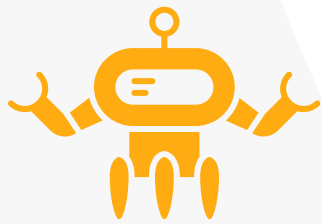
- Learn Python and Arduino based advanced coding capabilities to further advance your programming skills and establish a deeper understanding of controlling robotics platforms in real-time



Spots are limited, so register now to secure your child's place



ENROL TODAY!



ROBOTICS & CODING COURSES FACE-TO-FACE & ONLINE COURSES

2. Introduction to Robotics and Coding (Early Learners)

Course Description

Learning to code teaches you how to think; this is even true for early-learning kids and pre-schoolers!

Designed by experts at STEM Centre Australia, with a multi-disciplinary experience and experience ranging from leading Australian industries within the disciplines of engineering, mathematics, medical sciences and education. Various phases in the Robotics & Coding course addresses the Australian Curriculum on Digital Technologies, aligned with the National STEM School Education Strategy, to develop a hands-on approach to mathematical and technological literacy.

We aspire to motivate and empower kids as young as 5 to code and problem-solve by delivering an imaginative, innovative and engaging program. The journey to coding starts with basic coding, sequencing and mapping concepts. Then, using our friendly and easy-to-use educational STEM robot kits, students will learn to code artistic, musical and mathematical programs, which will assist in developing cognitive abilities, imagination & coding skills through hands-on play.

This series of courses consist of 3 phases ranging from Beginner, Intermediate and Advanced to cater for students with various levels of understanding in the field. All phases are developed to be engaging and interactive, oozing fun-filled learning activities designed to allow kids' inner genius to flourish. Consisting of 6 structured sessions, early learners will develop robotics and coding skills through cognitive learning techniques in individual and team settings. Initially, kids will understand robots and coding in their most simplistic forms, followed by the application of robotics and coding concepts in arts, maths and music.

Course information

FACE-TO-FACE LESSONS

- 6 weekly sessions x 1.5 hr per session
- Available in Terms 1 - 4
- Full course fee: \$315

Phase 1 – Reception – Year 2

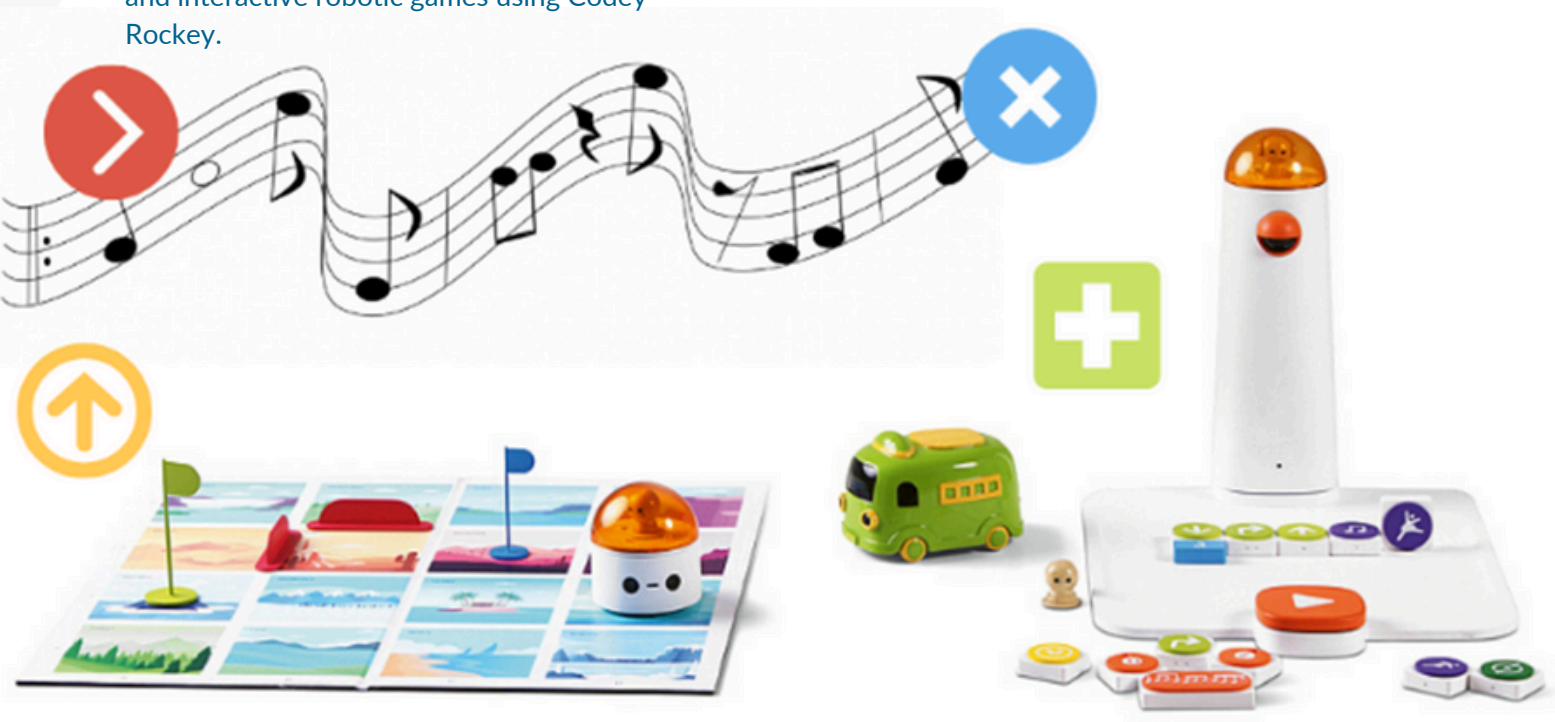
- Understand what is a robot and what it can do via interactive hands-on exercises. Explore MATATALAB to create ART, make MUSIC & solve basic MATH using easy to follow coding steps.

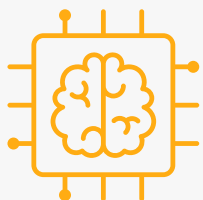
Phase 2 – Reception – Year 2

- An exciting project based approach to teach your children how to use coding for planning, designing, and developing a complete robot race using MATATALAB & Codey-Rockey - from designing the race track to coding the race theme music.

Phase 3 – Reception – Year 2

- A comprehensive course that teaches students how to use coding and logical thinking to create interactive animations, audio-visual experiences and interactive robotic games using Codey-Rockey.





PROGRAMMING (PYTHON) COURSES FACE-TO-FACE & ONLINE

1. Introduction to Programming – Python (Phase 1 – 3)

Course Description

Introduction to Programming – Python - Beginner” is a comprehensive course aimed at developing deep-rooted understanding of the fundamentals of programming and coding for beginners and those looking to enhance their programming skills.

Moving on, the “Introduction to Programming – **Python** – Intermediate” is an ideal course for those students who had already gained an initial exposure to Python programming and looking to challenge themselves further.

Finally, “Introduction to Programming – Python – Advanced” is an ideal course for those students who had already gained an initial exposure to Python programming, functions, object-oriented programming (OOP) and looking to learn by real life hardware implementation and application.

Course information

FACE-TO-FACE LESSONS

- 6 weekly sessions x 1.5 hr per session
- Available in Terms 1 - 4
- Full course fee: \$315

Phase 1 (Beginner) – School years 4-8

- Learn and practise important and generic programming concepts such as variables, functions, algorithms, simple data structures, objects and object-oriented programming.

Phase 2 (Intermediate) – School years 6-12

- Understand principles of Object Oriented Programming such as classes, objects, inheritance, encapsulation, and polymorphism. Learn basics of Graphical User Interface (GUI) programming in python using OOP. Finally, students are guided to develop an OOP based GUI for a calculator application.

Phase 3 (Advanced) – School years 6-12

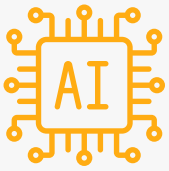
- This phase showcases several exciting projects designed for students to undertake in an interactive and hands on manner. As such;
 - Micro-bit based integrated sensor system development using Python
 - Game development using Python

More broadly, this course will foster and nurture students' curiosity towards STEM, ensuring the development of deeper engagement and learning.



Spots are limited, so register now to secure your child's place!

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ARTIFICIAL INTELLIGENCE FACE-TO-FACE & ONLINE COURSES

1. Introduction to Artificial Intelligence

Course Description

Designed specifically to encompass the latest open source and custom technologies/platforms, the course ensures absolute relevance and applicability to today's technologically-dominated world.

This course provides an introduction to Artificial Intelligence (AI) technology and enables students to implement modern AI applications using block based programming, interactive online tools and Python programming language.

Course information

FACE-TO-FACE LESSONS

- 6 weekly sessions x 1.5 hr per session
- Available in Terms 1 - 4
- Full course fee: \$315

Phase 1 (Beginner) – School years 3-6

- An ideal course for developing a deep-rooted understanding of the fundamentals of programming and coding as well as using them to employ modern AI tools and concepts for developing transferable skills of problem solving, critical analysis, creative thinking and teamwork; necessary skills for lifelong learning.

Phase 2 (Intermediate) – School years 6-12

- Ideal for students who have already gained an initial exposure to Python programming. This course uses Python and various other APIs to integrate the power of open-source AI technologies enabling students to develop highly customised and powerfully software applications.



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IoT PROGRAMMING FACE-TO-FACE COURSES

1. Introduction to IoT Programming (Projects 1 – 3)

Course Description

Introduction to IOT programming – concepts and implementations” is an ideal course for those students who has already gained an initial exposure to block-based programming and Robotics. This course provides them with an optimized launching platform to understand how scripted programming logics are implemented on modern electronic hardware.

Students will gain understanding of how various software and hardware components can work together as Internet of things (IoT) to provide useful everyday solutions.

The course is designed and structured as a Project-Based Learning (PBL) approach that engages students in rich and authentic learning experiences. We have established strong commitment to innovation and contemporary pedagogies to teach advanced concepts and practices in programming though this course.

Further emphasizing the importance in excelling IoT programming; we have designed several exciting projects for students to undertake in an interactive and hands on manner. As such;

- Making an autonomous driving
- Wireless biometric security and access system
- Automated bushfire alarm and response system

More broadly, this course will enhance the students' ability and skills set in applications based advanced project development, while exposing to “systems development lifecycle”, which is crucial for future programmers object-oriented programming (OOP) and looking to learn by real life hardware implementation and application.

Course information

FACE-TO-FACE LESSONS

- 6 weekly sessions x 1.5 hr per session
- Starting in School Term 3
- Full course fee: \$315
- E-mail info@TutorsSA.com.au to subscribe for the latest updates on this course.





INNOVATION & CREATIVE THINKING ACE-TO-FACE COURSES

1. Harnessing the Wind (Phase 1)

Course Description

In keeping with the theme of sustainability, the main purpose of this exciting course 'Harnessing the Wind' is to provide students with a theoretical and practical introduction to the process of converting wind energy to electrical energy. Students will apply their newly gained knowledge to develop a basic proof of concept demonstrator using preliminary programming and easy access hardware tools. Moreover, students will undertake a reflective exercise at the end of each session, encouraging self-regulation and active participation in the learning process.

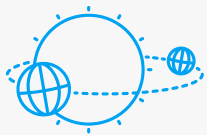
The success of this course will lie in the encouragement of students to present their 'out-of-the-box' ideas, and, using the tools of thinking and relevant knowledge gathered each week, refine their ideas for implementation. The skillset gained from this course will encourage students to actively and meaningfully contribute to solving real-world problems faced in our daily lives.

Course information

FACE-TO-FACE LESSONS

- 6 weekly sessions x 2 hr per session
- Starting in School Term 3
- More information to follow soon.
- Full course fee: \$399
- E-mail info@TutorsSA.com.au to subscribe for the latest updates on this course.





INNOVATION & CREATIVE THINKING FACE-TO-FACE COURSES

2. Journey to Space (Phase 1)

Course Description

Embark on a 6-week intellectual voyage, delving deep into two different, yet important and complementary aspects of innovation; creative & critical thinking. Creative thinking is a way of looking at problems or situations from a fresh perspective to innovatively develop something new and meaningful; whereas critical thinking is the logical, sequential disciplined process of rationalising, analysing, evaluating and interpreting information to make informed judgments and/or decisions.

Given the scenario of a “ruined earth”, students will embark on their “journey to space” in search of a new habitable planet for mankind. In order to explore the suitability of living conditions, students will be involved in hands-on activities, guided by a range of tools and platforms used to identify solutions using innovation, evaluation and judgment. Additional to fostering innovation and creative thinking skills, students will learn about time management, risk assessment, teamwork, the scientific enquiry process, presentation skills and a touch of robotics and coding.

Course information

FACE-TO-FACE LESSONS

Phase 1 – School years 6-9

- 6 weekly sessions x 2 hr per session
- Starting in School Term 3
- More information to follow soon.
- Full course fee: \$399
- E-mail info@TutorsSA.com.au to subscribe for the latest updates on this course





INNOVATION & CREATIVE THINKING FACE-TO-FACE COURSES

3. Solar Energy Utilisation (Phase 1)

Course Description

The sun is the most powerful source of energy present in our solar system and possibly a little beyond the solar system boundaries too! Other than supporting life on Earth, the sun also offers us an everlasting source of energy to fulfill our ever-increasing energy needs. Considering the pressing need to produce more energy that does not cost the Earth (literally and figuratively!), solar energy is a great option. In keeping with the theme of sustainability, this exciting course 'Solar Energy Utilisation' explores the concept of converting solar energy from sunlight into electrical energy.

Additionally, students will apply their newly gained knowledge to develop a basic proof of concept demonstrator using preliminary programming and easy access hardware tools. Moreover, students will undertake a reflective exercise at the end of each session, encouraging self-regulation and active participation in the learning process. Reflective practice allows students to 'shine bright like the sun' even beyond the classroom; an important aspect in the process of lifelong learning.

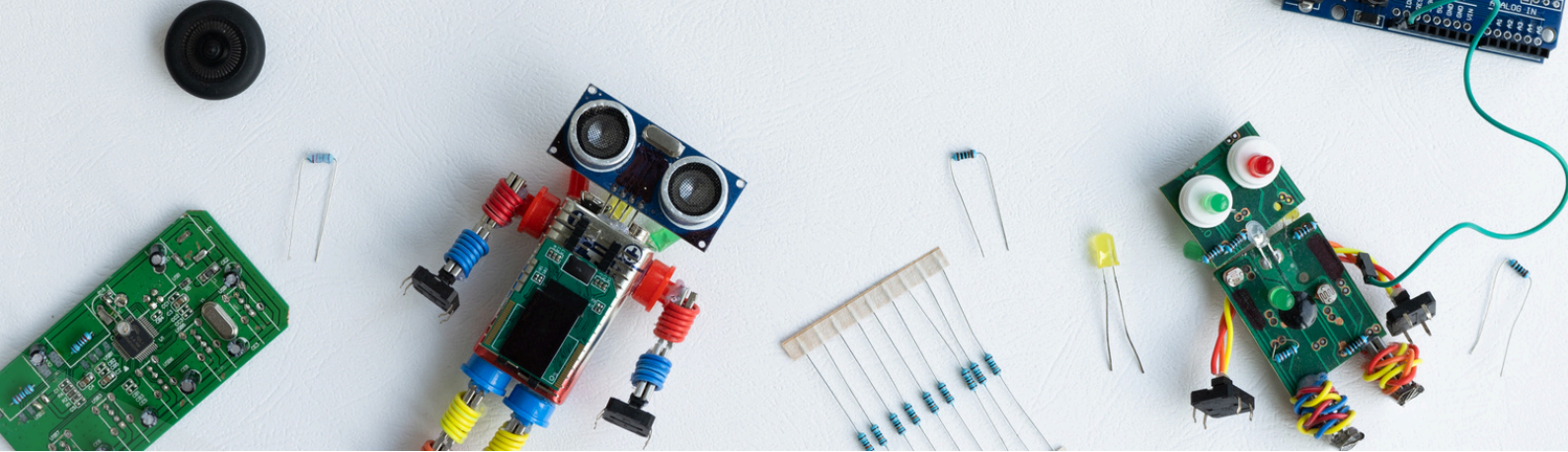
Course information

FACE-TO-FACE LESSONS

Phase 1 – School years 6-9

- 6 weekly sessions x 2 hr per session
- Starting in School Term 3
- More information to follow soon.
- Full course fee: \$399
- E-mail info@TutorsSA.com.au to subscribe for the latest updates on this course.





STEMPOWERS COURSE FACE-TO-FACE COURSES

1. STEMpower

Course Description

STEM learning focuses on science, technology, engineering and mathematics to build children's critical thinking skills and sense of curiosity. Positive and early exposure to STEM opens a whole new world of possibility for kids to explore the vast field of STEM, developing transferable skills that can be applied across disciplines. International research demonstrates that building STEM capacity is critical in helping to support innovation and productivity regardless of occupation or industry.

The 'STEMpowers' course addresses a variety of STEM themes through interactive, fun and relevant hands-on activities. Starting with solving a puzzle using maths, kids will explore the broader theme of energy in our world through circuits and robots, forces of motion, DNA and digestion, plants and photosynthesis and chemical polymers. Importantly, kids will learn the enquiry-process of developing a research question, appropriate methodology, collecting data and understanding the outcomes. Moreover, students will undertake a reflective exercise at the end of each session, encouraging self-regulation and active participation in the learning process.

Students will be exposed to a range of engaging, fascinating and interactive activities, to address and extend Australian Curriculum content, promoted by self-regulated and active learning strategies.

Course information FACE-TO-FACE LESSONS

Phase 1 – School years 3-6

- 6 weekly sessions x 2 hr per session
- Starting in School Term 3
- More information to follow soon.
- Full course fee: \$399
- E-mail info@TutorsSA.com.au to subscribe for the latest updates on this course.





HOW TO ENROL

Step 1: Complete the Online [Enrolment Form HERE](#).

Step 2: Pay STEM Centre Australia the course fee in advance by the course registration deadline. An invoice will be sent to you with the payment details once the enrolment form is completed.



ENROL TODAY!

Course Location for all STEM Courses



DONASH
EDUCATION CENTRE



CAMPBELLTOWN CENTRE

Donash Education Centre
27 Montacute Road
CAMPBELLTOWN SA 5074



MITCHAM CENTRE

Mitcham Girls High School
Kyre Avenue
KINGSWOOD SA 5062



Our Education Partners



Your partner in **academic excellence!**

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2 Centres: Campbelltown/ Mitcham



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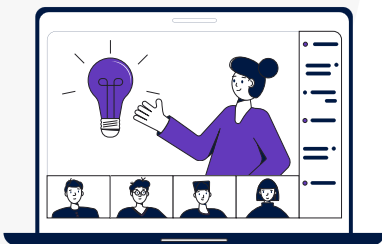
2 Centres: Campbelltown/ Mitcham

www.MedPrep.net



Hybrid Tuition

State of the art Technology at Tutors SA



In order to enhance the continuity of student learning, and to make our services accessible to all students through a **Hybrid Tuition Model**, we have fitted each of our classrooms with a high-definition webcam, Wacom drawing pad, and high-resolution touch screen capabilities.

Furthermore, we have recently installed high-quality 4K resolution overhead conference cameras in each of our classrooms. Whether a student joins the centre face to face, or online through our learning platform **Spark***, we want to give all of our students the best opportunity to learn. Through these conference cameras, online students are able to view the lesson in high definition just like face-to-face students, they can interact with the tutors in live lessons, and even access our resources through **Spark***.



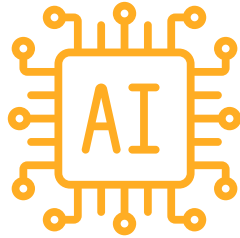
Yealink UVC40 Conference Camera



Touch Screen PC



Wacom Drawing Pad



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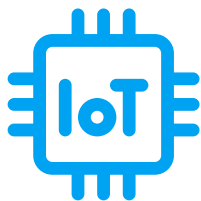


STEM Centre Australia

SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS



ENROL TODAY!



CONTACT US

For more information
reach us at:



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info@TutorsSA.com.au



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